



# ***ACADEMY OF MEDICINE OF CINCINNATI PROTOCOLS FOR SOUTHWEST OHIO PRE-HOSPITAL CARE***



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### **Certificate of Acknowledgment of Notary Public**

State of Ohio ; County of \_\_\_\_\_

This document was acknowledged before me, a Notary Public, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ by \_\_\_\_\_ who personally appeared and is known to me to be a credible person of lawful age.

\_\_\_\_\_  
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## Introduction

As in the past, the Southwest Ohio Protocols have been designed not only to be practically applied but also to be used as a teaching tool. The full protocol will provide detailed explanations on patient management, while the quick reference sheet gives the down and dirty treatment options. This year we have provided on the Academy of Medicine website a PowerPoint presentation detailing all the changes that were made from the 2013 protocols to the current 2014 protocols.

There are several caveats in the protocol

1. The Symptom Based protocol section does not cover all possible patient complaints. Make sure to do a thorough patient assessment and proceed to the appropriate protocol. Remember that whenever there is any question regarding medical treatment, medical command is available.
2. Those sections marked “ALL” are the responsibility of all levels of providers. “EMT” sections are for EMT-Basic providers specifically. “MEDIC” sections are for the paramedic providers specifically. If a paramedic does not have the proper medic equipment available then they should function under the EMT section.
3. IV access means either a saline lock or a bag of saline at keep open rate. If after 3 unsuccessful attempts at an IV then an IO or other access should be obtained if access is needed.
4. Where oxygen is called for, apply an appropriate oxygen delivery device and volume to maintain oxygen saturation at 95%. Consider patient’s previous medical conditions (ie. COPD patients may not ever reach 95%)
5. Any place that cardiac monitor is mentioned for an EMT or ALL it is only applicable if the equipment is available. MEDICs are assumed to have a monitor.
6. “If Available” is stated often. This means that for some departments the particular option being recommended may not be available. If it is not available then disregard this part of the protocol.
7. Generic and Brand names of medications are used interchangeably.
8. When “Inclusion Criteria” or “Physical Exam Criteria” are listed for a protocol, a patient may have some of the findings. A patient does not need to have all of the findings.
9. When a patient has nasal congestion, intranasal (IN) medications are ineffective and should not be used.

Nationally there are shortages of medications. The State will not allow the use of expired medications at the current time. Appendix B deals with alternate medications for use when one is not available. However eventually there will be a situation where there is no substitute for a medication that is not available. In the current legal environment if you do not have a medication, then you cannot use it and must proceed with the protocol as best as possible. For drugs that are in short supply we recommend using them only when truly necessary.

This is the first year that end tidal CO<sub>2</sub> waveform and numeric capnography is designated as mandatory for Paramedic Squads to have.

Lastly, the purpose of these protocols is to establish guidelines between EMS administration, the EMS provider and medical direction for the management, treatment, and transport of specific medical emergencies. The protocols are not designed nor intended to limit the EMS provider in the exercise of good judgment or initiative in taking reasonable action in extraordinary circumstances. These protocols are intended to assist in achieving excellent, consistent prehospital care for patients. The following protocols are not intended to provide a solution to every problem which may arise. Our objective is not only to serve the people of our area, but also to give them our best possible service. We will achieve the high standard required of emergency medical services only by coordinating our operations, working together, and maintaining a high degree of professionalism.

We welcome any input you may have to make these protocols better in the future.

Hamilton Lempert, MD FACEP Chairman Protocol Subcommittee [hlempert9@gmail.com](mailto:hlempert9@gmail.com)



This is a QR code to access the protocol website

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A100 2014	A100 Administrative Protocol Academy of Medicine of Cincinnati - Protocols for SW Ohio	A100 2014
<b>ALL</b>	<p>I. Introduction</p> <p>A. In consideration of the agreement by the undersigned emergency medical services to abide by the provisions of these administrative protocols and procedures, the Academy of Medicine (AOM) authorizes and permits the undersigned emergency medical services to operate under the auspices of the AOM and to utilize the AOM's Protocols and Standing Orders for Paramedic Services.</p> <p>B. These administrative protocols and procedures are the result of a cooperative effort among the members of the Academy of Medicine, Hamilton County Fire Chiefs' Association, and others. It is intended that cooperative efforts between the Academy and the Hamilton County Fire Chiefs' Association shall continue and that such cooperative efforts shall underscore any interpretations of these administrative protocols and procedures. The most recent protocols as found on the AOM website will be ready available to the paramedics at their base station(s) and in their life squads.</p> <p>C. It is recognized by the parties here to that several committees and organizations are involved in the provision of emergency medical services provided under the auspices of the AOM. These include:</p> <ol style="list-style-type: none"> <li>1. The Academy of Medicine of Cincinnati: <ol style="list-style-type: none"> <li>i. The Academy of Medicine of Cincinnati will serve as the official body for establishing medical policy for emergency medical services operating in and around Hamilton County, OH, pursuant to Ohio Revised Code. The Protocols and Standing Orders for Paramedic Services issued by the Academy of Medicine constitutes the community standard for the provision of pre-hospital medical care. The Academy of Medicine will communicate all medical policy to the Hamilton County Fire Chiefs' Association, to Departments or agencies providing emergency medical services under the auspices of the Academy of Medicine, and to individual paramedics through the various committees and subcommittees organized under the auspices of the Academy of Medicine. The Academy of Medicine will also mediate conflicts arising within the emergency medical service through the grievance procedures set forth in the administrative protocols.</li> </ol> </li> <li>2. Emergency and Disaster Services Committee (EDS): <ol style="list-style-type: none"> <li>i. The EDS Committee will be comprised of physicians and other persons with interest and/or expertise in emergency services and/or disaster services appointed by the president of the Academy. The EDS Committee may also include three representatives appointed by the Hamilton County Fire Chiefs Association; one representative from the Tri State Trauma Coalition, one representative from the Metropolitan Medical Response System and one representative from the Health Council. Other members will be considered on a case-by-case basis. The chairperson of the EDS Committee will be a member of the Academy of Medicine appointed by the president of the Academy. This committee will advise the Council of the Academy about issues pertaining to emergency medical services. One member of this committee will be designated to coordinate disaster planning.</li> </ol> </li> <li>3. Southwest Ohio Pre-Hospital Care Operations Committee (SWOPHCOC): <ol style="list-style-type: none"> <li>i. The SWOPHCOC will be an ad hoc committee of the Academy of Medicine. The membership will include emergency physicians, emergency nurses, paramedics and EMT's, each hospital and squad represented equally. Members of the committee shall be appointed by the president of the Academy. The SWOPHCOC will report to and receive guidance from the EDS Committee.</li> </ol> </li> <li>4. The Compliance and Inspection Subcommittee of the Pre-Hospital Care Operations Committee (C/I): <ol style="list-style-type: none"> <li>i. The Compliance and Inspection Subcommittee of the SWOPHCOC will be composed of members appointed by the president of the Academy and will may include at least one member from each of the following categories: <ol style="list-style-type: none"> <li>a) Emergency Physician</li> <li>b) Emergency Nurse</li> <li>c) EMT-P</li> </ol> </li> </ol> </li> </ol>	



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<b>ALL</b>	<ul style="list-style-type: none"> <li>d) EMT-B</li> <li>e) Representative from Hamilton County EMS Committee of the Hamilton County Fire Chief's Association</li> <li>ii. The Compliance Subcommittee will be chaired by a physician member of the Academy of Medicine appointed by the president of the Academy. The function of the subcommittee will be to perform original site visits and repeat site visits as determined by the administrative protocols and to investigate complaints about pre-hospital care in accordance with these administrative protocols. The Compliance Committee shall report on all matters to the EDS Committee</li> <li>5. Hamilton County Fire Chiefs' Association: The Hamilton County Fire Chiefs' Association, consisting of major providers for the delivery of emergency medical care by the fire service within Hamilton County, will operate their services under the community standards set forth in the administrative and medical protocols and standing orders issued by the Academy of Medicine.</li> <li>6. Other County Fire Chiefs Associations: Other County Fire Chiefs Associations may adopt the Southwest Academy of Medicine Protocols and Procedures Pre-Hospital Care upon the review and approval of the EDS Committee.</li> <li>D. Each Emergency Medical Service, which is a signatory, to this agreement, agrees to comply with the following administrative protocols, compliance procedures, and grievance procedures.</li> <li>E. Medical Director <ul style="list-style-type: none"> <li>1. Each emergency medical service shall have a Medical Director who shall be a licensed physician in the State of Ohio. <ul style="list-style-type: none"> <li>i. The Academy recommends that the Medical Director have a written agreement with the governing body of the EMS to define the role of the Medical Director and the Medical Director's relationship to that department.</li> <li>ii. If a Medical Director leaves a department for any reason it is expected that a replacement will be found within 90 days. The State Board of Pharmacy requires an updated "responsible person" on the drug license within 30 days or less.</li> </ul> </li> <li>2. Duties of Medical Director: <ul style="list-style-type: none"> <li>i. Assures the adequate training and continuing education of paramedics.</li> <li>ii. Assures the Academy of Medicine Protocols for Southwest Ohio are followed in the management of all patients cared for by the EMS Personnel.</li> <li>iii. Assists in the development of medically related dispatch procedures and transportation policies.</li> <li>iv. Assists EMS administration in development of patient care Standard Operating Procedures (SOP).</li> <li>v. Assists the administrative head in establishing criteria for patient disposition.</li> <li>vi. Assists the administrative head in developing and implementing a quality assurance program, including systematic audits, to include how problems are identified and corrected. The quality assurance program should include a review of run reports. Such a report could include: <ul style="list-style-type: none"> <li>a) runs involving deaths;</li> <li>b) cardiac arrests;</li> <li>c) intubations and rescue airway device use;</li> <li>d) questioned runs or misadventures;</li> <li>e) return runs within 24 hours same patient;</li> <li>f) reasonable sampling of non-transport runs</li> <li>g) runs involving complaints;</li> </ul> </li> </ul> </li> </ul> </li> </ul>	





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<b>ALL</b>	<ul style="list-style-type: none"> <li>h) runs involving DNRs;</li> <li>i) a random sampling of 10% of the runs each month;</li> <li>j) runs involving exposures of EMS personnel</li> <li>k) runs in which second paramedic did not arrive on the scene within reasonable amount of time.</li> </ul> <p>vii. The Medical Director shall possess a thorough knowledge of pre-hospital emergency care, emergency medical systems, and emergency medicine. It is recommended that the Medical Director be certified in ACLS and ATLS or Board Certified in Emergency Medicine.</p> <p>F. Voice Communication Ability</p> <ul style="list-style-type: none"> <li>1. Each unit used to transport patients shall be equipped with communication equipment capable of voice transmission and compatible with Academy of Medicine approved medical control base stations.</li> </ul> <p>G. Treatment Protocols</p> <ul style="list-style-type: none"> <li>1. The Department shall utilize these Treatment Protocols of the Academy of Medicine of Cincinnati.</li> <li>2. Minor alterations to the protocols may be made by the Medical Director. These changes or additions become the sole responsibility of the Medical Director. The Academy of Medicine EDS Committee shall review all such changes.</li> <li>3. Any additions or modification should be made in the same format as these protocols for consistency.</li> <li>4. Any additions should be copied to the EDS Committee of the Academy of Medicine.</li> </ul> <p>H. Run Report and Record Keeping System</p> <ul style="list-style-type: none"> <li>1. The Department shall utilize a run report that collects the following information about patient encounters: <ul style="list-style-type: none"> <li>i. Patient demographic data.</li> <li>ii. EMS vehicle information.</li> <li>iii. Incident location.</li> <li>iv. Patient chief complaint.</li> <li>v. Patient condition and mechanism of injury.</li> <li>vi. Patient treatment.</li> <li>vii. Record of base station contact, when used.</li> <li>viii. Patient condition on arrival at the receiving facility.</li> <li>ix. Receiving facility.</li> </ul> </li> <li>2. A copy of the run report shall be left at the hospital at the time of patient delivery to facilitate transfer of care.</li> <li>3. An appropriate filing system, with a manual or computerized method to track patient, capable of access for review by the Department Medical Director, shall be in place.</li> <li>4. The Department shall have a process that tracks critical patient care procedures performed by each employee.</li> </ul> <p>I. System Audits</p> <ul style="list-style-type: none"> <li>1. Training and Continuing Education Monitoring/Record-Keeping <ul style="list-style-type: none"> <li>i. A system of verification of employee's certification and monitoring of his/her training and continuing education efforts shall be established and maintained either manually or by computer.</li> <li>ii. EMS personnel employed by an emergency medical service to provide EMS services under the auspices of the Academy of Medicine shall be certified by the State of Ohio, and shall meet all continuing education requirements.</li> </ul> </li> </ul>	





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<b>ALL</b>	<ul style="list-style-type: none"> <li>iii. The Academy of Medicine may request additional training that it may deem necessary.</li> <li>2. A report of continuing education shall be made to the Medical Director at the time of re-certification.</li> <li>J. Department SOP/Policies <ul style="list-style-type: none"> <li>1. Written department SOP and policies for the delivery of EMS must exist and be distributed to all members who provide EMS service for the department.</li> <li>2. Department SOP and policies shall be consistent with the Academy of Medicine protocols and procedures.</li> <li>3. EMS personnel shall be trained in these standard operation procedures.</li> <li>4. Have a protocol review procedure with EMS personnel.</li> </ul> </li> <li>K. Variances <ul style="list-style-type: none"> <li>1. Application <ul style="list-style-type: none"> <li>i. Any emergency medical service may apply to the EDS Committee for a variance from any of the provisions of the administrative protocols.</li> <li>ii. The application for a variance shall set forth the exceptional circumstances requiring relief from an administrative protocol giving, in detail, the reasons for the need for a variance, the duration of the variance sought, and the terms of the variance.</li> </ul> </li> <li>2. Decision by EDS <ul style="list-style-type: none"> <li>i. The EDS Committee shall, within 45 days of receipt of a request for a variance, conduct a hearing on the request.</li> <li>ii. Prior notice shall be given to the EMS requesting a variance with an opportunity to be heard.</li> <li>iii. The decision whether to grant or deny a request for a variance or to grant the variance with conditions or limitations shall be within the sole discretion of the EDS Committee.</li> <li>iv. The EDS Committee may grant a variance with conditions including limits on the duration or terms and may impose alternative requirements.</li> <li>v. Communication Variance Forms shall be submitted to the Medical Director and the EDS Committee for review.</li> </ul> </li> </ul> </li> <li>L. All EMS units shall <ul style="list-style-type: none"> <li>2. Have a copy of these protocols on the unit for reference.</li> <li>3. Utilize the communication variance form whenever a procedure which normally requires the approval of a medical command physician has been performed without such approval.</li> </ul> </li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>II. EMT <ul style="list-style-type: none"> <li>A. Protocol <ul style="list-style-type: none"> <li>1. The EMT protocol is intended to be used in its entirety but may be used in part according to the EMS Medical Director.</li> </ul> </li> <li>B. Continuing Education <ul style="list-style-type: none"> <li>1. All EMT-B's are required to maintain current BLS cards. A 90-day grace period is allowed when a card expires, to be enrolled in a new course.</li> </ul> </li> <li>C. Personnel <ul style="list-style-type: none"> <li>1. Of the medical team members, both must be EMT-B certified as outlined in the Ohio Revised Code 4765.</li> </ul> </li> </ul> </li> </ul>	



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	<p>D. Equipment</p> <ol style="list-style-type: none"> <li>1. A BLS unit is required to carry and maintain equipment needed to comply with the EMT section of these Protocols by the Academy of Medicine of Cincinnati.</li> </ol>	
<b>MEDIC</b>	<p>III. Administrative Protocols</p> <p>A. Two Paramedics per Run.</p> <ol style="list-style-type: none"> <li>1. Except as otherwise provided in these Protocols or, by the Academy of Medicine, two (2) certified paramedics shall be on the scene for any situation where the Protocols and Standing Orders for Paramedic Services are utilized as the authority to act. One paramedic may transport a patient to the hospital (with a non-paramedic driver) except in the following circumstances, where two paramedics shall be present (although one of the paramedics may be the driver), it is recommended that both paramedics be in back if possible:             <ol style="list-style-type: none"> <li>i. Patient under CPR;</li> <li>ii. Patient with major trauma or burns;</li> <li>iii. Patient unconscious;</li> <li>iv. Patient actively seizing;</li> <li>v. Patient suffering airway compromise or significant respiratory distress;</li> <li>vi. Patient with chest pain clinically compatible with myocardial infarction</li> <li>vii. Patient with deteriorating condition or vital signs;</li> <li>viii. Any situation where one medic feels that he/she needs the assistance of a second medic</li> </ol> </li> <li>2. These requirements apply to both primary responder units and back-up units. Scheduling for back-up units shall provide for the availability of two paramedics to respond just as with the primary unit.</li> <li>3. If unplanned circumstances arise where only one paramedic is available to respond, the paramedic shall call for mutual aid or back-up response, if needed (see a-h above). When one paramedic is unexpectedly alone, the paramedic shall perform under these protocols as quickly as possible and transport the patient to the nearest appropriate medical facility as soon as possible.</li> <li>4. In those situations or services where the two (2) required paramedics will arrive on the scene separately, the following provisions apply:             <ol style="list-style-type: none"> <li>i. The required two (2) paramedics shall be dispatched simultaneously;</li> <li>ii. The second paramedic shall arrive on the scene within a reasonable amount of time under all of the circumstances;</li> <li>iii. The second paramedic may be called off if the first paramedic determines that reliance upon the Protocols and Standing Orders for Paramedic Services will not be necessary.</li> <li>iv. It is the responsibility of the Emergency Medical Service to document dispatch and response times for all paramedics in all situations where the two (2) required paramedics do not arrive at the scene in the same unit or simultaneously;</li> <li>v. If ten percent (10%) of the runs in any month result in only one (1) paramedic on the scene where care must be provided under the Protocols and Standing Orders for Paramedic Services by the one paramedic, then scheduling and any other changes necessary to correct such problem shall be made. Documentation of the problem and any corrective action shall be provided to the Medical Director and shall be included in the annual report to the EDS Committee;</li> <li>vi. An Emergency Medical Service may obtain an advisory opinion from the EDS as to the reasonable amount of response time for the second required paramedic under the particular circumstances confronting the Emergency Medical Service requesting the opinion.</li> </ol> </li> </ol> <p>B. 24 Hour Paramedic Service</p> <ol style="list-style-type: none"> <li>1. Each emergency medical service that chooses to provide paramedic services operating under the auspices of the Academy of Medicine shall provide paramedic services on a 24-hour basis.</li> </ol>	



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<b>MEDIC</b>	<ol style="list-style-type: none"> <li>2. Each emergency medical service shall be required to show that it has sufficient certified EMT-Ps to provide 24-hour paramedic service.</li> </ol> <p>C. Continuing Education</p> <ol style="list-style-type: none"> <li>1. All paramedics are required to maintain current ACLS cards. A 90-day grace period is allowed when a card expires, to be enrolled in a new course.</li> </ol> <p>D. Required Drugs, IV Solutions, and Equipment for All Paramedic Services</p> <ol style="list-style-type: none"> <li>1. Drugs, IV Solutions, and Equipment needed to comply with these Protocols by the Academy of Medicine of Cincinnati. See Site Visit Form Appendix K.</li> <li>2. Rapid Glucose monitoring capability with appropriate CLIA License;</li> <li>3. Documentation Regarding Compliance with Board of Pharmacy, State of Ohio and other Licensing bodies</li> <li>4. If other supplies are added by an emergency medical service, they must be approved by and used under the authority of the emergency medical service's Medical Director.</li> <li>5. Any devices needing manufacturers recommended calibration and service shall have records of such available for review.</li> </ol> <p>IV. Compliance Procedures</p> <p>A. Site Visits</p> <ol style="list-style-type: none"> <li>1. A site visit is an inspection of an emergency medical service by members of the Compliance Committee (including at least one physician and one paramedic) to ensure compliance with the requirements of the Administrative Protocols and the Protocols and Standing Orders for Paramedic Services. The on-site physician member of the inspection team will lead the site visit process and be responsible for a site visit report. No member of the inspection team shall have any potential conflict of interest with the Emergency Medical Service being inspected.</li> <li>2. Site visits shall be conducted at the time an emergency medical service requests the right to operate under the auspices of the Academy of Medicine and every three to five years thereafter.</li> <li>3. The emergency medical service will be notified sixty (60) days in advance of a site visit and will receive a packet of material outlining the items to be inspected. The packet of material shall include any requests for information that can be completed in advance of the site visit.</li> <li>4. In the course of the site visit, the Compliance Committee team shall inspect the following: <ol style="list-style-type: none"> <li>i. Inspect the equipment required for all paramedic services under these administrative protocols.</li> <li>ii. Document compliance of: <ol style="list-style-type: none"> <li>a) Scheduling and response system (including times)</li> <li>b) Certifications of paramedics and EMT- B to include list of names with expiration dates</li> <li>c) Organizational structure (including existence of appropriate Medical Director)</li> <li>d) Drug license and drug record</li> <li>e) Review of continuing education, annual reports, squad run sheets, and all quality assurance programs. Squad run sheet review will include the form used and how it is completed. Patient identity should not be revealed.</li> </ol> </li> </ol> </li> </ol> <p>B. Compliance Committee Report</p> <ol style="list-style-type: none"> <li>1. Within 90 days of a site visit, the Compliance Committee shall issue its report, specifying any deficiencies discovered or setting forth its finding that the emergency medical service has successfully satisfied all of the requirements of the site visit. If no report is issued within 90 days of the site visit, a new site visit must be conducted before any deficiencies may be reported.</li> </ol>	



A100 2014	A100 Administrative Protocol Academy of Medicine of Cincinnati - Protocols for SW Ohio	A100 2014
<b>MEDIC</b>	<ol style="list-style-type: none"> <li>2. The Compliance Committee report shall be delivered to the Fire Chief and the administrative head of the emergency medical service, unless otherwise designated, in writing, at the time of the site visit; to the Medical Director of the emergency medical service; and to the chairman of the EDS Committee</li> <li>3. The emergency medical service may respond in writing to the Compliance Committee report within 30 days of receipt of that report. The EMS response shall be delivered to the chair of the Compliance Committee and to the chair of the EDS Committee.</li> </ol> <p>C. EDS Hearing</p> <ol style="list-style-type: none"> <li>1. The EDS Committee shall conduct a hearing concerning the Compliance Committee site visit report and the EMS response (if any) within 45 days.</li> <li>2. The EDS Committee shall give prior notice of its hearing to the EMS and the Compliance Committee.</li> <li>3. The Compliance Committee and the EMS shall have a right to be heard at the EDS hearing.</li> <li>4. The EDS may request additional information from the Compliance Committee and/or EMS.</li> </ol> <p>D. EDS Decision</p> <ol style="list-style-type: none"> <li>1. EDS Committee shall render a decision that may provide any one or more of the following: <ol style="list-style-type: none"> <li>i. 5 year approval</li> <li>ii. 3 year approval</li> <li>iii. Follow-up site visit</li> <li>iv. Corrective action</li> <li>v. Probation</li> <li>vi. Suspension</li> <li>vii. Termination</li> </ol> </li> </ol> <p>E. Promulgation of EDS Decision</p> <ol style="list-style-type: none"> <li>1. The decision of the EDS Committee shall be provided, in writing, to the Fire Chief and the administrative head of the EMS, (unless otherwise designated in writing); to the Medical Director of the EMS Department; to the members of the EDS Committee</li> <li>2. The decision of the EDS Committee is neither confidential nor privileged. <ol style="list-style-type: none"> <li>i. (However, to the extent that the Compliance Committee report, the EMS response, or any other documentation refers or relates to individual patient care, all matters relating to any particular patient's care shall be kept confidential.).</li> </ol> </li> </ol> <p>F. Right of Appeal</p> <ol style="list-style-type: none"> <li>1. Any emergency medical service disciplined by the EDS Committee as set forth above shall have a right of appeal to the Council of the Academy of Medicine.</li> <li>2. There shall be no automatic stay of the decision of the EDS Committee pending appeal to the Council of the Academy of Medicine.</li> <li>3. Upon request, the Chairman of the EDS Committee or the President of the Academy of Medicine may grant a stay pending appeal.</li> </ol> <p>V. Grievance Procedures</p> <p>A. Complaint</p> <ol style="list-style-type: none"> <li>1. Any Individual or Group may file a complaint to be considered under these grievance procedures.</li> <li>2. Any such complaint may be made concerning deviations from the Protocols and Standing Orders for Paramedic Services, the Administrative Protocols, or any questioned conduct.</li> <li>3. The complaint should be filed with the EDS Committee Chairman</li> </ol>	



A100 2014	A100 Administrative Protocol Academy of Medicine of Cincinnati - Protocols for SW Ohio	A100 2014
<b>MEDIC</b>	<ol style="list-style-type: none"> <li>4. Once a complaint is received by the chair of the EDS Committee, notice shall be given to the Fire Chief and administrative head of the EMS, the Medical Director, and to the members of the EDS Committee.</li> <li>5. No complaint shall be investigated, without the written consent of all parties involved where: litigation is threatened or pending, until such litigation, including all appeals, is completed; or</li> <li>6. A collective bargaining or other agreement imposes inconsistent procedures or confers rights that cannot be protected under these grievance procedures.</li> </ol> <p><b>B. Investigation of Complaints</b></p> <ol style="list-style-type: none"> <li>1. The chair of the EDS Committee shall appoint a team to investigate the complaint. The investigators may be from the EDS Committee, the Compliance Committee, the Pre-Hospital Care Operations Committee, or any other individuals determined by the chairman of the EDS Committee to be appropriate for the investigation.</li> <li>2. Within 45 days of its receipt of the complaint, the investigation team shall submit its report and recommendation to the chair of the EDS Committee, the administrative head of the EMS, and to the Medical Director.</li> </ol> <p><b>C. Right of Response</b></p> <ol style="list-style-type: none"> <li>1. The EMS shall have a right to respond to the report and recommendation of the investigation team within 30 days of receipt of its report.</li> <li>2. This response should be filed with the EDS Chairman</li> </ol> <p><b>D. EDS Hearing</b></p> <ol style="list-style-type: none"> <li>1. The EDS Committee shall conduct a hearing on the complaint, report, and recommendation of the investigation team, and EMS response.</li> <li>2. Prior notice shall be given to all concerned parties.</li> <li>3. All concerned parties shall be given an opportunity to be heard.</li> <li>4. The EDS Committee may request additional information.</li> <li>5. The EDS Committee, at the request of all concerned parties, may conduct an informal hearing or consider only written material.</li> <li>6. The EDS Committee may waive the hearing if requested by all concerned parties.</li> </ol> <p><b>E. Decision of EDS Committee</b></p> <ol style="list-style-type: none"> <li>1. Upon hearing the complaint, investigation report, and responses, the EDS Committee shall render a decision. Sanctions, if any, shall be directed to the emergency medical service(s) involved, not to any individual.</li> <li>2. The EDS may require corrective action(s) including, but not limited to, additional training.</li> <li>3. The EDS may issue a reprimand, probation, suspension, or termination of the EMS if the complaint is found to be a repeat offense; if the complaint arises from material administrative violations of the Administrative Protocols; or if the complaint involves substantial systemic problems.</li> </ol> <p><b>F. Right-of Appeal</b></p> <ol style="list-style-type: none"> <li>1. Any concerned person or entity may appeal the decision of the EDS Committee to the Council of the Academy of Medicine</li> <li>2. There shall be no automatic stay of the decision of the EDS Committee pending appeal. Upon request, the Chairman of the EDS Committee or the President of the Academy of Medicine may grant a stay pending appeal. Calls may only be initiated from an Academy of Medicine paramedic department to an Academy of Medicine recognized medical control base station.</li> </ol>	



A101 2014	A101 Initiating a Medical/Telemetry Call Academy of Medicine of Cincinnati - Protocols for SW Ohio	A101 2014
<b>ALL</b>	<p>I. In addition to those circumstances which are governed by the individual sections of this protocol, a call <b>MUST</b> be initiated to the receiving facility:</p> <ul style="list-style-type: none"> <li>A. When there is doubt about diagnosis, treatment or disposition of the patient,</li> <li>B. When transporting more than one (1) patient from the same scene to the same receiving hospital.</li> <li>C. Radiation or other hazardous materials incidents are encountered.</li> </ul> <p>II. A call <b>MAY</b> be initiated:</p> <ul style="list-style-type: none"> <li>A. When notification will speed or improve patient care</li> <li>B. Whenever it is thought necessary by the Paramedic or EMT-Basic.</li> </ul> <p>III. When a call is not possible, these protocols shall act as standing orders for procedures, which may be performed by certified Paramedics, EMT-Basics and trainees under the direct supervision of a certified Paramedic and/or EMT-Basic. These protocols do not limit the activity of a Paramedic or EMT-Basic who is in direct contact with the medical control physician. Certain procedures and medications require physician consultation prior to performance of the procedure or administration of the medication. These procedures are noted in the individual protocols. Under certain circumstances, an exception is permitted when communication problems are encountered. In these cases, a communication variance form is to be completed.</p>	



A102	A102 Rapid Sequence Intubation	A102
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<b>MEDIC</b>	<p>I. Administrative Recommendations when utilizing Drug Assisted Intubation (DAI)</p> <p>A. It is strongly recommended that the service Medical Director adhere to the following guidelines for the use of Drug Assisted Intubation (DAI) (aka Rapid Sequence Intubation):</p> <ol style="list-style-type: none"> <li>1. medical direction with concurrent and retrospective oversight supervision;</li> <li>2. training and continuing education designed to demonstrate initial and ongoing competence in the procedure, including supervised DAI experience;</li> <li>3. training in airway management of patients who cannot be intubated; as well as the availability, and competence in the use of rescue airway methods in the event of failed DAI;</li> <li>4. standardized DAI protocols, including the use of sedation and neuromuscular blockade;</li> <li>5. resources for drug storage and delivery;</li> <li>6. resources for continuous monitoring and recording of heart rate and rhythm, oxygen saturation, and end-tidal carbon dioxide, before, during, and after DAI;</li> <li>7. Appropriate training and equipment to confirm initial and verify ongoing tube placement; continuing quality assurance, quality control, performance review, and when necessary supplemental training.</li> </ol>	





A103	A103 Communication Variance Form	A103
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<b>ALL</b>	This form must be completed whenever a medication is administered or a procedure is performed which falls out of the scope of the Academy of Medicine Protocols and Standing Orders or falls out of the scope of a previously approved protocol by the specific emergency medical service's Medical Director.	
	Service: _____ Date: _____ Time: _____	
	Lead Paramedic/EMT-Basic: _____	
	Type of Procedure Performed or Medication Administered: _____	
	Medical Command Facility with which contact attempted: _____	
	Time of first attempt: _____ Number of attempts: _____	
	Method of attempts: <input type="checkbox"/> Radio <input type="checkbox"/> Cell phone <input type="checkbox"/> Land phone <input type="checkbox"/> Other _____	
	Narrative description _____	
	_____	
	_____	
	_____	
	_____	
	_____	
	_____	
	_____	
Copy 1: EMS Copy                      2: Hospital EMS Coordinator                      Copy 3: Compliance Committee		



A104 2014	A104 Control of Emergency Medical Service at Scene of Emergency Academy of Medicine of Cincinnati - Protocols for SW Ohio	A104 2014
<b>ALL</b>	<p><b>I. INTRODUCTION</b></p> <p>A. One of the most difficult situations for the paramedic is that created by the arrival of a physician at the scene. A different set of responsibilities exists when that physician knows and has established a previous doctor-patient relationship with the patient as opposed to when no such relationship exists. Physicians who are part of the EMS system such as the service's medical advisor or on-line medical control physician are generally responsible for patient care.</p> <p><b>II. PHYSICIAN WITHOUT PREVIOUS DOCTOR-PATIENT RELATIONSHIP</b></p> <p>A. <u>FOR A FULLY LICENSED PHYSICIAN WHO IS NOT A PART OF THE EMS SYSTEM TO ASSUME CONTROL AT THE SCENE OF AN EMERGENCY, ALL OF THE FOLLOWING MUST TAKE PLACE:</u></p> <ol style="list-style-type: none"> <li>1. Proof of the physician's identity and current Ohio licensure must be provided to the senior Medic/EMT.</li> <li>2. The physician must agree to accompany the patient to the hospital.</li> <li>3. The on-line medical control physician must be notified and agree to relinquish control to the on-scene physician. This can usually best be accomplished by having the medical control physician speak directly with the physician at the scene.</li> <li>4. The physician at the scene must agree to sign his or her orders.</li> </ol> <p><b>III. PHYSICIAN WITH PREVIOUS DOCTOR-PATIENT RELATIONSHIP</b></p> <p>A. As a general rule, it is desirable that the Medic/EMTs called to the scene of an emergency, even within a physician's office, perform an assessment and manage the patient just as would be done in any other location.</p> <p>B. If the physician wishes to take control of the patient's management, he or she may do so if:</p> <ol style="list-style-type: none"> <li>1. Communication is established between on-line medical control and the physician at the scene, and</li> <li>2. The scene physician agrees to accompany the patient to the hospital.</li> </ol> <p>C. If control of the emergency is assumed by the on-scene physician then:</p> <ol style="list-style-type: none"> <li>1. The physician's Ohio license number will be recorded on the run report.</li> <li>2. Orders within the scope of training and practice of the Medic/EMT will be carried out.</li> <li>3. Orders outside the scope of training and practice of the Medic/EMT will be personally carried out by the on-scene physician.</li> <li>4. The on-scene physician will sign his or her orders.</li> <li>5. The on-scene physician must accompany the patient in the ambulance to the hospital unless released by the on-line medical control physician.</li> </ol> <p><b>IV.</b> If control of the emergency is given to the on-scene physician, then the physician can only issue orders within the scope of training and practice of the Medic/EMT.</p> <p><b>V.</b> Any orders or procedures outside of the Medic/EMT's scope of practice will have to be carried out personally by the on-scene physician.</p> <p><b>NOTES:</b></p> <p>A. In a disaster or multi-casualty situation, then the on-scene physician should use his best judgment about whether or not to accompany the patient to the hospital. It may be appropriate to stay at the scene and tend to the patients remaining. Generally, these decisions should be made in consultation with the medical control physician.</p> <p>B. If the physician on the scene does not accompany the patient to the hospital, then responsibility for that patient will revert to the medical control physician.</p>	



A105 2014	A105 Determination of Death/Termination of CPR Academy of Medicine of Cincinnati - Protocols for SW Ohio	A105 2014
<b>ALL</b>	I. Basic and/or Advanced cardiac life support must be started on all patients who are found apneic and pulseless, UNLESS: A. A valid Do Not Resuscitate order is presented as defined in the Do Not Resuscitate protocol, OR B. There is an injury that is incompatible with life (i.e. decapitation, or burned beyond recognition) OR C. The victim shows signs of rigor mortis (in a warm environment), dependent lividity, or decomposition.	
<b>MEDIC</b>	D. If the patient has either blunt or penetrating trauma, refer to protocol C308	
<b>ALL</b>	II. Resuscitation efforts may be terminated by the prehospital personnel under the following circumstances: 1. If resuscitation was started prior to the discovery of an approved DNR directive OR 2. If upon further examination, the patient meets the determination of death criteria above OR 3. If the following Medic conditions are met	
<b>MEDIC</b>	III. Medics may terminate resuscitative efforts and not transport patients under active CPR if all of the following exist 1. Good contact between the paramedic unit and the medical control physician. 2. Successful airway management and medication administration consistent with other protocols in this document. 3. At least 20 minutes of resuscitative efforts for adults and 30 minutes for patients younger than 16 years old. 4. NO sustained return of spontaneous circulation at any time (palpable pulse greater than 60 beats per minute for at least one five-minute period). 5. NO spontaneous respiration; eye opening, motor response, or other neurologic activity at the time stopping resuscitation is contemplated. 6. The cardiac rhythm is NOT persistent or recurrent ventricular fibrillation or ventricular tachycardia. 7. All paramedics and the medical control physician agree with termination of ACLS. 8. The suspected cause of the cardiac arrest must be something other than hypothermia, electrocution, lightning strike. 9. While patients who are pregnant may not themselves benefit from longer resuscitation, the unborn fetus may benefit from emergency c-caesarian section. Consequently it is recommended to transport pregnant patients even if there has been no return of spontaneous circulation.	
<b>ALL</b>	NOTES: 1. The purpose behind the termination of CPR in the field is to keep EMS units in-service for emergencies instead of transporting non-salvageable patients under CPR. This protocol provides a method for terminating CPR in hopeless cases. 2. Studies have shown that CPR during transport is usually not performed well even with the best intentions. For adults with the current training and equipment that is available in the pre-hospital setting clearly demonstrates that if a patient does not have a return of spontaneous circulation in the pre-hospital setting then they are very unlikely to have it after being transported to the ER. It is acceptable to have longer scene times in these cases to prevent unnecessary transport. 3. It is good to contact medical control for special situations that need further exploration 4. Rigor mortis takes a variable amount of time to begin depending upon the physical condition of the deceased prior to death as well as the temperature of the environment. The face and neck begin to stiffen between two and five hours after death. After seven to nine hours, rigor mortis will affect the arms and chest. By twelve hours after death, rigor mortis is usually firmly established. Post-mortem lividity (the pooling of blood at the dependent portions of the body) will occur unless the victim has suffered a large blood loss. About one to two hours after death, lividity will begin and peak at about six hours.	



A105 2014	A105 Determination of Death/Termination of CPR Academy of Medicine of Cincinnati - Protocols for SW Ohio	A105 2014
	<p>5. Leaving a deceased person at home after termination of resuscitation efforts may present logistical challenges with what to do with the body. The Protocol Committee strongly encourages conversations between Fire/EMS and police departments to establish procedures for this situation.</p> <p>6. Reference:</p> <ul style="list-style-type: none"> <li>a. Hopson, L, et.al. "Guidelines for withholding or termination of resuscitation in prehospital traumatic cardiopulmonary arrest." Prehospital Emergency Care, January/March 2003 :7:1:141-146</li> <li>b. Millin, M, et. Al. "Termination of resuscitation of nontraumatic cardiopulmonary arrest" Prehospital Emergency Care 2011:15:542 and 547-554</li> </ul> <p><i>If one pronounces an infant or child dead in the field, here are some helpful suggestions:</i></p> <ul style="list-style-type: none"> <li>A. Pick a quiet environment to inform the family and try to be on the family's level. Sit if they are sitting and match their tone of voice and posture.</li> <li>B. Refer to the child by his/her name.</li> <li>C. Use concrete words such as "is dead" or "has died." Euphemisms are not "gentler" and may lead to confusion.</li> <li>D. Parents and caregivers often do not want to hear the details of the resuscitation. Instead, offer statements such as "Everything was done for your child." or, "We made every effort to help your child."</li> <li>E. Avoid statements like "I know how you feel." Instead, use words like "This must be so difficult."</li> <li>F. Be compassionate and non-accusatory, even if you think there may have been child maltreatment. Those issues are to be worked out later and not by you.</li> <li>G. If a statement of sympathy feels right, do not be afraid to express it. "I am so sorry." Families remember kindness and sincerity.</li> <li>H. Take care of yourself, find a way to decompress and discuss what you have experienced. Few things are as emotionally draining and burnout inducing as witnessing the death or suffering of a child.</li> </ul>	



A106	A106 Do Not Resuscitate Orders in the Field	A106
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<ul style="list-style-type: none"> <li>I. Present a valid Ohio DNR Comfort Care or DNR Comfort Care Arrest documents.</li> <li>II. DNRs set forth in long-term care facility medical records shall be signed by the attending physician and dated. <ul style="list-style-type: none"> <li>A. DNRs set forth in long-term care facility medical records shall not expire unless the document specifies a time for expiration. If the patient lacks capacity to make informed health care decisions on the date the DNR would expire, then the DNR shall continue in effect until the patient regains the capacity to make informed health care decisions for himself.</li> </ul> </li> <li>III. In the event a DNR is presented to a Medic/EMT, communication with a base hospital physician, EMS medical advisor, family physician, or physician on the scene shall be established. <ul style="list-style-type: none"> <li>A. A DNR may be honored in accordance with the provisions of this protocol where it is determined that the patient is in a terminal condition and the patient is no longer capable of making informed decisions.</li> <li>B. A DNR may not be honored where the patient is pregnant, where withholding CPR would terminate the pregnancy, and where it is probable that the fetus will develop to the point of live birth if treatment is provided.</li> <li>C. If the Medic/EMT believes a DNR is valid, there is no need to commence CPR while waiting for physician orders. If the Medic/EMT has any doubt, the Medic/EMT need not comply with the DNR (and may commence CPR) unless and until a physician has verbally authorized compliance. Such authorization shall be documented by the Medic/EMTs in the run report.</li> </ul> </li> <li>IV. In the case of any doubt or reservation as to the validity or authenticity of any DNR, and absent authorization by a base hospital physician, EMS medical advisor, family physician, or physician on the scene to withhold CPR, the Medic/EMT shall provide CPR to the patient and shall document the reasons for not complying with the DNR.</li> <li>V. In the event resuscitation is initiated on a patient and then a valid DNR is subsequently identified, resuscitation may be terminated in compliance with that DNR. Documentation shall be made on the run sheet indicating the events that happened set forth in chronological order. In the event a DNR is identified after a patient has been intubated, the tube shall not be removed in the prehospital setting. If the initial resuscitation has restored cardiac rhythm, the patient should be transported to the nearest appropriate medical facility with no further procedures or pharmacological measures undertaken, except by authorization from the base hospital physician, medical advisor, or attending physician. Communication with a physician should be established.</li> <li>VI. A DNR signed by both parents of a minor child or by the spouse of a patient in a terminal condition who is no longer able to make informed decisions, and signed by two witnesses, may be honored.</li> <li>VII. If possible, a copy of the DNR shall be attached to the medical record.</li> </ul>	



A107	A107 Pre-Hospital Communication	A107
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<b>ALL</b>	<p>I. MEDICAL REPORT FORMAT: EMS agencies and personnel should use the following format when contacting area hospitals/medical control facilities with patient information:</p> <ul style="list-style-type: none"> <li>A. Ambulance identifier i.e. (Cincinnati R-46, Anderson Medic 6, Mason Medic 51)</li> <li>B. EMS personnel identification i.e. (Medic Smith, EMT Jones).</li> <li>C. Estimated time of arrival to hospital, including destination, if applicable.</li> <li>D. Patient's age and sex.</li> <li>E. Mechanism of injury (if applicable).</li> <li>F. Chief complaint.</li> <li>G. Pertinent medical history and physical exam.</li> <li>H. Treatment given.</li> <li>I. Orders requested, if necessary.</li> </ul> <p>NOTES:</p> <ul style="list-style-type: none"> <li>A. If the destination hospital has an established telemetry base, contact with that hospital should take precedence over contact with any other facilities.</li> <li>B. An emergency department nurse at the medical control hospital may relay orders from the emergency physician in cases where it is impossible for the physician to come to the radio/telephone. It is not necessary to speak with a medical control physician concerning treatment modalities that are considered to be standing orders except if a question arises concerning the planned treatment.</li> <li>C. Command physicians may use discretion in the use of these protocols and order care, which, in their medical judgment, is in the best interest of the patient being provided with pre-hospital advanced life support care. The medications and procedures ordered must still fall within the approved Protocols and Procedures.</li> <li>D. When giving an order for medication via radio/phone, the command physician or designee (i.e. RN) shall state the name of the drug, the dose, and the route by which that dose is to be delivered (e.g. Valium, 5 mg., slow I.V. push). The ALS provider is to repeat the exact orders back to the Command Physician before administering the drug.</li> <li>E. Base station is defined as a hospital agreeing to accept EMS Medical Control responsibilities with an EMS phone that has recording capabilities and these recordings need to be stored for a period of three (3) years. Some hospitals may elect not to assume EMS Medical Control and just want to be notified; therefore, EMS Command will default to University Hospital.</li> </ul>	



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ALL	<p><b>I. Purpose</b></p> <ul style="list-style-type: none"> <li>A. To establish a systematic procedure for the handling of emergency medical calls to improve patient care of patients of all ages.</li> <li>B. To ensure the proper and systematic documentation of EMS calls.</li> </ul> <p><b>II. Protocol Specific Definitions</b></p> <ul style="list-style-type: none"> <li>A. Incident – a dispatch of 911 resources to a location by a person or third party. This should be documented as per individual departmental policies. <ul style="list-style-type: none"> <li>a. No Incident Found on Arrival – is defined as an incident that after being dispatched, the crews arrive on scene and find that there was no incident or reason for them to be there, i.e. a person was reported to be injured from a fall, but was gone upon arrival of EMS.</li> </ul> </li> <li>B. Patient – a patient is defined as any person who identifies him/herself as requiring medical assistance or evaluation, or any person who has a physical or medical complaint or condition from an illness or injury. <ul style="list-style-type: none"> <li>a. A pediatric patient is referred to as a patient younger than 16 years of age.</li> <li>b. An adult patient is referred to as a patient 16 years and older.</li> <li>c. A geriatrics patient is referred to as a patient 65 years and older.</li> <li>d. No patient contact – is defined as a disregard by the requesting person or agency or an incident that EMS responds to and the patient or would be patient is gone upon arrival, i.e. EMS responds to a motor vehicle crash, where it is evident that someone was injured, but they are no longer on the scene.</li> </ul> </li> <li>C. Intoxicated – the term intoxicated may be used to describe any person presenting with diminished physical or mental control or diminished ability to make decisions by reason of the influence of alcohol liquor, drugs, or other substance.</li> <li>D. Patient Care Report (PCR) – this is the form (either electronic or manual) that documents the assessment and medical care provided to a patient.</li> </ul> <p><b>III. Scope</b></p> <ul style="list-style-type: none"> <li>A. This protocol shall apply to all departments utilizing these medical protocols to render medical care.</li> </ul> <p><b>IV. Policy</b></p> <ul style="list-style-type: none"> <li>A. <b>Responsibility:</b> It is the responsibility of the member with the highest level of medical training at the scene to guide the medical decisions regarding patient care and transportation. Refer to A104 Control of Emergency Medical Services at Scene of Emergency (with a physician on scene).</li> <li>B. <b>Assessment:</b> <ul style="list-style-type: none"> <li>1. All subjects identified as a patient as defined above will be assessed using criteria consistent with the provider's level of training. This will include but is not limited to the following: <ul style="list-style-type: none"> <li>a. Vital Signs – A complete set of Vital Signs will be assessed. This shall include evaluating Blood Pressure, Pulse Rate, Respiratory Rate, and Pulse Oximetry reading.</li> <li>b. Mental Status – all patients will be evaluated to establish the patient's level of consciousness (alert and oriented to person, place, time and situation). The mental status of non-verbal pediatric patients should be assessed using the AVPU method within the context of the expected developmental level. Patients presenting with an altered mental status or level of consciousness shall have their blood glucose evaluated and documented.</li> <li>c. History of present illness/injury.</li> <li>d. Medications – list all current medications as well as the patient's allergies to medications.</li> <li>e. Focused assessment/physical examination as described by the standard national</li> </ul> </li> </ul> </li> </ul>	



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	<p>EMT/Paramedic curriculum to include all pertinent positive or pertinent negative symptoms.</p> <p><b>C. Treatment:</b></p> <ol style="list-style-type: none"> <li>1. All patients assessed by EMS personnel will be treated as directed by the protocols contained herein. Based on the initial patient history of the presenting illness and physical exam, EMS personnel should apply the most appropriate medical protocol.</li> <li>2. Appropriate body substance isolation precautions should be taken.</li> <li>3. All patients regardless of age should be kept from eating or drinking anything during pre-hospital evaluation and transport. This aims to decrease the risk a patient will vomit and aspirate prior to arriving to the hospital. The following exceptions should be noted, however: <ol style="list-style-type: none"> <li>i. Awake and alert patients who require their regularly scheduled oral medications</li> <li>ii. Other patients as directed specifically in the Academy of Medicine of Cincinnati Protocols for SW Ohio</li> </ol> </li> <li>4. Maintain Airway <ol style="list-style-type: none"> <li>i. If the patient is in impending respiratory failure, follow the Airway Protocol T705</li> </ol> </li> <li>5. Administer Oxygen if appropriate for condition.</li> <li>6. Establish IV if potentially needed.</li> <li>7. Apply cardiac monitor if appropriate and available.</li> <li>8. EMT-Basics should request ALS back-up or intercept if they feel the patient's condition and needs exceed or may exceed their level of care.</li> </ol> <p><b>D. Patient Disposition:</b> All patients attended by the EMS unit following these medical protocols will have one of the following dispositions:</p> <ol style="list-style-type: none"> <li>1. Treatment and Transport by EMS unit: <ol style="list-style-type: none"> <li>a. Emergent – immediate threat to life or limb <ol style="list-style-type: none"> <li>i. Patient shall be transported to the closest medical facility capable of handling the emergency as defined by the Southwestern Ohio (SWO) protocol and Trauma Triage Guidelines.</li> <li>ii. Hospital capacity status does not affect hospital choice.</li> </ol> </li> <li>b. Emergent – <b>NO</b> immediate threat to life or limb <ol style="list-style-type: none"> <li>i. Patient request shall be honored based on specific departmental policy.</li> <li>ii. Hospital capacity status should be discussed with the patient prior to patient or family departure to hospital of choice.</li> </ol> </li> <li>c. Non-Emergent – chronic or minor illness or injury. <ol style="list-style-type: none"> <li>i. Patient request shall be honored unless otherwise directed by departmental policy.</li> <li>ii. Hospital capacity status should be discussed with the patient prior to patient or family departure to hospital of choice.</li> </ol> </li> <li>d. Special Cases: <ol style="list-style-type: none"> <li>i. Specialty patients – some patients may have very specific requirements during their care in the hospital. The ED Capabilities Survey can guide the transportation of these patients, or the patient may know where they need to go.</li> <li>ii. Combative Patients – If the patient presents a significant threat to EMS staff, a police officer should accompany the patient during transport in the EMS unit.</li> <li>iii. Toxic Ingestion – ALL patients with suspected or reported toxic ingestion shall be transported to the Emergency Department via EMS unit per M411 Toxicological Emergencies.</li> </ol> </li> </ol> </li> </ol>	



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	<p>2. Treatment and Released: only the following patients can be treated and released, and only if they are, 18 years or older, less than 18 and an emancipated minor (see below), or less than 18 years of age in the custody of a legal guardian:</p> <ol style="list-style-type: none"> <li>Patients meeting the "Treat and Release" criteria listed in Protocol M406 Hyper/Hypoglycemia.</li> <li>Minor Injuries – patients with visible minor injuries that may require first aid such as band-aids, ice packs, etc. may be directed to seek alternate methods of transportation if they desire to visit a hospital.</li> <li>Refusing Further Treatment – in the event a patient or minor patient's legal guardian refuses further treatment or transport once treatment has begun, document the treatment provided and continue as with any other Refusal of Medical Transport. (See 6 below).</li> </ol> <p>3. Treated and Transferred by another unit to medical care (i.e. mutual aid ambulance, Air Care, etc.)</p> <p>4. Treated, Transported by Police – Patients treated and released with minor injuries may be transported by police when there is no indication of toxic ingestion.</p> <p>5. Obvious Death – body left for funeral director or coroner.</p> <p>6. Refused Medical Transport – only patients deemed capable of making rational decisions may be allowed to refuse transport.</p> <ol style="list-style-type: none"> <li>Complete as thorough an assessment as possible – document aspects of the assessment not permitted by the patient or minor patient's legal guardian.</li> <li>Have the patient or minor patient's legal guardian sign refusal for transportation. If they refuse to sign, document as such. <ol style="list-style-type: none"> <li>An "emancipated" minor may sign for themselves. "Emancipation" is defined as a minor who has married, entered the armed services of the United States, become employed and self-subsisting, or has otherwise become independent from the care and control of his/her parent, guardian, or custodian. (ORC 2919.121)</li> </ol> </li> <li>List all pertinent details of assessment and circumstances in PCR.</li> <li>The answers from the General Screening Questionnaire below, will be documented on the PCR.</li> </ol> <table border="1"> <thead> <tr> <th>Must answer "YES" to the following:</th><th>YES</th><th>NO</th></tr> </thead> <tbody> <tr> <td>Age 18 or older, or an emancipated minor, or legal guardian present/contacted and making decisions?</td><td></td><td></td></tr> <tr> <td>Is patient or patient's legal guardian alert and oriented to person, place and time as defined above IV.B.1.b mental status.</td><td></td><td></td></tr> <tr> <td>Does the patient or patient's legal guardian behavior appear normal to EMS provider and family?</td><td></td><td></td></tr> <tr> <td>There is NO evidence that the patient or patient's legal guardian is intoxicated (as defined above IV.B.1.b)?</td><td></td><td></td></tr> <tr> <td>Patient or patient's legal guardian understands the implications of their decision and is capable of repeating it back to the EMS Personnel in his/her own words.</td><td></td><td></td></tr> </tbody> </table>		Must answer "YES" to the following:	YES	NO	Age 18 or older, or an emancipated minor, or legal guardian present/contacted and making decisions?			Is patient or patient's legal guardian alert and oriented to person, place and time as defined above IV.B.1.b mental status.			Does the patient or patient's legal guardian behavior appear normal to EMS provider and family?			There is NO evidence that the patient or patient's legal guardian is intoxicated (as defined above IV.B.1.b)?			Patient or patient's legal guardian understands the implications of their decision and is capable of repeating it back to the EMS Personnel in his/her own words.		
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	<p>E. <b>Communication with the Emergency Department</b> – notification to the receiving hospital should be made only when it is deemed that the hospital staff will be required to assess/treat the patient IMMEDIATELY upon arrival at the ED, except as follows:</p> <ol style="list-style-type: none"> <li>1. Where required by protocol.</li> <li>2. For questions with situations not covered by the protocol, Medical Control should be contacted for guidance.</li> <li>3. Some Emergency Departments request notification on all patients arriving at their facility. Please discuss local variations with your local Emergency Departments.</li> </ol> <p>F. <b>Documentation:</b> The Patient Care Report (PCR) is a legal document of the medical assessment and treatment of the patient. All aspects of the patient's medical assessment, treatment and transportation will be documented in the PCR. Each EMS unit that interacts with the patient shall complete a PCR on that patient.</p> <ol style="list-style-type: none"> <li>1. Member completing the PCR will sign the form as a medical document.</li> <li>2. Activities performed by any person involved with the patients care will be documented on the PCR.</li> <li>3. All patients will, as a minimum, have assessment criteria documented as in Section B-1 above. If assessment criteria are not obtained, documentation supporting the inability to gather an assessment will be included.</li> <li>4. All records of cardiac rhythms (including heart monitor and AED tracings) should be collected and archived as part of the patient record.</li> <li>5. If the incident is determined to be a No Patient Contact or a No Incident Found on Arrival, the EMS crew shall document the incident appropriately based on their departmental policies</li> </ol> <p>G. <b>Responsibilities at the Emergency Department</b></p> <ol style="list-style-type: none"> <li>1. Provide verbal report to appropriate ED personnel.</li> <li>2. Provide a copy of the completed PCR.</li> </ol>	



SB201	SB201 Altered Level of Consciousness		SB201
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<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> <b>A.</b> Patient has a decreased Level of Consciousness (GCS less than 15) <b>B.</b> Patient of any age		
<b>ALL</b>	<b>II. PROTOCOL</b> <b>I.</b> Assess Airway/Breathing/Circulation and Suspicion for Trauma <div style="text-align: center;"> <div>Altered Level of Consciousness</div> <div>↓</div> <div>If Trauma is suspected establish and maintain C-Spine Precautions</div> <div>↓</div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <div>Airway Patent</div> <div>↓</div> <div>Breathing Adequate</div> <div>↓</div> <div>Continue to Patient Assessment &amp; Differential Diagnosis</div> </div> <div style="text-align: center;"> <div>Airway Compromised</div> <div>↓</div> <div>Go to Airway/Resp Distress Protocol -Consider causes and Differential Diagnosis-</div> <div>↓</div> <div>Breathing Inadequate -Support Airway/Ventilation-</div> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <div>Pulse Present</div> <div>↓</div> <div>Continue to Patient Assessment &amp; Differential Diagnosis</div> </div> <div style="text-align: center;"> <div>Pulse Absent</div> <div>↓</div> <div>Begin CPR / Proceed to Cardiac Arrest Protocols</div> </div> </div> </div> </div> </div>		
<b>ALL</b>	<b>III. DIFFERENTIAL DIAGNOSIS</b> <b>A.</b> Anemia <b>B.</b> Drugs and Alcohol <b>C.</b> Dysrhythmias <b>D.</b> Electrolyte Imbalance <b>E.</b> Head Injury <b>F.</b> Hypertension <b>G.</b> Hyperglycemia <b>H.</b> Hypoglycemia	<b>I.</b> Hypoxia <b>J.</b> Infection, especially Meningitis <b>K.</b> Myocardial Ischemia / Infarction <b>L.</b> Pulmonary Embolism <b>M.</b> Psychiatric <b>N.</b> Seizure <b>O.</b> Shock <b>P.</b> Stroke, Intracranial Bleeding <b>Q.</b> Toxic Ingestion	



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<b>ALL</b>	<p><b>IV. Assessment</b></p> <p><b>1. <u>Drugs and Alcohol</u></b></p> <p><i>i.</i> Alcohol</p> <p><i>i.</i> Although alcohol is a common cause of altered level of consciousness, it is rarely the cause of complete unresponsiveness. Do not let the patient's alcohol intoxication cloud your judgment. It is safer to assume that the intoxicated patient has a serious medical problem and treat accordingly than it is to conclude that the patient is "just drunk."</p> <p><i>ii.</i> Refer to M411 or P611 for treatment.</p> <p><i>ii.</i> Narcotics</p> <p><i>i.</i> Assess for signs of a possible narcotic overdose such as: pinpoint pupils, slow respiration's, needle tracks or injection paraphernalia nearby.</p> <p><i>ii.</i> For suspicion of narcotic overdose refer to M411 or P611.</p> <p><i>iii.</i> Other Drugs</p> <p><i>i.</i> Attempt to obtain the type of exposure for the patient; maintain provider safety</p> <p><i>ii.</i> Refer M411 or P611 for treatment</p> <p><b>2. <u>Dysrhythmia</u></b></p> <p><i>i.</i> Assess patient for abnormal pulse/perfusion.</p>	
<b>MEDIC</b>	<i>ii.</i> Obtain rhythm strip, if dysrhythmia present proceed to appropriate Cardiac Treatment Protocol	
<b>ALL</b>	<p><b>3. <u>Head Injury</u></b></p> <p><i>i.</i> If suspicion of head injury refer to S501, P613 and/or SB210 for treatment.</p> <p><b>4. <u>Hypertension</u></b></p> <p><i>i.</i> Symptomatic HTN (BP systolic &gt;200 and one of the following: headache, confusion, vomiting, blurred vision, chest pain, respiratory difficulty) should not be treated for the blood pressure the pre-hospital setting</p> <p><i>i.</i> Treat patient symptoms (vomiting, chest pain, respiratory difficulty, seizures, etc.) per the appropriate protocol.</p> <p><i>ii.</i> Assess Patient for Stroke (CVA/TIA) Symptoms; assess Blood Pressure in opposite arm of initial reading.</p> <p><i>iii.</i> If positive for Stroke Symptoms, refer M414 Stroke (CVA/TIA) protocol for treatment.</p> <p><b>5. <u>Hypoglycemia</u></b></p> <p><i>i.</i> Glucose Level is less than 70 mg/dL or glucometer reads "LOW".</p> <p><i>i.</i> If unable to assay Glucose Level but history leads to suspicion of hypoglycemia as cause of Altered Mental Status refer to M406 or P608 for treatment.</p> <p><i>ii.</i> Refer to M406 or P608 Hyper/Hypoglycemic Protocol for treatment.</p> <p><b>6. <u>Hyperglycemia</u></b></p> <p><i>i.</i> Glucose Level is greater 400 mg/dL or glucometer reads "HIGH".</p> <p><i>ii.</i> Refer to M406 or P608 for treatment</p> <p><b>7. <u>Hypoxia</u></b></p> <p><i>i.</i> Administer Oxygen.</p> <p><i>ii.</i> Refer to SB202 for treatment.</p> <p><i>iii.</i> Consider alternate causes of Hypoxia including Carbon Monoxide poisoning.</p> <p><b>8. <u>Infection, especially meningitis</u></b></p>	



SB201	SB201 Altered Level of Consciousness	SB201
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
	<ul style="list-style-type: none"> <li><i>i.</i> Assess for fever, if capable.</li> <li><i>ii.</i> Utilize appropriate level of PPE for all patients/providers/bystanders</li> </ul> <p><b>9. <u>Myocardial Ischemia / Infarction</u></b></p> <ul style="list-style-type: none"> <li><i>i.</i> Altered Level of Consciousness may be a symptom of an Acute Cardiac Event (such as Myocardial Infarction – STEMI or Non-STEMI) even if patient does not present with “Chest Pain.” On suspicion of myocardial ischemia / infarction Refer to the M400 and perform 12 Lead EKG as soon as possible (MEDIC).</li> <li><i>ii.</i> Groups with Atypical AMI Presentations: <ul style="list-style-type: none"> <li><i>i.</i> Elderly</li> <li><i>ii.</i> Females</li> <li><i>iii.</i> Diabetics</li> <li><i>iv.</i> Chronically Hypertensive Patients</li> </ul> </li> </ul> <p><b>10. <u>Psychiatric</u></b></p> <ul style="list-style-type: none"> <li><i>i.</i> Rule out medical cause for ALOC using differential diagnosis.</li> <li><i>ii.</i> For medically stable patients manifesting unusual behavior including violence, aggression, altered affect, or psychosis refer to M407 for treatment</li> </ul> <p><b>11. <u>Shock</u></b></p> <ul style="list-style-type: none"> <li><i>i.</i> Identify possible causes of shock and treat via appropriate protocols. <ul style="list-style-type: none"> <li><i>i.</i> Hemorrhagic Shock refer to S400 or P614 for treatment.</li> <li><i>ii.</i> Cardiogenic Shock refer to M401 for treatment.</li> <li><i>iii.</i> Anaphylactic Shock (Allergic Reaction) refer to M409 or P609</li> </ul> </li> </ul> <p><b>12. <u>Seizure</u></b></p> <ul style="list-style-type: none"> <li>1. Patient suspected to have had grand mal seizure based upon description of eyewitnesses, incontinence of urine or stool, or history of previous seizures.</li> <li>2. Patient may or may not have current seizure activity.</li> <li>3. Refer to M410 Seizure Protocol for treatment.</li> </ul> <p><b>13. <u>Stroke, Intracranial Bleeding</u></b></p> <ul style="list-style-type: none"> <li>1. Patient may NOT have altered level of consciousness.</li> <li>2. Assess Patient for Stroke (CVA/TIA) Symptoms. <ul style="list-style-type: none"> <li><i>i.</i> Using a standard such as the Cincinnati Prehospital Stroke Scale will allow for consistency and ease of communication with Emergency Departments.</li> <li><i>ii.</i> Cincinnati Prehospital Stroke Scale: <ul style="list-style-type: none"> <li><i>i.</i> Facial Droop (ask patient to show teeth and smile).</li> <li><i>ii.</i> Pronator drift (Ask patient to extend arms, palms up, with eyes closed. Watch to see if one arm drifts down. If only one arms drifts, the test is positive. If both arms drift down, the results are unclear).</li> <li><i>iii.</i> Speech (ask patient to say “The Sky is Blue in Cincinnati”).</li> <li><i>iv.</i> Document all abnormalities.</li> </ul> </li> </ul> </li> <li>5. Refer to M414 Stroke Protocol for treatment.</li> </ul>	





SB202	SB202 Symptom Based Respiratory Distress	SB202
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> <ul style="list-style-type: none"> <li>A. Patients of any age.</li> <li>B. Patient complains of severe/worsening shortness of breath.</li> <li>C. Patient has a past medical history of Asthma, Emphysema, or COPD.</li> <li>D. Patient may be prescribed inhaler and/or other respiratory medications.</li> <li>E. Lung exam has stridor, rales, wheezing, decreased breath sounds, or poor air exchange.</li> <li>F. Pale, cyanotic or flushed skin.</li> <li>G. Use of accessory muscles of respiration.</li> <li>H. MAY have retractions, nasal flaring, rapid respiratory rate (greater than 24), or pursed lip breathing.</li> <li>I. Tripod/positional breathing.</li> <li>J. Inability to speak in full sentences.</li> <li>K. Restlessness or anxiety.</li> <li>L. Altered/decreased mental status.</li> <li>M. MAY have jugular venous distention or peripheral edema.</li> <li>N. May have symptoms of Epiglottitis or Croup.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>O. If EKG findings are other than normal sinus rhythm, sinus tachycardia, or atrial fibrillation with controlled ventricular response, proceed to appropriate arrhythmia protocol.</li> </ul>	
<b>ALL</b>	<b>II. PROTOCOL</b> <ul style="list-style-type: none"> <li>A. Maintain airway and administer Oxygen.</li> <li>B. If the patient is in impending respiratory failure, follow the T705 Airway Protocol.</li> <li>C. Allow patient to sit up in a position of comfort.</li> <li>D. Apply cardiac monitor, if available.</li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>E. If available, request ALS back-up for: <ul style="list-style-type: none"> <li>i. Adult patient with pulse greater than 120 and respiratory rate greater than 24.</li> <li>ii. Patients less than 16 years old, with respiratory rate greater than 50 or who have wheezing, grunting, retractions, stridor and/or any other sign of respiratory distress.</li> <li>iii. Patient who doesn't have a prescribed inhaler and the transport time is greater than 30 minutes.</li> </ul> </li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>F. Consider CPAP (Protocol T709).</li> <li>G. Monitor Vital Signs.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>H. Establish IV access.</li> </ul>	
<b>All</b>	<ul style="list-style-type: none"> <li>I. If the patient has chest pain suggestive of cardiac origin, dyspnea, no evidence of trauma, AND <ul style="list-style-type: none"> <li>i. Systolic blood pressure of less than 80 mm Hg, OR</li> <li>ii. Systolic blood pressure of 80-100 mm Hg and a pulse greater than 120, skin changes suggestive of shock, or altered mental status,</li> </ul> </li> </ul>	



SB202	SB202 Symptom Based Respiratory Distress	SB202
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	<p>iii. GO TO THE CARDIOGENIC SHOCK PROTOCOL M401.</p> <p>J. If the patient has a dysrhythmia,</p> <p>i. GO TO THE APPROPRIATE DYSRHYTHMIA PROTOCOL.</p> <p>K. If the patient is unable to speak because of an airway obstruction or has a history suggestive of foreign body aspiration, i.e. sudden shortness of breath while eating, OR</p> <p>i. If the patient exhibits stridor lung sounds,</p> <p>ii. GO TO THE OBSTRUCTION OR STRIDOR PROTOCOL M402 or P606.</p> <p>L. If the patient has a history of Asthma, Emphysema or COPD, AND complains of a worsening shortness of breath,</p> <p>i. GO TO THE ASTHMA – COPD PROTOCOL M403 or P607.</p> <p>M. If the patient has a history of heart disease, a respiratory rate greater than 24 and a systolic blood pressure greater than 100 mm HG,</p> <p>i. GO TO THE CONGESTIVE HEART FAILURE – CHF PROTOCOL M404</p> <p>N. If the patient has hives, itching or swelling</p> <p>i. GO TO THE ALLERGIC REACTION/ ANAPHYLAXIS PROTOCOL M409 OR P609</p> <p>O. If Pneumothorax is suspected be aware that this can develop into a Tension Pneumothorax.</p> <p>i. Refer to Tension Pneumothorax Decompression PROTOCOL T701.</p>	
<b>ALL</b>	<p><b>Notes:</b></p> <p>A. When attempting to differentiate between COPD and congestive heart failure, the medication history will usually give more valuable information than the physical exam.</p> <p>B. Do not withhold high concentrations of oxygen from the COPD patient if oxygen is needed. The risks of oxygen therapy in these patients are usually overemphasized. Any rise in PCO<sub>2</sub>, which may occur is frequently more than offset by the beneficial effects of increased oxygen delivery to the tissue.</p> <p>C. Transport to the hospital should be initiated immediately if the patient's airway is compromised or the patient needs advanced airway management. Otherwise, transport should be initiated as soon as possible taking into account the time required to begin pharmacologic therapy.</p>	



SB203	SB203 Symptom Based Chest Pain	SB203
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<p><b>I. Inclusion Criteria</b></p> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years or older</li> <li>B. Patient complains of discomfort that may be suggestive of cardiac origin.</li> <li>C. Patient has a complaint that may be suggestive of pleuritic or of respiratory origin.</li> <li>D. Patient has a complaint that may be of musculoskeletal origin.</li> </ul> <p><b>II. Differential Diagnosis</b></p> <ul style="list-style-type: none"> <li>A. Acute Coronary Syndrome</li> <li>B. Dysrhythmias</li> <li>C. Musculoskeletal complaints</li> <li>D. Respiratory complaints</li> <li>E. Gastrointestinal complaints</li> </ul>	
<b>ALL</b>	<p><b>III. General Chest Pain assessment</b></p> <ul style="list-style-type: none"> <li>A. Provide care in a calm and reassuring manner.</li> <li>B. Place the patient in a position of comfort.</li> <li>C. Obtain a focused history and physical. If there is the complaint of chest pain, the history should include: onset, provoking factors, quality, radiation, severity, time and pertinent negatives.</li> <li>D. Maintain airway and administer oxygen.</li> <li>E. Patients who have a suspected diagnosis of Acute Coronary Syndrome should be treated utilizing the ACS Protocol M400.</li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>F. If no Paramedic available, obtain 12 Lead EKG (if available and appropriately trained) and transmit to receiving hospital.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>G. Place the patient on a cardiac monitor. If the rhythm is not of sinus origin (between 60-140) go to the appropriate Dysrhythmia Protocol.</li> <li>H. Obtain a 12-Lead EKG and transmit if appropriate.</li> </ul>	
<b>ALL</b>	<p><b>IV. NOTES</b></p> <ul style="list-style-type: none"> <li>A. Patients who have a suspected diagnosis of musculoskeletal chest wall pain should be treated utilizing the most appropriate related General Medical SB200 and/or Trauma Protocol SB210.</li> <li>B. Patients who have chest discomfort related to a respiratory pathology should be managed utilizing the Respiratory Distress Protocol SB202.</li> <li>C. Patients who have chest discomfort related to a gastrointestinal pathology should be managed utilizing the most appropriate related General Medical Protocol SB200.</li> </ul>	



SB204	SB204 Cardiac Arrest	SB204
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <p>A. Patient of any age</p> <p>B. No Pulse</p> <p><b>II. PROTOCOL</b></p> <p>A. If Traumatic Cardiac Arrest and 16 years or older, go to Protocol C308</p> <p>B. Initiate CPR</p>	
<b>EMT</b>	<p>C. If available, request ALS back-up.</p> <p>D. Apply AED and follow audio instructions.</p> <p>E. If “shock advised” go to age-appropriate VF/VT Protocol C300 or P601.</p> <p>F. If “no shock advised” go to age-appropriate PEA/Asystole Protocol C301 or P602.</p>	
<b>MEDIC</b>	<p>G. Apply cardiac monitor.</p> <p>H. If VF/VT, proceed to age-appropriate VF/VT Protocol C300 or P601.</p> <p>I. If PEA/Asystole, proceed to age-appropriate PEA/Asystole Protocol C301 or P602.</p>	
<b>ALL</b>	<p><b>III. Notes</b></p> <p>A. In order to maintain high quality compressions, the person doing compressions should consider change with either:</p> <ol style="list-style-type: none"> <li>1. Every 5 cycles</li> <li>2. Every 2 minutes</li> <li>3. Every drug dose</li> <li>4. When end tidal CO2 goes down</li> <li>5. When the person doing compressions gets tired</li> <li>6. At the direction of the code leader</li> </ol> <p>B. Literature indicates that the use of a mechanical “thumper” is not superior to high quality compressions by a rescuer.</p>	



SB210	SB210 Trauma Patient Assessment and Transport Guidelines	SB210
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
ALL	<p><b>I. INTRODUCTION</b></p> <p>A. The goal of any trauma patient assessment and transportation guideline is to facilitate "whatever gets the patient to the most appropriate level of care in the most expeditious manner." There is strong evidence that shows that reducing the time interval from the moment of injury to delivery/arrival at a definitive care site will reduce morbidity and mortality</p> <p>B. These guidelines were developed to assist the emergency responder to determine what constitutes a trauma patient and where to transport the trauma patient</p> <p>C. In the pre-hospital care environment, time, distance, patient condition, and level of care are important variables when making decisions for transporting the trauma patient. These variables are frequently hard to assess in the field and are ever changing. These guidelines are meant to supplement, but not replace the judgment of the on-scene Medic/EMT</p> <p>D. <i>The Tri-state Trauma Coalition encourages all Fire and EMS Agencies and their personnel to review the Trauma Patient Assessment and Transportation guidelines on an annual basis</i></p> <p>E. <i>The Ohio Pre-Hospital Trauma Triage Decision Tree SB214 may be used as an aide in determining the appropriate facility for the patient</i></p> <p><b>II. CONCEPTS</b></p> <p>A. Rapid field evaluation, treatment, and transport are vital to the overall outcome of the trauma patient. After the trauma patient's extrication, the on-scene time should be limited to TEN MINUTES or less, except when there are extenuating circumstances</p> <p>B. Trauma Center means a facility with a current A.C.S. verification certificate, or a hospital meeting A.C.S. guidelines with a known A.C.S. verification in process. *</p> <p>C. Use of on-line, active medical control for medical direction in the field, particularly for difficult cases, is encouraged.</p> <p>D. <u>Pre-arrival notification of the receiving facility is essential!</u></p> <p><b>III. TRAUMA CENTER\ FACILITY CAPABILITIES:</b> The Regional Trauma Plan is an inclusive model that integrates the resources of all facilities throughout the region in providing care to the severely injured trauma patient.</p> <p>A. Level I and II Trauma Centers offer the same level of care for the incoming trauma patient and may be used interchangeably.</p> <p>B. Level III Trauma Centers offer services, based on individual hospital resources that provide for initial assessment, resuscitation, and stabilization, which may include emergency surgery, for the trauma patient.</p> <ol style="list-style-type: none"> <li>1. The Level III Trauma Center will have established Transfer Agreements with the NEAREST Level I and II Trauma Centers in the region.</li> <li>2. In the areas of the region where the Level III Trauma Center is the only verified trauma facility, (within 30 minutes ground transport time), this hospital will act as the primary receiving facility for the critically injured patient.</li> <li>3. <i>In areas where the trauma patient is in close proximity to a Level III trauma center and a Level I or II trauma center is still within the 30 minute transport guidelines established in this document, the EMS Provider should exercise professional judgment as to whether the patient would benefit more from an immediate evaluation and stabilization at the proximate Level III trauma center or from direct transport by ground EMS Provider or air to the Level I or II trauma center.</i></li> </ol>	



SB210	SB210 Trauma Patient Assessment and Transport Guidelines	SB210
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	<p>C. Other general acute care hospitals not verified\designated as Trauma Centers, but having 24- hour Emergency Department capabilities, can and should be used in certain situations to stabilize the "critically injured" trauma patient. In areas of the region where there are no verified Trauma Centers (within 30 minute ground transport time) the general acute care hospital will act as the primary receiving facility for all critically injured trauma patients. (See air medical utilization guidelines).</p> <p>D. <i>The general acute care hospital will have established Transfer Agreements with the NEAREST Level I and II Trauma Centers in the Region</i></p> <p>E. The pediatric trauma patient should be transported to the NEAREST Pediatric Trauma Center!</p> <p>F. All <u>pregnant</u> trauma patients should be transported to the NEAREST <u>Adult</u> Trauma Center regardless of where they are supposed to deliver</p> <p><b>IV. USE OF GUIDELINES</b></p> <p>A. Determine if the patient qualifies as a trauma patient</p> <ol style="list-style-type: none"> <li>Note the differences in inclusion criteria for Pediatric (younger than 16 years) Adult (16-65 yrs), and Geriatric (greater than 65 yrs) Patients</li> </ol> <p>B. Determine where and how the trauma patient is to be transported</p> <p>C. Go to the appropriate facility.</p> <p><b>V. HOSPITAL / INTER-HOSPITAL TRANSFER OF TRAUMA PATIENTS</b></p> <p>A. Written protocols and agreements between facilities for transport/transfer of trauma patients are required</p> <p>B. EMS and local facility should have active discussion regarding each other's capabilities.</p> <p>C. The ED Capability Study may be used as a resource</p> <p>D. The Division of EMS posts on the Internet at <a href="http://ems.ohio.gov/Trauma_site.asp">http://ems.ohio.gov/Trauma_site.asp</a> the list of trauma centers recognized by the Ohio Department of Public Safety and the Ohio Department of Health</p> <p><b>VI. EXCEPTIONS:</b></p> <p>A. Emergency medical service personnel shall transport a trauma victim, as defined in section 4765.01 of the Revised Code, directly to an adult or pediatric trauma center that is qualified to provide appropriate adult or pediatric care, unless one or more of the following exceptions apply:</p> <ol style="list-style-type: none"> <li>It is medically necessary to transport the victim to another hospital for initial assessment and stabilization before transfer to an adult or pediatric trauma center;</li> <li>It is unsafe or medically inappropriate to transport the victim directly to an adult or pediatric trauma center due to adverse weather or ground conditions or excessive transport time;</li> <li>Transporting the victim to an adult or pediatric trauma center would cause a shortage of local emergency medical service resources;</li> <li>No appropriate adult or pediatric trauma center is able to receive and provide adult or pediatric trauma care to the trauma victim without undue delay;</li> <li>Before transport of a patient begins, the patient requests to be taken to a particular hospital that is not a trauma center or, if the patient is less than eighteen years of age or is not able to communicate, such a request is made by an adult member of the patient's family or a legal representative of the patient.</li> </ol>	



SB210	SB210 Trauma Patient Assessment and Transport Guidelines	SB210
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
	<p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. If the state trauma triage protocols are amended to include criteria that do not appear in a region's (or organization's) protocols, such amendments will automatically be applied to the region's protocols until such time as the region amends their protocols, in accordance with section 4765.40 of the Revised Code.</li> <li>B. The American College of Surgeons (ACS) Trauma Center Verification guidelines describe a range of clinical services that might be offered by Level II and level III trauma centers (for example – Level III trauma centers are not required to have neurosurgery or thoracic surgery, although a number of Level III centers may have these clinical services available). Information on how to obtain a copy of the Resources for Optimal Care of the Injured Patient: 1999 (ACS trauma center standards) can be found at <a href="http://www.facs.org">http://www.facs.org</a>. This information was taken from the State of Ohio's Document "What EMS Providers Should Know about Trauma Triage."</li> <li>C. Protocol SB214 is a document that EMS providers may find helpful with deciding who needs to be transported directly to a trauma center. Based on Ohio's trauma triage criteria, this form was developed by the Academy of Medicine of Cincinnati SW Ohio Protocol Subcommittee and was approved by the State EMS Board for use by EMS personnel in the pre-hospital setting.</li> </ul>	





SB211 2014	SB211 Guideline for Assessment/Transport of Adult Trauma Patients Academy of Medicine of Cincinnati - Protocols for SW Ohio	SB211 2014
ALL	<p>I. <b>EVALUATION OF THE ADULT TRAUMA PATIENT - ANY OF THESE CONSTITUTE A "TRAUMA PATIENT"</b></p> <p>A. <u>AGE 16 TO 64 YEARS</u></p> <p>B. <u>PHYSIOLOGICAL CRITERIA</u></p> <ol style="list-style-type: none"> <li>1. Significant signs of shock or evidence of poor perfusion (cold, clammy, decreased mental status, weak pulse, pallor) or: <ol style="list-style-type: none"> <li>i. Pulse greater than 120 or less than 50 or</li> <li>ii. Systolic blood pressure less than 90</li> <li>iii. Absence of radial pulse when carotid pulse is present or change in pulse character</li> <li>iv. Geriatric patients (&gt;65 years old) may be in shock with a systolic blood pressure less than 110</li> </ol> </li> <li>2. Airway or Breathing Difficulties or evidence of respiratory distress or failure <ol style="list-style-type: none"> <li>i. Respiratory rate of less than 10 or greater than 29</li> <li>ii. Intubated patient</li> </ol> </li> <li>3. Neurologic Considerations <ol style="list-style-type: none"> <li>i. Evidence of Head Injury <ol style="list-style-type: none"> <li>a) Glasgow coma scale less than or equal to 13 or AVPU scale that does not respond to Pain or Unresponsive</li> </ol> </li> <li>i. Alteration in LOC during examination or thereafter; loss of conscious greater than 5 min.</li> <li>ii. Failure to localize pain.</li> <li>ii. Suspected spinal cord injury (paralysis due to an acute injury; sensory loss)</li> </ol> </li> </ol> <p>C. <u>ANATOMIC CRITERIA</u></p> <ol style="list-style-type: none"> <li>1. Penetrating trauma (to the head, chest or abdomen, neck and extremities proximal to knee or elbow)</li> <li>2. Injuries to the extremities where the following physical findings are present: <ol style="list-style-type: none"> <li>i. Amputations proximal to the wrist or ankle</li> <li>ii. Visible crush injury</li> <li>iii. Fractures of two or more proximal long bones</li> <li>iv. Evidence of neurovascular compromise</li> </ol> </li> <li>3. Tension pneumothorax that is relieved (an unrelieved tension pneumothorax would fit the definition of an unstable ABC needing immediate treatment at the closest ER)</li> <li>4. Injuries to the head, neck, or torso where the following physical findings are present: <ol style="list-style-type: none"> <li>i. Visible crush injury</li> <li>ii. Abdominal tenderness, distention, or seat belt sign</li> <li>iii. Suspicion of a Pelvic fracture</li> <li>iv. Flail chest</li> </ol> </li> </ol>	



SB211 2014	SB211 Guideline for Assessment/Transport of Adult Trauma Patients Academy of Medicine of Cincinnati - Protocols for SW Ohio	SB211 2014
	<ol style="list-style-type: none"> <li>5. Signs or symptoms of spinal cord injury.</li> <li>6. Second degree or third degree burns greater than ten percent total body surface area, or other significant burns involving the face, feet, hands, genitalia, or airway.</li> </ol> <p><b>A. <u>OTHER CRITERIA/CONSIDERATIONS THAT ALONE DO NOT CONSTITUTE A TRAUMA PATIENT</u></b></p> <ol style="list-style-type: none"> <li>1. Significant Mechanisms of Injury Should Prompt a High Index of Suspicion <ol style="list-style-type: none"> <li>i. ATV/Motorcycle crashes</li> <li>ii. Significant Falls- 20'</li> <li>iii. High Risk Auto crash</li> <li>iv. MVC Ejection.</li> <li>v. Death in same compartment.</li> <li>vi. Auto vs. pedestrian/bicycle: thrown, ran over, &gt; 20mph</li> <li>vii. Drowning, Near Drowning, and Asphyxia</li> </ol> </li> <li>2. Age greater than 65 Should Prompt a High Index of Suspicion <ol style="list-style-type: none"> <li>i. See Geriatric Specific Inclusion Criteria listed in SB213 Geriatric Trauma Patients</li> </ol> </li> <li>3. Anticoagulation and head injury</li> </ol> <p><b>II. <u>TRANSPORTATION OF THE ADULT TRAUMA PATIENT</u></b></p> <p><b>A. Ground Transportation <u>Time</u> Guidelines</b></p> <ol style="list-style-type: none"> <li>1. 30 minutes or less from a Trauma Center → TRAUMA CENTER (excluding uncontrolled airway or traumatic CPR)</li> <li>2. Greater than 30 minutes to a trauma center → may consider nearest appropriate facility</li> </ol> <p><b>B. Ground Transportation Guidelines</b></p> <ol style="list-style-type: none"> <li>1. Patients should be transported to the nearest appropriate facility if any of the following exists: <ol style="list-style-type: none"> <li>i. Airway is unstable and cannot be controlled/managed by conventional methods</li> <li>ii. Potential for unstable airway, i.e., (facial/upper torso burn)</li> <li>iii. Blunt trauma arrest (no pulses or respirations)</li> <li>i. Patient does "NOT" meet criteria for a trauma patient as defined above.</li> </ol> <p>*** <u>PRE-ARRIVAL NOTIFICATION OF THE RECEIVING FACILITY IS ESSENTIAL!!!</u> ***</p> </li> </ol> <p><b>C. Air Medical Transportation</b></p> <ol style="list-style-type: none"> <li>2. General principles: <ol style="list-style-type: none"> <li>i. Prolonged delays at the scene waiting for air medical transport should be avoided.</li> <li>ii. If air medical transportation is unavailable (e.g., weather conditions), patient should be transported by ground guidelines as listed above.</li> <li>iii. Air transport, if dispatched to the scene, should be diverted to the hospital if the patient appeared appropriate for air transport but the decision was made to transport to the nearest</li> </ol> </li> </ol>	



SB211 2014	SB211 Guideline for Assessment/Transport of Adult Trauma Patients Academy of Medicine of Cincinnati - Protocols for SW Ohio	SB211 2014
	<p>facility (non-trauma center) in the interim.</p> <ul style="list-style-type: none"> <li>iv. Air Medical Programs share the responsibility to educate EMS units and facilities on appropriate triage. They should also institute an active utilization and quality review program that provides feedback to EMS units.</li> <li>v. Patients with uncontrolled ABCs should be taken to the closest appropriate facility (24-hour emergency department) if that can be achieved prior to the arrival of air medical transport.</li> <li>vi. Traumatic cardiac arrest due to blunt trauma is not appropriate for air transport.</li> </ul> <p>3. Reasons to Consider a Call for Air Transport:</p> <ul style="list-style-type: none"> <li>i. Prolonged extrication</li> <li>ii. Multiple victims/trauma patients</li> <li>iii. Time/distance factors: <ul style="list-style-type: none"> <li>i. If the transportation time to a trauma center by ground is greater than 30 minutes AND the transport time by ground to the nearest trauma center is greater than the total transport time** to a trauma center by helicopter. <ul style="list-style-type: none"> <li>• **Total transport time includes any time at scene waiting for helicopter and transport time to trauma center.</li> <li>• In the rural environment, immediate transfer with severely traumatized patients by air medical transport may be appropriate and should be encouraged if it does not significantly delay intervention for immediate life-threatening injuries.</li> </ul> </li> </ul> </li> </ul> <p><b>III. NOTES</b></p> <p>A. Exceptions to these Trauma Triage Guidelines are listed in the Trauma Patient Assessment and Transport Guidelines Protocol SB210 under Section VI. These same exceptions apply to pediatric, adult, and geriatric trauma patients</p>	



SB212 2014	SB212 Guideline for Assessment/Transport of Pediatric Trauma <16 yrs  Academy of Medicine of Cincinnati - Protocols for SW Ohio	SB212 2014
<b>ALL</b>	<p><b>II. EVALUATION OF THE PEDIATRIC TRAUMA PATIENT: AGE IS YOUNGER THAN 16 YEARS OLD</b></p> <p><b>A. <u>PHYSIOLOGICAL CRITERIA</u></b></p> <ol style="list-style-type: none"> <li>1. Significant signs of shock or evidence of poor perfusion (cold, clammy, decreased mental status, weak pulse, pallor) or: <ol style="list-style-type: none"> <li>i. Tachycardia (Table 1) or bradycardia (Table 2)</li> <li>ii. Hypotension (Table 3)</li> </ol> </li> <li>2. Airway/Breathing difficulties; Evidence of respiratory distress or failure, including: <ol style="list-style-type: none"> <li>i. Intubated patient</li> <li>ii. Tachypnea (Table 4)</li> <li>iii. Stridor</li> <li>iv. Hoarse voice or difficulty speaking</li> <li>v. Significant grunting, retractions</li> <li>vi. Cyanosis or need for supplemental oxygen</li> </ol> </li> <li>3. Neurologic considerations <ol style="list-style-type: none"> <li>i. Evidence of head injury <ol style="list-style-type: none"> <li>a) Glasgow Coma Scale less than or equal to 13 or AVPU scale that does not respond to Pain or Unresponsive</li> <li>b) Alteration in LOC during examination or thereafter; loss of conscious greater than 5 minutes</li> <li>c) Failure to localize pain</li> </ol> </li> <li>ii. Suspected spinal cord injury (paralysis or alteration in sensation)</li> </ol> </li> </ol> <p><b>B. <u>ANATOMIC CRITERIA</u></b></p> <ol style="list-style-type: none"> <li>1. Penetrating trauma (to the head, chest or abdomen, neck and extremities proximal to the knee or elbow).</li> <li>2. Injuries to the extremities where the following physical findings are present: <ol style="list-style-type: none"> <li>i. Amputations proximal to the wrist or ankle</li> <li>ii. Visible crush injury</li> <li>iii. Fractures of two or more proximal long bones</li> <li>iv. Evidence of neurovascular compromise</li> </ol> </li> <li>3. Tension pneumothorax which is relieved (an unrelieved tension pneumothorax would fit the definition of an unstable ABC, needing immediate treatment at the closest ER)</li> <li>4. Injuries to the head, neck or torso where the following physical findings are present: <ol style="list-style-type: none"> <li>i. Visible crush injury</li> <li>ii. Abdominal tenderness, distention, or seat belt sign</li> <li>iii. Suspicion of a pelvic fracture.</li> </ol> </li> </ol>	



SB212 2014	SB212 Guideline for Assessment/Transport of Pediatric Trauma <16 yrs  Academy of Medicine of Cincinnati - Protocols for SW Ohio	SB212 2014
	<ul style="list-style-type: none"> <li>iv. Flail chest</li> <li>5. Signs or symptoms of spinal cord injury.</li> <li>6. Second degree or third degree burns greater than ten per cent total body surface area, or other significant burns involving the face, feet, hands, genitalia, or airway.</li> </ul> <p><b>C. <u>OTHER CRITERIA/CONSIDERATIONS THAT ALONE DO NOT CONSTITUTE A PEDIATRIC TRAUMA PATIENT:</u></b></p> <ul style="list-style-type: none"> <li>1. Significant mechanism of injury should prompt a high index of suspicion and should be considered in the evaluation. Mechanisms particularly dangerous for pediatric patients include: <ul style="list-style-type: none"> <li>i. Improperly restrained child in MVC (airbag injuries included)</li> <li>ii. ATV/Motorcycle crashes</li> <li>iii. Significant Falls- 10' or 2 to 3 times body height</li> <li>iv. High Risk Auto crash</li> <li>v. MVC with Ejection.</li> <li>vi. Death in same compartment.</li> <li>vii. Auto vs. pedestrian/bicycle: thrown, ran over, greater than 20mph</li> <li>viii. Drowning, Near Drowning, and Asphyxia.</li> </ul> </li> <li>2. Special situations that may require the resources of a pediatric trauma center <ul style="list-style-type: none"> <li>i. Congenital defects</li> <li>ii. Suspected Child Abuse</li> <li>iii. Chronic respiratory illness</li> <li>iv. Diabetes</li> <li>v. Bleeding disorder or anticoagulants</li> <li>vi. Immuno-suppressed patients (i.e., patients with cancer, organ transplant patients, HIV/AIDS, long-term use of corticosteroids, etc.)</li> </ul> </li> </ul> <p><b>III. TRANSPORTATION OF THE PEDIATRIC TRAUMA PATIENT:</b></p> <p><b>A. Ground transportation guidelines – time considerations</b></p> <ul style="list-style-type: none"> <li>1. 30 minutes or less from a Pediatric Trauma Center (excluding uncontrolled airway or traumatic arrest): Transport to a Pediatric Trauma Center</li> <li>2. Greater than 30 minutes to a Pediatric Trauma Center: May consider transport to nearest appropriate facility</li> </ul> <p><b>B. Ground transportation guidelines</b></p> <ul style="list-style-type: none"> <li>1. Patients should be transported to the nearest appropriate facility if any of the following exists: <ul style="list-style-type: none"> <li>i. Airway is unstable and cannot be controlled/managed by conventional methods</li> <li>ii. Potential for unstable airway, (i.e., facial/upper torso burn)</li> <li>iii. Blunt trauma arrest (no pulses or respirations)</li> <li>iv. Patient does NOT meet criteria for a trauma patient as defined above.</li> </ul> </li> </ul> <p><b>***Pre-arrival notification of receiving facility is essential!***</b></p>	



SB212 2014	SB212 Guideline for Assessment/Transport of Pediatric Trauma <16 yrs  Academy of Medicine of Cincinnati - Protocols for SW Ohio	SB212 2014
	<p>C. Air Medical Transportation</p> <ol style="list-style-type: none"> <li>1. General principles <ol style="list-style-type: none"> <li>i. Prolonged delays at the scene waiting for air medical transport should be avoided.</li> <li>ii. If air medical transportation is unavailable. (e.g., weather conditions), patient should be transported by ground guidelines as listed above.</li> <li>iii. Air transport, if dispatched to the scene, should be diverted to the hospital if the patient appeared appropriate for air transport but the decision was made to transport to the nearest facility (non-trauma center) in the interim.</li> <li>iv. Air Transport Programs share the responsibility to educate EMS units and facilities on appropriate triage. They should also institute an active utilization and quality review program that provides feedback to EMS units.</li> <li>v. Patients with uncontrolled ABCs should be taken to the closest appropriate facility (24-hour emergency department) if that can be achieved prior to the arrival of air medical transport.</li> <li>vi. Traumatic cardiac arrest due to blunt trauma is not appropriate for air transport.</li> </ol> </li> <li>2. Reasons to consider a call for air transport: <ol style="list-style-type: none"> <li>i. Prolonged extrication</li> <li>ii. Multiple victims/trauma patients</li> <li>iii. Time/distance factors:</li> <li>iv. If the transportation time to a trauma center by ground is greater than 30 minutes AND the transport time by ground to the nearest trauma center is greater than the total transport time** to a trauma center by helicopter. <ol style="list-style-type: none"> <li>a) **Total transport time includes any time at the scene waiting for a helicopter and transport time to the trauma center.</li> <li>b) In the rural environment, immediate transfer with severely traumatized patients by air transport may be appropriate and should be encouraged if it does not significantly delay intervention for immediate life-threatening injuries.</li> </ol> </li> </ol> </li> </ol> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>A. Exceptions to these Trauma Triage Guidelines are listed in the Trauma Patient Assessment and Transport Guidelines Protocol SB213 under Section VI. These same exceptions apply to pediatric, adult, and geriatric trauma patients.</li> </ol>	



SB212	SB212 Guideline for Assessment/Transport of Pediatric Trauma <16 yrs	SB212																																													
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014																																													
	<table><tr><th>Age</th><th>Pulse Beats/min</th><th>Respirations Breaths/min</th><th>Avg. Systolic BP</th><th>Avg. Diastolic BP</th></tr><tr><td>Premature</td><td>120 – 170</td><td>40 – 60</td><td>55 – 75</td><td>35 – 45</td></tr><tr><td>0 – 3 months</td><td>100 – 150</td><td>35 – 55</td><td>65 – 85</td><td>45 – 55</td></tr><tr><td>3 – 6 months</td><td>90 – 120</td><td>30 – 45</td><td>70 – 90</td><td>50 – 65</td></tr><tr><td>6 – 12 months</td><td>80 – 120</td><td>25 – 40</td><td>80 – 100</td><td>55 – 65</td></tr><tr><td>1 – 3 years</td><td>70 – 110</td><td>20 – 30</td><td>90 – 105</td><td>55 – 70</td></tr><tr><td>3 – 6 years</td><td>65 – 110</td><td>20 – 25</td><td>95 – 110</td><td>60 – 75</td></tr><tr><td>6 – 12 years</td><td>60 – 95</td><td>14 – 22</td><td>100 – 120</td><td>60 – 75</td></tr><tr><td>12+ years</td><td>55 – 85</td><td>12 – 18</td><td>110 – 135</td><td>65 - 85</td></tr></table>	Age	Pulse Beats/min	Respirations Breaths/min	Avg. Systolic BP	Avg. Diastolic BP	Premature	120 – 170	40 – 60	55 – 75	35 – 45	0 – 3 months	100 – 150	35 – 55	65 – 85	45 – 55	3 – 6 months	90 – 120	30 – 45	70 – 90	50 – 65	6 – 12 months	80 – 120	25 – 40	80 – 100	55 – 65	1 – 3 years	70 – 110	20 – 30	90 – 105	55 – 70	3 – 6 years	65 – 110	20 – 25	95 – 110	60 – 75	6 – 12 years	60 – 95	14 – 22	100 – 120	60 – 75	12+ years	55 – 85	12 – 18	110 – 135	65 - 85	
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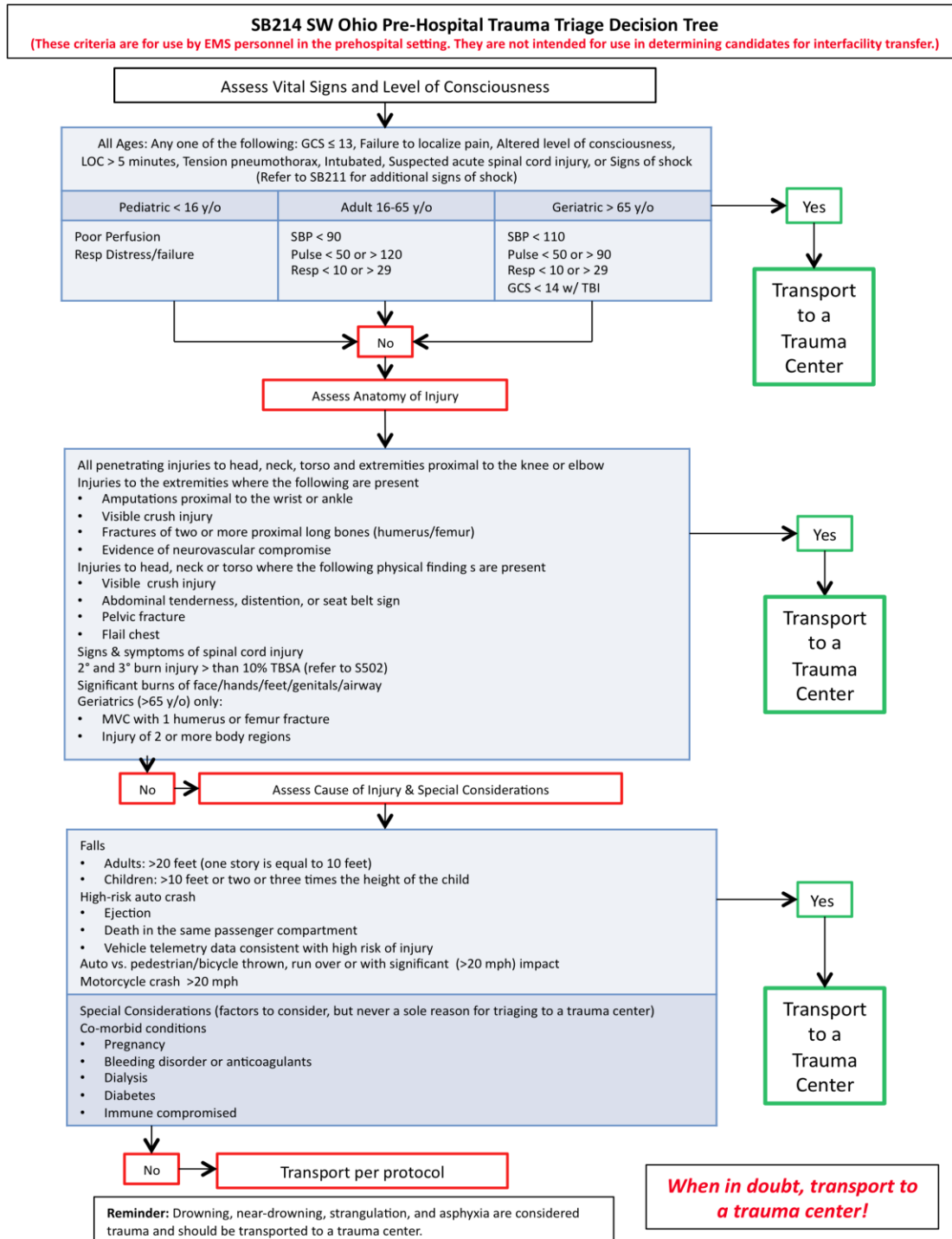


SB213 2014	SB213 Guideline for Assessment/Transport of Geriatric Trauma Patients Academy of Medicine of Cincinnati - Protocols for SW Ohio	SB213 2014
<b>ALL</b>	<p><b>I. TRAUMA PATIENTS GREATER THAN 65 YEARS OF AGE SHOULD BE DEFINED AS GERIATRIC TRAUMA.</b></p> <p>A. The criteria listed below are in addition to the Adult Trauma Triage Guidelines. Geriatric trauma patients should be triaged for evaluation in a trauma center for:</p> <ol style="list-style-type: none"> <li>1. Glasgow Coma Score less than 14 with known or suspected traumatic brain injury</li> <li>2. Systolic blood pressure less than 110 mmHg</li> <li>3. Falls with from any height, including standing falls, with evidence of traumatic brain injury</li> <li>4. Pedestrian struck by motor vehicle</li> <li>5. Known or suspected proximal long bone fracture sustained in a motor vehicle crash</li> <li>6. Injury sustained in two or more body regions</li> <li>7. Anticoagulation and head injury</li> </ol> <p><b>NOTES:</b></p> <p>A. Geriatric trauma patients should be given special consideration for evaluation at a trauma center if they have diabetes, cardiac disease, pulmonary disease (COPD), clotting disorder (including anticoagulants), immunosuppressive disorder (i.e. HIV/AIDS, Organ Transplant, Chemotherapy, Long-term use of corticosteroids, etc), or require dialysis.</p> <p>B. The geriatric trauma recommendations were taken from the Geriatric Trauma Task Force report released in December of 2007 by the State of Ohio Board of Emergency Medical Services, Trauma Committee. The data used to make these recommendations came directly from the Ohio Trauma EMS Registry. Supplemental data from the CDC /MMWR Guidelines for Field Triage of Injured Patients, January 2012.</p> <p>C. Exceptions to these Trauma Triage Guidelines are listed in the Trauma Patient Assessment and Transport Guidelines Protocol S506 under Section VI. These same exceptions apply to pediatric, adult, and geriatric trauma patients.</p>	





SB214	SB214 Southwest Ohio PreHospital Trauma Triage Decision Tree	SB214
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014



C300	C300 Ventricular Fibrillation/Tachycardia Adult w/o Pulse	C300
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> <ol style="list-style-type: none"> <li>1. Patient's age is 16 years and older</li> <li>2. Patient is unresponsive.</li> <li>3. Patient is without a pulse (pulse should be checked for a maximum of 10 seconds, when in doubt start CPR)</li> </ol> <b>II. AED Findings</b> <ol style="list-style-type: none"> <li>1. Shock Advised</li> </ol>	
<b>MEDIC</b>	<b>III. EKG FINDINGS</b> <ol style="list-style-type: none"> <li>1. Ventricular fibrillation, or</li> <li>2. Ventricular tachycardia</li> </ol>	
<b>ALL</b>	<b>IV. PROTOCOL</b> <ol style="list-style-type: none"> <li>1. Begin the performance of 5 cycles (approximately 2 minutes) of CPR (30 compressions to 2 respirations) at a rate of 100 beats per minute before defibrillation. Assure that good CPR is being performed with adequate <u>uninterrupted</u> compressions and rise and fall of chest with ventilation. <ol style="list-style-type: none"> <li>1. Rotate compressor every 2 minutes</li> <li>2. Avoid excessive ventilations (goal is 10 breaths/minute)</li> <li>3. Push hard (&gt;2inches) and fast (100-120/minute)</li> <li>4. Allow for chest recoil with each compression</li> </ol> </li> <li>2. Do not delay the use of an AED or Defibrillator. Use them as soon as they are available.</li> <li>3. Continue resuscitation in 2 minute cycles of CPR, brief pulse/rhythm check, and defibrillation (if indicated) until either Return of Spontaneous Circulation occurs or Termination of Resuscitation criteria are met.</li> </ol>	
<b>EMT</b>	<ol style="list-style-type: none"> <li>4. If available, request ALS back-up or arrange to intercept an ALS unit as appropriate.</li> <li>5. Perform CPR for at least 2 minutes or until the automated external defibrillator (AED) is attached and ready. If you are the only rescuer, proceed to the use of the AED.</li> <li>6. Stop CPR, ensure all individuals are standing clear of the patient, press "Analyze" on the AED.</li> <li>7. Follow directions given by the AED.</li> <li>8. If "Deliver Shock" is advised at any time by the AED, clear all people from the patient and shock patient. <ol style="list-style-type: none"> <li>1. Immediately resume CPR for 2 minutes before another pulse or rhythm check is performed.</li> </ol> </li> <li>9. If "No shock" is advised, check pulse. <ol style="list-style-type: none"> <li>1. If pulse is present: <ol style="list-style-type: none"> <li>i. Assess ABCs.</li> <li>ii. If respirations are adequate, administer oxygen.</li> <li>iii. If respirations are not adequate, provide high flow oxygen, ventilate by bag-valve-mask, and be prepared to establish an airway if patient becomes pulseless and apneic per protocol T705.</li> <li>iv. Begin immediate transport of patient with ongoing patient assessments.</li> <li>v. If at any time, a pulse is not detected, ensure all individuals are standing clear of the patient, and again press "Analyze" on the AED. Follow directions given by the AED for "Deliver Shock" or "No Shock" advisories.</li> </ol> </li> </ol> </li> </ol>	



C300	C300 Ventricular Fibrillation/Tachycardia Adult w/o Pulse	C300
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
	<ol style="list-style-type: none"> <li>2. If pulse is absent: <ol style="list-style-type: none"> <li>i. Immediately resume CPR for 2 minutes before another pulse or rhythm check is performed and move to Protocol C301.</li> </ol> </li> </ol>	
<b>MEDIC</b>	<ol style="list-style-type: none"> <li>10. Apply quick look paddles or pads if not already monitored. Do this IMMEDIATELY if arrest is witnessed by EMS or bystander CPR is in progress upon arrival.</li> <li>11. If rhythm is ventricular fibrillation or ventricular tachycardia, DEFIBRILLATE IMMEDIATELY AT 360 JOULES (or biphasic equivalent) and immediately resume CPR.</li> <li>12. Perform CPR for 2 minutes before another pulse or rhythm check is done. Chest compressions should be interrupted for as short of a time period as possible.</li> <li>13. Manage the airway per protocol T705 on the patient. Ventilate SLOWLY at about 8 to 10 breaths per minute.</li> <li>14. Initiate IV/IO.</li> <li>15. Administer either epinephrine or vasopressin <ol style="list-style-type: none"> <li>1. Epinephrine 1 mg (10 ml of 1:10,000) IV/IO push. Repeat every 3 to 5 minutes as long as arrest continues.</li> <li>2. A single dose of Vasopressin 40 U IV/IO can be administered to replace the first or second dose of Epinephrine</li> </ol> </li> <li>16. Administer Amiodarone 300 mg IV/IO push. Repeat Amiodarone 150 mg IV/IO push in 3 - 5 minutes if still in VF/VTach <ol style="list-style-type: none"> <li>1. If Amiodarone is not available, Lidocaine may be substituted as: Lidocaine 1.5 mg/kg IV/IO push. Repeat Lidocaine 0.5 to 0.75 mg/kg IV/IO in 3-5 minutes if still in VF/VTach</li> </ol> </li> <li>17. Recheck rhythm after each 2 minute cycle of CPR is complete and defibrillate at 360 Joules or biphasic equivalent, if indicated.</li> <li>18. Continue CPR, monitor, transport, and contact receiving hospital as soon as possible.</li> <li>19. If return of spontaneous circulation is achieved, continue care per Protocol C307 (Post-Return of Spontaneous Circulation Care).</li> <li>20. If rhythm changes to another rhythm, go to the appropriate protocol.</li> </ol>	
<b>EMT</b>	<ol style="list-style-type: none"> <li>21. Special Transport Considerations <ol style="list-style-type: none"> <li>1. BLS transport unit on the scene with ALS resources responding, but not yet on the scene. <ol style="list-style-type: none"> <li>i. Continue care as outlined in protocol.</li> <li>ii. If ALS resources will be delayed more than 10 minutes, proceed with transport and arrange to intercept the ALS unit, if possible.</li> </ol> </li> <li>2. No ALS resources responding or available. <ol style="list-style-type: none"> <li>i. Continue care as outlined in protocol.</li> <li>ii. Perform at least 10 cycles of CPR (4 minutes) on scene before moving to BLS transport unit.</li> </ol> </li> </ol> </li> </ol>	
<b>ALL</b>	<b>NOTES</b> <ol style="list-style-type: none"> <li>A. If a pulseless patient is found to have agonal or gasping-type respirations that have no pattern and occur very infrequently, the AED or quick-look paddles should be applied immediately.</li> <li>B. Good uninterrupted CPR is considered the mainstay of therapy for Cardiac Arrest victims.</li> </ol>	



<b>EMT</b>	<p>C. If the patient has been successfully defibrillated (has a pulse) and then re-arrests, continue with rhythm analysis and follow directions of the AED for "Deliver Shock" or "No Shock" advisories.</p> <p>D. The AED is to remain attached to the patient and left in the "on" position during the entire management of the patient, unless stated otherwise by the manufacturer's instructions.</p>
<b>MEDIC</b>	<p>E. If a patient develops a perfusing rhythm, AHA recommends that CPR be continued for 5 more cycles to support cardiac output.</p> <p>F. Consider H's and T's (see C301)</p> <p>G. ET administration of drugs is acceptable but not preferable. Amiodarone and Vasopressin cannot be given ET. ET administration is double the normal dose with 10 ml NS flush afterwards.</p> <p>H. Medications given through a peripheral vein or IO should be followed by a 20-ml bolus of fluid.</p> <p>I. Waveform End Tidal CO<sub>2</sub> if available should be routinely used in Cardiac Arrests.</p> <p>J. An abrupt sustained increase in ETCO<sub>2</sub> (&gt;40) may indicate ROSC.</p> <p>K. ETCO<sub>2</sub> (&lt;10) should prompt re-evaluation of endotracheal tube's correct placement, quality of compressions, or consideration that future treatment is futile.</p>



C301	C301 Asystole - Pulseless Electrical Activity (PEA)	C301
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <p>A. Patient's age is 16 years and older</p> <p>B. Patient is unresponsive.</p> <p>C. Patient has no pulses.</p> <p><b>II. AED FINDINGS</b></p> <p>A. No shock advised</p>	
<b>MEDIC</b>	<p><b>III. EKG FINDINGS</b></p> <p>A. There is some type of electrical activity other than ventricular fibrillation or ventricular tachycardia.</p> <p><b>IV. DIFFERENTIAL DIAGNOSES (AKA "H'S AND T'S")</b></p> <ul style="list-style-type: none"> <li>• Hypovolemia</li> <li>• Hypoxia</li> <li>• Hydrogen Ion (acidosis)</li> <li>• Hypo/Hyperkalemia</li> <li>• Hypoglycemia</li> <li>• Hypothermia</li> <li>• Toxins—Drug Overdose</li> <li>• Tamponade, Cardiac</li> <li>• Tension Pneumothorax</li> <li>• Thrombus (Cardiac or Pulmonary)</li> <li>• Trauma</li> </ul>	
<b>ALL</b>	<p><b>V. PROTOCOL</b></p> <p>A. Begin the performance of 5 cycles (approximately 2 minutes) of CPR (30 compressions to 2 respirations) at a rate of 100 beats per minute before defibrillation. Assume that good CPR is being performed with adequate <u>uninterrupted</u> compressions and rise and fall of chest with ventilation.</p> <ol style="list-style-type: none"> <li>1. Rotate compressor every 2 minutes</li> <li>2. Avoid excessive ventilations (goal is 10/minute)</li> <li>3. Push hard (&gt;2inches) and fast (100-120/Minute)</li> <li>4. Allow for chest recoil with each compression</li> </ol> <p>B. Do not delay the use of an AED or Defibrillator. Use them as soon as they are attached.</p> <p>C. Continue resuscitation in 2 minute cycles of CPR, brief pulse/rhythm check, and defibrillation (if indicated) until either Return of Spontaneous Circulation occurs or Termination of Resuscitation criteria are met.</p>	
<b>EMT</b>	<p>D. If available, request ALS back-up or arrange to intercept an ALS unit as appropriate.</p> <p>E. Perform CPR until the automated external defibrillator (AED) is attached. If you are the only rescuer, proceed to the use of the AED.</p> <p>F. Stop CPR, ensure all individuals are standing clear of the patient, press "Analyze" on the AED.</p> <ol style="list-style-type: none"> <li>i. Follow directions given by the AED and move to Protocol C300.</li> </ol>	



C301	C301 Asystole - Pulseless Electrical Activity (PEA)	C301
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
	<p>G. If "No shock" is advised, check pulse.</p> <ol style="list-style-type: none"> <li>1. If pulse is present: <ol style="list-style-type: none"> <li>i. Assess ABCs.</li> <li>ii. If respirations are adequate, administer oxygen.</li> <li>iii. If respirations are not adequate, provide high flow oxygen, ventilate by bag-valve-mask, and be prepared to establish an airway if patient becomes pulseless and apneic per protocol T705. Ventilate SLOWLY at about 8 to 10 breaths per minute.</li> <li>iv. Begin immediate transport of patient with ongoing patient assessments.</li> <li>v. If at any time, a pulse is not detected, ensure all individuals are standing clear of the patient, and again press "Analyze" on the AED. Follow directions given by the AED for "Deliver Shock" or "No Shock" advisories.</li> </ol> </li> <li>2. If pulse is absent: <ol style="list-style-type: none"> <li>i. Resume CPR and re-analyze rhythm every 2 minutes.</li> </ol> </li> </ol>	
<b>MEDIC</b>	<p>H. Apply quick look paddles or pads if not already monitored.</p> <p>I. Attach monitor leads.</p> <p>J. Perform CPR for 2 minutes before another pulse or rhythm check is done. Chest compressions should be interrupted for as short of a time period as possible.</p> <p>K. Manage the airway per protocol T705 on the patient. Ventilate SLOWLY at about 8 to 10 breaths per minute.</p> <p>L. Initiate IV/IO.</p> <ol style="list-style-type: none"> <li>1. Administer 1-liter normal saline bolus if hypovolemic arrest is suspected. Chilled Saline may be used if available.</li> </ol> <p>M. Administer either epinephrine or vasopressin</p> <ol style="list-style-type: none"> <li>1. Epinephrine 1 mg (10 ml of 1:10,000) IV/IO push. Repeat every 3 to 5 minutes as long as cardiac arrest continues.</li> <li>2. A single dose of Vasopressin 40 U IV/IO may be administered to replace the first or second dose of Epinephrine</li> </ol> <p>N. Search for possible causes of Asystole/PEA as listed above.</p> <p>O. Recheck rhythm after every 2 minutes of CPR are complete. Interruption in CPR to conduct a rhythm analysis ideally should not exceed 10 seconds.</p> <p>P. After 20 minutes consider termination of resuscitative efforts as detailed in the Determination of Death / Termination of ACLS protocol.</p> <p>Q. If transporting notify receiving hospital</p> <p>R. Consider the following:</p> <ol style="list-style-type: none"> <li>1. Sodium bicarbonate 1 mEq/kg IV/IO push for preexisting metabolic acidosis, hyperkalemia, or tricyclic antidepressant overdose.</li> <li>2. Needle thoracostomy.</li> </ol> <p>S. If return of spontaneous circulation is achieved, continue care per Protocol Post-Return of Spontaneous Circulation Care C307</p> <p>T. If rhythm changes to another rhythm, go to the appropriate protocol</p>	



C301	C301 Asystole - Pulseless Electrical Activity (PEA)	C301
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<b>NOTES</b> U. A main cause of PEA is hypoxia, and the effectiveness of ventilation should be evaluated constantly.	
<b>MEDIC</b>	V. ET administration of drugs is acceptable but not preferable. ET administration is double the normal dose with 10 ml NS flush afterwards. Vasopressin cannot be given by ET. W. Waveform End Tidal CO <sub>2</sub> if available should be routinely used in Cardiac Arrests. X. An abrupt sustained increase in ETCO <sub>2</sub> (>40) may indicate ROSC. ETCO <sub>2</sub> (<10) should prompt re-evaluation of endotracheal tube's correct placement, quality of compressions, or consideration that future treatment is futile.	



C302 2014	C302 Bradycardia Academy of Medicine of Cincinnati - Protocols for SW Ohio	C302 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years and older</li> <li>B. Chest pain, shortness of breath or inability to give history due to alteration in level of consciousness, which is thought to be related to the slow heart rate.</li> <li>C. Pulse rate less than 60.</li> <li>D. Systolic blood pressure less than 80 mmHg, cardiogenic shock, or pulmonary edema.</li> <li>E. Signs of inadequate perfusion such as acute heart failure, delayed capillary refill, diaphoresis, or altered mental status.</li> </ul>	
<b>MEDIC</b>	<b>II. EKG FINDINGS</b> <ul style="list-style-type: none"> <li>A. Ventricular rate less than 60.</li> <li>B. Evaluate for Heart Block</li> </ul>	
<b>ALL</b>	<b>III. PROTOCOL</b> <ul style="list-style-type: none"> <li>A. Maintain airway and administer oxygen.</li> <li>B. Check vital signs frequently.</li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>C. If available, request ALS back-up for:               <ul style="list-style-type: none"> <li>1. Systolic Blood Pressure &lt;100mmHg.</li> <li>2. Patient complains of chest pain, trouble breathing, or dizziness.</li> <li>3. Patient has altered mental status.</li> <li>4. Patient has suffered syncope.</li> <li>5. Patient has a pacemaker or defibrillator in place.</li> </ul> </li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>D. Apply quick look paddles if not already monitored.</li> <li>E. Place on monitor, obtain 12 lead EKG. If patient demonstrates Acute MI on EKG, call medical control before administering medications or pacing.</li> <li>F. Initiate IV/IO access.</li> <li>G. Administer atropine 0.5 mg IV/IO push.</li> <li>H. Repeat 12-lead EKG after any clinically significant rhythm change.</li> <li>I. Consider external pacing (see External Pacemaker Protocol T700).</li> <li>J. If no response to initial measures, repeat atropine 0.5 mg IV/IO push every 3-5 minutes up to a total of 3 mg.</li> <li>K. Consider a dopamine drip to run at 2-10 mcg/kg/min IV, titrate to adequate perfusion.</li> <li>L. For patient comfort during pacing consider Midazolam (Versed) 2-4 mg IV/IO/IM until patient's speech slurs or a total of 8 mg is given.</li> </ul>	
<b>ALL</b>	<b>NOTES</b> <ul style="list-style-type: none"> <li>A. Consider bradycardia to be a <i>symptom</i> of an underlying problem and not a diagnosis.</li> </ul>	





<b>MEDIC</b>	<ul style="list-style-type: none"> <li>A. If a transcutaneous pacemaker is available, its use may be preferable to the administration of atropine for the patient with chest pain and a Mobitz II second-degree heart block or third degree heart block with wide QRS complexes.</li> <li>B. Do not delay initiation of transcutaneous pacing while awaiting IV access or for atropine to take effect in the patient with serious signs or symptoms.</li> <li>C. Transport patients with transcutaneous pacing to a hospital with cath lab capabilities (see Hospital Capabilities Survey).</li> <li>D. Consider 3<sup>rd</sup> degree Heart Block as an MI until proven otherwise. Administer Aspirin 324mg by mouth (unless contraindicated) and transport patient to a hospital with cath lab capabilities (see Hospital Capabilities Survey).</li> <li>E. It is important to treat the patient and not the number. Remember that athletes may have heart rates of 40-60.</li> </ul>
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C303 2014	C303 Wide Complex Tachycardia with Pulse (Unstable) Academy of Medicine of Cincinnati - Protocols for SW Ohio	C303 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> A. Patient's age is 16 years and older B. Patient complains of chest pain, or shortness of breath, dizziness, or syncope. C. Palpable pulse with a rate greater than 150. D. Systolic blood pressure less than 90 mm Hg, or E. Signs of inadequate perfusion such as acute heart failure, delayed capillary refill, diaphoresis, or altered mental status.	
<b>MEDIC</b>	<b>II. EKG FINDINGS</b> A. Ventricular Rate above 150. B. Wide QRS (greater than 0.12 sec or 3 little blocks). C. Absent P waves.	
<b>ALL</b>	<b>III. PROTOCOL</b> A. Maintain airway and administer oxygen. B. Monitor vital signs frequently.	
<b>EMT</b>	C. If available, request ALS back-up. D. If no ALS available, initiate rapid transport to closest appropriate facility and provide pre-notification. E. Apply AED. <ol style="list-style-type: none"> <li>If patient is conscious and has a palpable pulse, do not shock.</li> <li>If patient becomes unconscious or loses a palpable pulse, press "Analyze" and follow AED instructions. Provide care per Protocol C300 (Ventricular Tachycardia/Ventricular Fibrillation).</li> </ol>	
<b>MEDIC</b>	F. Initiate rapid transport to closest appropriate facility with pre-notification. G. Maintain cardiac monitoring at all times. H. Initiate IV/IO access. I. If rhythm is Torsades de Pointes then give Magnesium 1 g IV/IO J. If the patient is to be cardioverted and does not have an altered level of consciousness, administer Midazolam (Versed) 2-4 mg IV/IO/IM until patient's speech slurs or a total of 8 mg is given. K. If VT persists, cardiovert at 100 joules (or biphasic equivalent). Cardioversion should be synchronized unless it is impossible to synchronize a shock (i.e. the patient's rhythm is irregular). L. If VT persists, repeat cardioversion at 200 joules (or biphasic equivalent). M. If VT persists, repeat cardioversion at 300 joules (or biphasic equivalent). N. If VT persists, repeat cardioversion at 360 joules (or biphasic equivalent). O. If ventricular tachycardia recurs, repeat synchronized cardioversion at previously successful energy level. If cardioversion is not successful, repeat at next higher energy level and continue with the protocol. P. Obtain a 12-lead EKG after successful cardioversion.	



C304	C304 Wide Complex Tachycardia with Pulse (Stable)	C304
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years and older</li> <li>B. No associated symptoms such as chest pain, shortness of breath, depressed or altered level of consciousness</li> <li>C. Patient is conscious</li> <li>D. Pulse rate is greater than 150</li> <li>E. Systolic blood pressure greater than 90 mmHg</li> <li>F. Patient is without signs of inadequate perfusion (heart failure, delayed capillary refill, and diaphoresis)</li> </ul>	
<b>MEDIC</b>	<b>II. EKG FINDINGS</b> <ul style="list-style-type: none"> <li>A. Rate above 150</li> <li>B. Wide QRS (greater than 0.12 sec or 3 little blocks)</li> <li>C. Absent P waves</li> </ul>	
<b>ALL</b>	<b>III. PROTOCOL</b> <ul style="list-style-type: none"> <li>A. Maintain airway and administer oxygen.</li> <li>B. Obtain vital signs frequently.</li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>C. If available, request ALS back-up.</li> <li>D. If no ALS available, initiate rapid transport to closest appropriate facility and provide pre-arrival notification.</li> <li>E. Do not apply AED to a conscious patient or a patient with a palpable pulse. <ul style="list-style-type: none"> <li>1. If patient becomes unconscious or loses a palpable pulse, apply AED, press "Analyze" and follow AED instructions. Provide care per Protocol C300 (Ventricular Tachycardia/Ventricular Fibrillation).</li> </ul> </li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>F. Maintain cardiac monitoring at all times.</li> <li>G. Obtain 12-Lead EKG of initial rhythm</li> <li>H. Initiate IV/IO access.</li> <li>I. If rhythm is Torsades de Pointes then give Magnesium 1 g IV/IO</li> <li>J. May consider trial of Adenosine if the rhythm is regular <ul style="list-style-type: none"> <li>1. Administer adenosine 6 mg followed by 10 ml of normal saline. If rhythm persists, then 12 mg of adenosine and a second syringe of 10 ml of normal saline should be administered. The adenosine is given rapid IV push followed immediately by the flush of normal saline.</li> </ul> </li> <li>K. If the wide complex tachycardia persists, administer Amiodarone 150 mg IV/IO over 10 minutes.</li> <li>L. If the wide complex tachycardia persists, Amiodarone may be repeated after 3-5 minutes at 150 mg over 10 minutes.</li> <li>M. Obtain a 12-lead EKG after any rhythm change.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>N. If the patient becomes unstable, then proceed to the Wide Complex Tachycardia with Pulse (Unstable) protocol (C303).</li> </ul>	



C305	C305 Narrow Complex Tachycardia w/Pulse (Stable)	C305
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> A. Patient's age is 16 years and older B. No associated symptoms such as chest pain, shortness of breath, depressed or altered level of consciousness C. No history of trauma or fever. D. Patient is alert. E. Pulse rate is greater than 150. F. Systolic blood pressure is above 90 mm Hg. G. Patient is without signs of inadequate perfusion (heart failure, delayed capillary refill, and diaphoresis), hypovolemia, or shock: if present go to unstable protocol C306.	
<b>MEDIC</b>	<b>II. EKG FINDINGS</b> A. Rapid (150-250), regular atrial rate. B. Normal QRS duration of less than 0.12 seconds. C. P waves are usually absent.	
<b>ALL</b>	<b>III. PROTOCOL</b> A. Administer Oxygen. B. Place patient on monitor. C. Have patient perform Valsalva and evaluate for any changes.	
<b>EMT</b>	D. If available, request ALS back-up or arrange to intercept an ALS unit as appropriate. E. If no ALS available, initiate rapid transport to closest appropriate facility and provide pre-notification.	
<b>MEDIC</b>	F. Establish proximal, IV access. G. Perform a 12 lead EKG H. Administer adenosine 6 mg followed by 10 ml of normal saline. If rhythm persists, then 12 mg of adenosine and a second syringe of 10 ml of normal saline should be administered. The adenosine is given rapid IV push followed immediately by the flush of normal saline. I. If tachycardia persists and the rhythm is still thought to be PSVT consider a second dose of adenosine 12 mg, rapid IV push by the method outlined above. J. Repeat a 12-lead EKG after any rhythm change. K. Notify the receiving hospital if patient fails to convert. L. Monitor patient frequently. If patient deteriorates, move to unstable arm of the PSVT protocol (C306).	
<b>MEDIC</b>	<b>NOTES</b> A. Adenosine has a short half-life of about ten seconds. For the drug to be effective, it must be able to reach the heart prior to being metabolized in the bloodstream. To achieve a high concentration of drug at the heart, a large IV, preferably in the antecubital fossa, should be established. Then when the adenosine is given, it should be followed by a bolus of saline that will swiftly empty the intravenous catheter of the drug and push it on its way to the cardiac circulation. B. If there is a significant AV nodal block after a dose of adenosine and if an underlying atrial rhythm of atrial fibrillation or atrial flutter is observed, then an additional dose of adenosine is NOT indicated. C. If the initial rhythm is tachycardic and irregular, then an atrial fibrillation rhythm is likely. Do not	



C305	C305 Narrow Complex Tachycardia w/Pulse (Stable)	C305
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	<p>treat with adenosine.</p> <p>D. Adenosine side effects include flushing, chest pain, and dizziness, impending doom. These last only a short time because of adenosine's short half-life.</p>	



C306	C306 Narrow Complex Tachycardia w/Pulse (UnStable)	C306
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years and older</li> <li>B. No history of trauma or fever.</li> <li>C. Chest pain, or any of the following physical findings:</li> <li>D. Pulse rate greater than 150</li> <li>E. Systolic blood pressure below 90 mm Hg</li> <li>F. Signs of inadequate perfusion such as acute heart failure, delayed capillary refill, diaphoresis, or altered mental status.</li> </ul>	
<b>MEDIC</b>	<b>II. EKG FINDINGS</b> <ul style="list-style-type: none"> <li>A. Rapid (150-250), regular atrial rate.</li> <li>B. Normal QRS duration of less than 0.12 seconds.</li> <li>C. P waves are usually absent.</li> </ul>	
<b>ALL</b>	<b>III. PROTOCOL</b> <ul style="list-style-type: none"> <li>A. Assure airway patency and administer Oxygen.</li> <li>B. Place patient on monitor.</li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>C. If available, request ALS back-up or arrange to intercept an ALS unit as appropriate.</li> <li>D. If no ALS available, initiate rapid transport to closest appropriate facility and provide pre-notification.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>E. Establish proximal, IV access.</li> <li>F. Perform a 12 lead EKG</li> <li>G. If the patient is to be cardioverted and does not have an altered level of consciousness, consider the administration of Midazolam (Versed) 2-4 mg IV/IO/IM until patient's speech slurs or a total of 8 mg is given.</li> <li>H. Synchronized cardioversion for Atrial Fibrillation: initial energy level of 120-200 J biphasic.</li> <li>I. Synchronized cardioversion for all Atrial Flutter and all other SVTs: initial energy level 50-100 J biphasic.</li> <li>J. If initial energy level fails, energy should be increased in a stepwise fashion with each subsequent shock: 100, 200, 300, 360.</li> <li>K. Monophasic waveform cardioversion should always begin at 200 J and increase in a stepwise fashion as above.</li> <li>L. If still no change contact medical control for treatment options.</li> <li>M. If patient converts out of Narrow Complex Tachycardia, perform 12 Lead EKG</li> </ul>	
<b>MEDIC</b>	<b>NOTES</b> <ul style="list-style-type: none"> <li>A. Do not delay cardioversion if symptoms are severe.</li> <li>B. Severe symptoms related to tachycardia are uncommon if heart rate less than 150.</li> </ul>	



C307	C307 Post-Return of Spontaneous Circulation Care	C307
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> A. Recent cardiac arrest B. Patient has a palpable pulse. C. Patient's mental status may range from awake/alert to unresponsive D. Patient's age 16 years or older	
<b>MEDIC</b>	<b>II. EKG FINDINGS</b> A. May vary from bradycardia to ST-segment elevation or depression.	
<b>ALL</b>	<b>III. PROTOCOL</b> A. Continue to follow protocol covering presumptive underlying medical condition. B. Maintain patent airway as needed and administer oxygen. C. Provide ventilatory support as needed and maintain a respiratory rate of 8-10/minute. Do NOT over-ventilate. D. Keep AED pads on patient. E. Monitor vital signs frequently. F. Notify receiving hospital and transport the patient.	
<b>EMT</b>	G. If available, request ALS back-up. H. If no ALS available, initiate rapid transport to closest appropriate facility and provide pre-notification.	
<b>ALL</b>	A. Do not over ventilate. Use continuous capnometry/capnography, if available, to maintain ETCO <sub>2</sub> 35-45 mm Hg. B. Transport destination determination <ol style="list-style-type: none"> <li>Follow Trauma Triage Guidelines if applicable</li> <li>If cause of arrest is presumed cardiac the patient should go to a hospital with 24-hour cath lab availability.</li> <li>Even without Prehospital cooling procedures performed, if ROSC patient is NOT alert, transport to a hospital capable of post-resuscitation cooling</li> <li>Refer to the AOM ED capabilities Survey for appropriate hospitals</li> </ol>	
<b>MEDIC</b>	C. Initiate IV/IO access if not complete. Second access point is beneficial if possible. D. Aggressively treat hypotension (SBP < 90) with fluid bolus (may be chilled if available) and dopamine. E. Maintain cardiac monitoring at all times. F. Obtain 12-lead EKG and transmit (if able) to receiving hospital. G. Determine patient eligibility for post-resuscitative hypothermia during transport. If eligible, begin following procedures listed <ol style="list-style-type: none"> <li>Eligibility Criteria: <ol style="list-style-type: none"> <li>Patient is Not Alert (does not follow commands)</li> <li>Cause of Arrest Considered to be Cardiopulmonary <ol style="list-style-type: none"> <li>If cause of cardiac arrest is suspected to be NOT cardiopulmonary (trauma, intracranial bleeding, etc.) DO NOT initiate cooling.</li> </ol> </li> </ol> </li> </ol>	



C307	C307 Post-Return of Spontaneous Circulation Care	C307
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
	<ul style="list-style-type: none"> <li>ii. Actively cooling a patient with internal and intracranial bleeding is harmful. If in doubt about cause of cardiac arrest DO NOT initiate cooling in the pre-hospital setting.</li> <li>iii. Systolic Blood Pressure &gt; 90 <ul style="list-style-type: none"> <li>i. If initial SBP &lt;90 but improves with fluid administration, hypothermia may be initiated</li> </ul> </li> </ul> <p>2. Hypothermia Procedures</p> <ul style="list-style-type: none"> <li>i. Expose patient completely</li> <li>ii. Place ice packs in bilateral axillae, neck, and groin</li> <li>iii. Administer Chilled saline (if available) as IV/IO bolus, maximum 2 liters</li> <li>iv. If patient regains consciousness (follows commands) at any point discontinue cold packs and chilled saline. Use room temperature fluid as needed.</li> <li>v. If patient SBP becomes &lt;90 after beginning cooling procedures, the full 2 Liters of chilled saline may be used before dopamine or room temp fluid. Treat aggressively.</li> </ul> <p>3. If patient relapses into Cardiac Arrest ACLS care, not cooling, is the priority. Treat per protocol.</p> <ul style="list-style-type: none"> <li>i. Consider early Sodium Bicarbonate administration in this situation (see notes)</li> </ul>	
<b>ALL</b>	<p><b>NOTES</b></p> <p>A. Over-ventilation reduces cerebral perfusion and may worsen neurologic outcomes after cardiac arrest. Maintaining a normal ventilation rate may be helpful. Monitoring ETCO<sub>2</sub>, and keeping levels within normal range, can assist evaluation of ventilation.</p> <p>B. Acute Coronary Syndromes (including ST-elevation myocardial infarction) are the most common proximate causes of sudden cardiac death [Circulation 112(24s): IV-89]. Coronary thrombosis is one of the “T’s” to consider when managing a patient in PEA/asystole [Circulation 112(24s): IV-58]. Urgent reperfusion in a cardiac cath lab with percutaneous coronary intervention (PCI) is safe and effective in survivors of cardiac arrest [JACC 53(5):409; Curr Opin Crit Care 14(3): 287].</p> <p>C. Acute MI is a common cause of out of hospital cardiac arrest. Thrombolytics are relatively contraindicated after prolonged CPR, and urgent cardiac cath is better for those in cardiogenic shock. Transporting the patient to a hospital capable of providing PCI in a cardiac cath lab is beneficial [Circulation 112(24s), 2005; JACC 53(5):409; Curr Opin Crit Care 14(3): 287].</p> <p>D. Post-resuscitative hypothermia improves neurologic outcomes for victims of out of hospital VT/VF arrest who do not immediately regain consciousness (ACC/AHA Class IIa recommendation); benefit for PEA and asystole is likely, but has not been as clearly established (ACC/AHA Class IIb recommendation) [Circulation 112(24s); 2005]. In-hospital therapeutic hypothermia is supported by the National Association of EMS Physicians (position statement 16-Oct 2007, NAEMSP.org).</p> <p>E. EMS Organizations should follow Therapeutic Hypothermia guidelines based on equipment available. All organizations will be expected to have cold packs but chilled saline may be limited. “Ideal” temperature for chilled saline is 4°C/39°F. However, saline chilled below room temperature will have benefit in cooling patient. Cold packs on IV tubing lines may lower temperature with benefit if chilled saline is limited.</p> <p>F. Hypothermia can contribute to acidosis, which may make Sodium Bicarbonate useful if the patient re-arrests.</p> <p>G. Active warming of ROSC patient is harmful and should not be done prehospitally</p> <p>H. Should treat opiate overdose if suspected per M411</p>	





C308	C308 Traumatic Cardiac Arrest	C308
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<p>I. INCLUSION CRITERIA</p> <ol style="list-style-type: none"> <li>Patient's age is 16 years and older</li> <li>Patient is without a palpable pulse</li> <li>Obvious traumatic mechanism of injury (blunt or penetrating)</li> <li>Trauma as the cause of arrest</li> </ol> <p>II. DO NOT INITIATE RESUSCITATIVE EFFORTS IF</p> <ol style="list-style-type: none"> <li>Patient has injuries not compatible with life such as <ol style="list-style-type: none"> <li>Decapitation</li> <li>Burn beyond recognition</li> <li>Obvious signs of prolonged death including rigor mortis or lividity</li> </ol> </li> </ol> <p>III. TRANSPORT/DISPOSITION</p> <ol style="list-style-type: none"> <li>Initiate rapid transport (expedite scene time and provide treatment en route) for the following patients <ol style="list-style-type: none"> <li>Penetrating trauma causing cardiac arrest with arrest witnessed by EMS providers – rapid transport to nearest Trauma Center</li> <li>Traumatic arrest in a female patient with known pregnancy &gt;24 weeks or with uterine fundus palpable at or above the umbilicus – rapid transport to nearest Emergency Department for potential of post-mortem Caesarean section</li> </ol> </li> </ol> <p>IV. PROTOCOL</p> <p>If patient is unresponsive and has no palpable pulse and has evidence of trauma being the most likely cause of cardiac arrest:</p> <ol style="list-style-type: none"> <li>Position patient in position where resuscitative efforts can be initiated <ol style="list-style-type: none"> <li>Apply manual c-spine stabilization or c-collar (T704) if situation allows</li> </ol> </li> <li>Start chest compressions at a rate of 100 per minute</li> </ol>	
<b>Medic</b>	<ol style="list-style-type: none"> <li>Control obvious external hemorrhage by application of pressure dressing or tourniquet as needed (T710)</li> <li>If the mechanism of injury was blunt trauma or penetrating injury to the torso, perform bilateral needle thoracostomy for decompression of tension pneumothorax (T701)</li> <li>Provide oxygenation and ventilation through bag-valve-mask or advanced airway as indicated (T705)</li> <li>Obtain vascular access through placement of intravenous or intraosseous line (T711) and initiate fluid resuscitation with normal saline (1 liter) with open flow or on pressure bag (IO)</li> <li>Apply cardiac monitor and treat the displayed rhythm as per table 1</li> <li>Transport immediately if ROSC is achieved</li> </ol> <p>V. RHYTHM INTERPRETATION</p> <ol style="list-style-type: none"> <li>Table 1 illustrates recommendations on treatment and termination of resuscitative efforts</li> </ol>	



C308	C308 Traumatic Cardiac Arrest	C308									
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014									
	<p>Table 1</p> <p>VI. NOTES</p> <p>a. Traumatic arrest from both blunt and penetrating trauma carry high rates of mortality with</p> <table><tr><th colspan="3">Cardiac Rhythm on Monitor</th></tr><tr><th>Asystole or PEA &lt; 40 bpm</th><th>PEA &gt;40 bpm</th><th>VFib/VTach</th></tr><tr><td>Termination of Resuscitation</td><td>Fluid Resuscitation, Consider repeat needle decompression, Transport to nearest trauma center</td><td>Defibrillate per protocol C300,  Fluid Resuscitation, Consider repeat needle decompression, Transport to nearest trauma center</td></tr></table> <p>poor rates of resuscitation in the prehospital setting.</p> <p>b. The preferred management of the traumatic arrest patient is surgical intervention at an appropriate verified trauma center.</p> <p>c. Due to the mechanism of injury and cause of cardiopulmonary arrest, traumatic arrest is approached in a separate fashion from primary cardiac arrest. A state of post-traumatic circulatory arrest may exist due to severe hypovolemia, tension pneumothorax, or cardiac tamponade, conditions that may be treatable in the prehospital setting.</p> <p>d. The protocol aims to delineate patients who would benefit best from resuscitative efforts and recommend termination of unnecessary resuscitative efforts and transports on patients with minimal chance of survival through a systematic approach.</p> <p>e. Currently there is significant controversy concerning the use of ACLS-type medications including epinephrine/atropine in the setting of traumatic, hypovolemic, arrest. At present time, we <b><u>DO NOT</u></b> recommend the use of these drugs in the treatment approach described above.</p> <p>f. In a situation where the mechanism of injury appears inconsistent with the patient's condition and not severe enough to induce traumatic arrest, consider a primary medical cause for the patient's cardiac arrest and defer to protocol SB204.</p> <p>g. All patients that are being transported should go to the nearest verified trauma center, except the situation described in III.a.ii above.</p> <p>h. Post-ROSC cooling as described in C307 is CONTRAINDICATED in the traumatic arrest patient and should NOT be initiated.</p> <p>i. The use of a backboard for full spinal immobilization can be foregone in favor of rapid transport in the traumatic arrest patient if manual c-spine stabilization or collar is applied.</p>		Cardiac Rhythm on Monitor			Asystole or PEA < 40 bpm	PEA >40 bpm	VFib/VTach	Termination of Resuscitation	Fluid Resuscitation, Consider repeat needle decompression, Transport to nearest trauma center	Defibrillate per protocol C300,  Fluid Resuscitation, Consider repeat needle decompression, Transport to nearest trauma center
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M400 2014	M400 Acute Coronary Syndrome Academy of Medicine of Cincinnati - Protocols for SW Ohio	M400 2014
<b>ALL</b>	<b>I. Inclusion Criteria</b> <ul style="list-style-type: none"> <li>A. Patient's age is 25 years or older.</li> <li>B. Patient complains of discomfort suggestive of cardiac origin (heaviness, pressure, tightness or dull sensations with or without radiation to other body areas) and may be accompanied by other associated signs and symptoms such as: dyspnea, diaphoresis, nausea, vomiting, or general weakness.</li> <li>C. If any doubt about pain/discomfort or related symptoms, treat as cardiac.</li> <li>D. Patient may have a history of cardiac disease.</li> <li>E. Patient may have risk factors associated with cardiac disease.</li> <li>F. Atypical signs and symptoms that may be seen in women, the elderly, chronic hypertensives, and diabetics.</li> </ul>	
<b>ALL</b>	<b>II. Treatment</b> <ul style="list-style-type: none"> <li>A. Administer/assist patient with chewing four chewable baby aspirin (total dose 324mg). Aspirin should be withheld if the patient has had gastrointestinal bleeding, active ulcer disease, hemorrhagic stroke, or major trauma within the past two weeks.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>B. Place the patient on a cardiac monitor. If the rhythm is not of sinus origin (between 60-140) go to the appropriate arrhythmia protocol. Once arrhythmia is resolved then proceed.</li> <li>C. Obtain a 12-Lead ECG and transmit or relay findings to the receiving facility. Do not delay transport any greater than ten minutes for acquisition. <ul style="list-style-type: none"> <li>i. Nitroglycerin administration may change a patient's 12-Lead, acquisition prior to nitroglycerin administration may help in patient's end outcome.</li> </ul> </li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>D. Consider immediate ALS back-up and early transport.</li> <li>E. If no Paramedic available, obtain 12 Lead EKG (if available and capable) and transmit to receiving hospital.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>F. Interview patient about the usage of any Erectile Dysfunction medications (Viagra, Levitra, Cialis) and pulmonary hypertension medication (Flolan, Revatio) within the past 24-72 hours. <ul style="list-style-type: none"> <li>i. If patient has used these meds in the listed timeframes do not assist with or administer nitroglycerin, a dangerous drop in blood pressure may occur.</li> <li>ii. For sildenafil (Viagra), nitroglycerine may be given after 24 hours. If the patient has taken vardenafil (Levitra), nitroglycerine may be given after 48 hours. If the patient has taken tadalafil (Cialis), nitroglycerine may be given after 72 hours</li> </ul> </li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>G. Interview patient if they have prescribed Nitroglycerin and if it is present. Verify medication prescription, date, and proper condition.</li> <li>H. If the patient has not taken any of the above medicines (viagra, levitra, cialis, Flolan, Revatio) in the above listed time frames, the patient's systolic blood pressure is greater than 100 mm Hg and is alert and responsive, assist the patient in taking 1 dose of nitroglycerin (tablet or spray 0.4mg).</li> <li>I. Reassess the blood pressure in 5 minutes and chest discomfort. Evaluate the patient for feeling faint, lightheaded, dizzy, and/or hypotensive. If the patient is symptomatic after administration of nitroglycerin, place the patient flat or in the shock position, if tolerated by the patient.</li> <li>J. If the patient experiences no relief and the BP remains greater than 100 mm Hg systolic, contact medical command for direction regarding assisting with additional doses of nitroglycerin.</li> </ul>	



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<b>MEDIC</b>	<p>K. Establish IV access</p> <p>L. If the patient has not taken any of the above medicines (viagra, levitra, cialis, Flolan, Revatio) in the above listed time frames, the patient's systolic blood pressure is greater than 100 mm Hg and is alert and responsive, administer 1 dose of nitroglycerin (tablet or spray 0.4mg).</p> <p>M. If an Inferior MI is suspected then contact medical control prior to administering Nitroglycerin.</p> <p>N. Reassess the blood pressure in 5 minutes and chest discomfort. Evaluate the patient for feeling faint, lightheaded, dizzy, and/or hypotensive. If the patient is symptomatic after administration of nitroglycerin, place the patient flat or in the shock position, if tolerated by the patient.</p>	
<b>ALL</b>	<p>O. Initiate transport to an appropriate facility as soon as possible in concert with treatment. For patients who have a suspected diagnosis of acute coronary syndrome preference should be made to a facility that offers percutaneous coronary interventions. Refer to the ED Capability study for guidance of facility capabilities.</p> <p>P. Early notification is important in achieving time goals for patient treatment, notify the appropriate receiving facility and transmit EKG (if capable) as soon as possible.</p>	
<b>MEDIC</b>	<p>Q. If the patient is experiencing symptomatic hypotension and their lungs are clear, administer 500-ml normal saline fluid bolus. If lungs are not clear, run IV at keep open rate.</p> <p>R. For persistent symptomatic hypotension or pulmonary edema, see Cardiogenic Shock protocol M401.</p> <p>S. For persistent chest pain after 5 minutes and systolic BP greater than 100, administer a second nitroglycerin. If no relief after another 5 minutes and systolic BP greater than 100, administer a third nitroglycerin.</p> <p>T. For chest pain not relieved by nitrates, administer either</p> <ol style="list-style-type: none"> <li>Fentanyl 25-50 micrograms IV/IO as long as systolic BP greater than 100 and pain persists. May repeat every 5 min to a total of 200 micrograms.</li> <li>Morphine sulfate 1-5 mg IV/IO over 2 minutes as long as systolic BP greater than 100 and pain persists. May repeat every 5 minutes to a total of 10 mg.</li> </ol> <p>U. Nausea and vomiting may be managed with Ondansetron (Zofran) 4mg PO/IM/IV/IO. See Nausea &amp; vomiting Protocol M405.</p>	
<b>MEDIC</b>	<p>Notes</p> <p>A. Hemodynamic stability is defined by a systolic blood pressure greater than 80mm Hg supine, palpable peripheral pulses and no altered level of consciousness</p> <p>B. If a patient has never taken nitroglycerine or is having an Inferior wall MI, there is a chance of sudden blood pressure drop.</p> <p>C. There is very little evidence for narcotic pain medication in STEMI and actually a slight recommendation against its use in non-STEMI. The protocol however includes the use of pain medication for patient comfort and anxiolysis.</p> <p>D. Revatio is a drug approved for treatment of pulmonary arterial hypertension (same disease that may be treated with Flolan at end stage). The drug improves exercise ability and contains Sildenafil which is Viagra. For this reason, organic nitrates are contraindicated with Revatio as they are with Viagra. One major difference with Revatio is that it is indicated for both men and women. Fortunately, a history of pulmonary hypertension is more likely to be shared than one of erectile dysfunction. Providers should query patients, particularly PAH patients, about Revatio before giving nitroglycerin.</p>	



M400 2014	M400 Acute Coronary Syndrome Academy of Medicine of Cincinnati - Protocols for SW Ohio	M400 2014
	<p>E. Treatment Considerations for AMIs:</p> <ul style="list-style-type: none"> <li>i. Inferior Wall: <ul style="list-style-type: none"> <li>1. (Leads II, III, aVF; supplied by the Right Coronary Artery)</li> <li>2. Aggressive fluid administration may be required (i.e. Fluid boluses) due to cardiogenic shock, reassess lungs frequently.</li> <li>3. Attempt to capture Lead V4R to determine right ventricular involvement.</li> <li>4. Patient may be sensitive to Nitroglycerin and Fentanyl/Morphine administration, monitor BP frequently.</li> <li>5. Treat hypotension with a fluid challenge and administer Nitroglycerin or Fentanyl/Morphine with caution.</li> <li>6. If 2 degree type II or 3degree block, prepare to pace immediately see C302</li> <li>7. Consider Atropine 0.5 mg IV up to 3 mg while awaiting pacer</li> <li>8. Set at 70 BPM, 20 ma and increase until mechanical capture is obtained <ul style="list-style-type: none"> <li>a. Consider Midazolam 2-4 mg slow IV over 2 minutes.</li> </ul> </li> <li>9. Dopamine use is discouraged.</li> </ul> </li> <li>ii. Anterior Wall: <ul style="list-style-type: none"> <li>1. (Leads V1-V4; supplied by Left Anterior Descending Artery)</li> <li>2. ST elevation in more than 2 leads is at higher risk for sudden cardiac death.</li> <li>3. High risk for developing CHF or cardiogenic shock.</li> <li>4. May also develop bundle branch blocks, PVCs or 3° blocks.</li> <li>5. Dopamine should be the first treatment for significant hypotension rather than fluid boluses.</li> </ul> </li> <li>iii. Lateral Wall: <ul style="list-style-type: none"> <li>1. (Leads I, aVL, V5-V6; supplied by Circumflex)</li> <li>2. May have some LV dysfunction but not as severe as Anterior Wall AML.</li> <li>3. May also develop AV Nodal Block.</li> </ul> </li> </ul>	



M401 2014	M401 Cardiogenic Shock Academy of Medicine of Cincinnati - Protocols for SW Ohio	M401 2014																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
MEDIC	<div>I. INCLUSION CRITERIA</div> <div><div>A. Patient’s age is 16 years or older</div><div>B. The patient has chest pain suggestive of cardiac origin, dyspnea, no evidence of trauma, AND</div><div>C. Systolic blood pressure less than 80mm Hg supine, OR</div><div>D. Systolic blood pressure 80-100mm Hg and one of the following:<div><div>I. Pulse greater than 120,</div><div>2. Skin changes suggestive of shock, OR</div><div>3. Altered mental status, agitation or restlessness</div></div></div></div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
MEDIC	<div>II. PROTOCOL</div> <div><div>A. Initiate large bore IV and administer 500ml normal saline fluid challenge if lungs are clear. If lungs are not clear, run IV at keep open rate. May repeat if lungs remain clear.</div><div>B. Consider Dopamine 800mg in 500ml IV fluid (1,600mcg/ml). The usual starting dosage is 2-10mcg/Kg/min. Multiple doses of fluid is preferred if the patient has an inferior MI.</div></div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
MEDIC	<div><div>DOPAMINE DOSAGE CHART</div><table><tr><th colspan="2"></th><th colspan="20">Micograms per Kilogram per Minute (Mg/Kg/Min)</th></tr><tr><th colspan="2"></th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th><th>13</th><th>14</th><th>15</th><th>16</th><th>17</th><th>18</th><th>19</th><th>20</th></tr><tr><th>Weight</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></tr><tr><th>Lbs</th><th>Kg</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></tr><tr><td>100</td><td>45</td><td>3</td><td>5</td><td>7</td><td>9</td><td>10</td><td>12</td><td>14</td><td>15</td><td>17</td><td>19</td><td>20</td><td>22</td><td>24</td><td>26</td><td>27</td><td>29</td><td>31</td><td>32</td><td>34</td></tr><tr><td>110</td><td>50</td><td>4</td><td>6</td><td>8</td><td>9</td><td>11</td><td>13</td><td>15</td><td>17</td><td>19</td><td>21</td><td>23</td><td>24</td><td>26</td><td>28</td><td>30</td><td>32</td><td>34</td><td>36</td><td>38</td></tr><tr><td>120</td><td>55</td><td>4</td><td>6</td><td>8</td><td>10</td><td>12</td><td>14</td><td>16</td><td>18</td><td>20</td><td>23</td><td>25</td><td>27</td><td>29</td><td>31</td><td>33</td><td>35</td><td>37</td><td>39</td><td>41</td></tr><tr><td>130</td><td>59</td><td>4</td><td>7</td><td>9</td><td>11</td><td>13</td><td>16</td><td>18</td><td>20</td><td>22</td><td>24</td><td>27</td><td>29</td><td>31</td><td>33</td><td>35</td><td>38</td><td>40</td><td>42</td><td>44</td></tr><tr><td>140</td><td>64</td><td>5</td><td>7</td><td>10</td><td>12</td><td>14</td><td>17</td><td>19</td><td>21</td><td>24</td><td>26</td><td>29</td><td>31</td><td>33</td><td>36</td><td>38</td><td>41</td><td>43</td><td>45</td><td>48</td></tr><tr><td>150</td><td>68</td><td>5</td><td>8</td><td>10</td><td>13</td><td>15</td><td>18</td><td>20</td><td>23</td><td>26</td><td>28</td><td>31</td><td>33</td><td>36</td><td>38</td><td>41</td><td>43</td><td>46</td><td>49</td><td>51</td></tr><tr><td>160</td><td>73</td><td>5</td><td>8</td><td>11</td><td>14</td><td>16</td><td>19</td><td>22</td><td>25</td><td>27</td><td>30</td><td>33</td><td>35</td><td>38</td><td>41</td><td>44</td><td>46</td><td>49</td><td>52</td><td>55</td></tr><tr><td>170</td><td>77</td><td>6</td><td>9</td><td>12</td><td>14</td><td>17</td><td>20</td><td>23</td><td>26</td><td>29</td><td>32</td><td>35</td><td>38</td><td>41</td><td>43</td><td>46</td><td>49</td><td>52</td><td>55</td><td>58</td></tr><tr><td>180</td><td>82</td><td>6</td><td>9</td><td>12</td><td>15</td><td>18</td><td>21</td><td>25</td><td>28</td><td>31</td><td>34</td><td>37</td><td>40</td><td>43</td><td>46</td><td>49</td><td>52</td><td>55</td><td>58</td><td>61</td></tr><tr><td>190</td><td>86</td><td>6</td><td>10</td><td>13</td><td>16</td><td>19</td><td>23</td><td>26</td><td>29</td><td>32</td><td>36</td><td>39</td><td>42</td><td>45</td><td>49</td><td>52</td><td>55</td><td>58</td><td>62</td><td>65</td></tr><tr><td>200</td><td>91</td><td>7</td><td>10</td><td>14</td><td>17</td><td>20</td><td>24</td><td>27</td><td>31</td><td>34</td><td>38</td><td>41</td><td>44</td><td>48</td><td>51</td><td>55</td><td>58</td><td>61</td><td>65</td><td>68</td></tr><tr><td>210</td><td>95</td><td>7</td><td>11</td><td>14</td><td>18</td><td>21</td><td>25</td><td>29</td><td>32</td><td>36</td><td>39</td><td>43</td><td>47</td><td>50</td><td>54</td><td>57</td><td>61</td><td>64</td><td>68</td><td>72</td></tr><tr><td>220</td><td>100</td><td>8</td><td>11</td><td>15</td><td>19</td><td>23</td><td>26</td><td>30</td><td>34</td><td>38</td><td>41</td><td>45</td><td>49</td><td>53</td><td>56</td><td>60</td><td>64</td><td>68</td><td>71</td><td>75</td></tr><tr><td>230</td><td>105</td><td>8</td><td>12</td><td>16</td><td>20</td><td>24</td><td>27</td><td>31</td><td>35</td><td>39</td><td>43</td><td>47</td><td>51</td><td>55</td><td>59</td><td>63</td><td>67</td><td>71</td><td>74</td><td>78</td></tr><tr><td>240</td><td>109</td><td>8</td><td>12</td><td>16</td><td>20</td><td>25</td><td>29</td><td>33</td><td>37</td><td>41</td><td>45</td><td>49</td><td>53</td><td>57</td><td>61</td><td>65</td><td>70</td><td>74</td><td>78</td><td>82</td></tr><tr><td>250</td><td>114</td><td>9</td><td>13</td><td>17</td><td>21</td><td>26</td><td>30</td><td>34</td><td>38</td><td>43</td><td>47</td><td>51</td><td>55</td><td>60</td><td>64</td><td>68</td><td>72</td><td>77</td><td>81</td><td>85</td></tr><tr><td>260</td><td>118</td><td>9</td><td>13</td><td>18</td><td>22</td><td>27</td><td>31</td><td>35</td><td>40</td><td>44</td><td>49</td><td>53</td><td>58</td><td>62</td><td>66</td><td>71</td><td>75</td><td>80</td><td>84</td><td>89</td></tr><tr><td>270</td><td>123</td><td>9</td><td>14</td><td>18</td><td>23</td><td>28</td><td>32</td><td>37</td><td>41</td><td>46</td><td>51</td><td>55</td><td>60</td><td>64</td><td>69</td><td>74</td><td>78</td><td>83</td><td>87</td><td>92</td></tr><tr><td>280</td><td>127</td><td>10</td><td>14</td><td>19</t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is assuming you have 1600 mcg/mL concentration</div><div>Use left column to find weight (either in Lbs or Kgs) then pick the number of micrograms/kg/min (using top). Slide down and the number of drops per minute (using a 60 gtts set) can be found.</div></div></div>				Micograms per Kilogram per Minute (Mg/Kg/Min)																						2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Weight																					Lbs	Kg																				100	45	3	5	7	9	10	12	14	15	17	19	20	22	24	26	27	29	31	32	34	110	50	4	6	8	9	11	13	15	17	19	21	23	24	26	28	30	32	34	36	38	120	55	4	6	8	10	12	14	16	18	20	23	25	27	29	31	33	35	37	39	41	130	59	4	7	9	11	13	16	18	20	22	24	27	29	31	33	35	38	40	42	44	140	64	5	7	10	12	14	17	19	21	24	26	29	31	33	36	38	41	43	45	48	150	68	5	8	10	13	15	18	20	23	26	28	31	33	36	38	41	43	46	49	51	160	73	5	8	11	14	16	19	22	25	27	30	33	35	38	41	44	46	49	52	55	170	77	6	9	12	14	17	20	23	26	29	32	35	38	41	43	46	49	52	55	58	180	82	6	9	12	15	18	21	25	28	31	34	37	40	43	46	49	52	55	58	61	190	86	6	10	13	16	19	23	26	29	32	36	39	42	45	49	52	55	58	62	65	200	91	7	10	14	17	20	24	27	31	34	38	41	44	48	51	55	58	61	65	68	210	95	7	11	14	18	21	25	29	32	36	39	43	47	50	54	57	61	64	68	72	220	100	8	11	15	19	23	26	30	34	38	41	45	49	53	56	60	64	68	71	75	230	105	8	12	16	20	24	27	31	35	39	43	47	51	55	59	63	67	71	74	78	240	109	8	12	16	20	25	29	33	37	41	45	49	53	57	61	65	70	74	78	82	250	114	9	13	17	21	26	30	34	38	43	47	51	55	60	64	68	72	77	81	85	260	118	9	13	18	22	27	31	35	40	44	49	53	58	62	66	71	75	80	84	89	270	123	9	14	18	23	28	32	37	41	46	51	55	60	64	69	74	78	83	87	92	280	127	10	14	19	24	29	33	38	43	48	53	57	62	67	72	76	81	86	91	95	290	132	10	15	20	25	30	35	40	44	49	54	59	64	69	74	79	84	89	94	99	300	136	10	15	20	26	31	36	41	46	51	56	61	66	72	77	82	87	92	97	102
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M402 2014	M402 Airway Obstruction or Stridor Academy of Medicine of Cincinnati - Protocols for SW Ohio	M402 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years or older</li> <li>B. The patient is unable to speak because of an airway obstruction or has a history suggestive of foreign body aspiration, i.e. sudden shortness of breath while eating.</li> <li>C. The patient exhibits stridor lung sounds.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>D. EKG Findings indicate normal sinus rhythm, sinus tachycardia or atrial fibrillation with controlled ventricular response. If other rhythm is present, then refer to the appropriate arrhythmia protocol.</li> </ul>	
<b>ALL</b>	<b>II. PROTOCOL</b> <ul style="list-style-type: none"> <li>A. If the patient is alert but obviously choking from a presumed foreign body: <ul style="list-style-type: none"> <li>1. Have the patient cough forcefully, if possible,</li> <li>2. Perform the Heimlich maneuver until successful.</li> <li>3. If unsuccessful, go to #B(4) below.</li> </ul> </li> <li>B. If the patient is found unconscious or becomes unconscious: <ul style="list-style-type: none"> <li>1. Begin CPR and attempt to bag valve mask ventilate while preparations are made to intubate.</li> </ul> </li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>2. Using the laryngoscope, visualize the posterior pharynx and vocal cords for evidence of a foreign body.</li> <li>3. Remove any foreign bodies very carefully with a suction device or Magill forceps.</li> <li>4. If no foreign body is seen or patient does not begin breathing spontaneously, intubate the trachea. If you suspect a foreign body is below the vocal cords but above the carina, it may be necessary to push the foreign body down the right mainstem bronchus with the ET tube in order to aerate at least the left lung.</li> <li>C. If above methods fail, perform a surgical airway as described in the Airway Protocol (T705)</li> <li>D. If wheezing and no stridor, consider an albuterol nebulizer treatment.</li> </ul>	



M403	M403 Asthma - COPD	M403
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> A. Patient's age is 16 years or older B. The patient has a history of asthma, emphysema or COPD AND complains of a worsening shortness of breath. C. Lung exam has wheezing, rales/rhonchi, or poor air exchange.	
<b>MEDIC</b>	D. EKG Findings indicate normal sinus rhythm, sinus tachycardia or atrial fibrillation with controlled ventricular response. If other rhythm is present, then proceed to the appropriate arrhythmia protocol.	
<b>EMT</b>	<b>II. PROTOCOL</b> A. If available, request ALS back-up for: 1. Pediatric patient who is wheezing, grunting, has retractions, stridor or any other signs of respiratory distress. 2. Patient who doesn't have a prescribed inhaler and the transport time is greater than 30 minutes. B. Confirm that the patient has a prescribed inhaler, such as Proventil/Ventolin/ProAir (generic Albuterol, Alupent/Metaprel (generic Metaproteranol),. An over-the-counter medication such as Bronkaid Mist, Primatene Mist, Bronitin Mist, Asthma-Haler, and Epinephrine cannot be used. C. Check to see if the patient has already taken any doses prior to arrival. Note time and amount. D. Do not use the inhaler if any of the following are present: 1. Inability of patient to use device. 2. Inhaler is not prescribed for the patient. 3. Medication is expired. 4. If the patient has met the maximum prescribed dose of their inhaler according to prescription label, contact medical control. E. Make sure inhaler is at room temperature and shake several times to mix the medication. F. Take oxygen mask off the patient. G. Tell the patient to exhale deeply and put the mouthpiece in front of the mouth. If the patient has a spacer device, it should be used. H. Have patient depress the metered-dose inhaler as they begin to inhale deeply. I. Instruct the patient to hold their breath for as long as comfortable, so the medication can be absorbed. J. Put oxygen mask back on the patient. K. Repeat a dose after one minute. If further medication is necessary beyond the patient's prescribed number of doses, contact medical control. L. Recheck vital signs (including pulse oximetry if available) and perform focused assessment.	
<b>MEDIC</b>	M. Administer Albuterol (Proventil) aerosol 2.5mg in 2.5ml normal saline via hand held nebulizer. Consider adding 1 vial Ipratropium Bromide (0.5mg of 0.017%) to the Albuterol aerosol. May substitute Duoneb (Albuterol plus Ipratropium Bromide that is premixed) for all Albuterol treatments. N. If the patient is in impending respiratory failure, obtain IV access.	





M403	M403 Asthma - COPD	M403
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
	<p>O. Consider epinephrine 1:1,000 solution intramuscularly (0.3 ml IM) if patient is not able to breath in the nebulized medication.</p> <p>P. Consider repetitive Albuterol treatments if needed, up to a total of three treatments..</p> <p>Q. If more than one Albuterol treatment is needed, consider administering three 20mg tablets of Prednisone (60mg total) PO or Solumedrol 125mg IV.</p>	
<b>ALL</b>	1. Consider CPAP, reference Protocol T709	
<b>ALL</b>	<p>III. NOTES</p> <p>A. When attempting to differentiate between COPD and congestive heart failure, the medication history will usually give more valuable information than will the physical exam.</p> <p>B. Ipratropium Bromide is an anticholinergic medication and may cause tachycardia. Do not use on patients with narrow angle glaucoma or patients with bladder neck obstruction (history of urinary retention).</p> <p>C. There is growing evidence that steroids (Prednisone or Solumedrol) for adults may be beneficial.</p>	



M404 2014	M404 Congestive Heart Failure Academy of Medicine of Cincinnati - Protocols for SW Ohio	M404 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> A. Patient's age is 16 years or older B. History of heart disease. C. Respiratory rate greater than 20. D. Systolic pressure greater than 100mm Hg. E. Rales on lung exam F. Evidence of respiratory insufficiency such as air hunger, accessory muscle use or altered mental status. G. MAY have jugular venous distention or peripheral edema.	
<b>MEDIC</b>	H. EKG Findings indicate normal sinus rhythm, sinus tachycardia or atrial fibrillation with controlled ventricular response. If other rhythm is present, then proceed to the appropriate arrhythmia protocol.	
<b>ALL</b>	<b>II. PROTOCOL</b> A. Consider advanced airway management if required. B. Consider CPAP, reference Protocol T709 C. Determine whether the patient has taken any erectile dysfunction medicines, i.e. sildenafil (Viagra); vardenafil (Levitra); or tadalafil (Cialis) in the previous 24-72 hours.	
<b>MEDIC</b>	D. Establish IV access E. If patient has used these erectile dysfunction meds in the listed timeframes do not assist with or administer nitroglycerin, a dangerous drop in blood pressure may occur. 1. For sildenafil (Viagra), nitroglycerine may be given after 24 hours. If the patient has taken vardenafil (Levitra), nitroglycerine may be given after 48 hours. If the patient has taken tadalafil (Cialis), nitroglycerine may be given after 72 hours F. Administer nitroglycerin 0.4 mg sublingual if the systolic blood pressure is greater than 100 mm Hg. G. Lasix IV push: If patient is already taking Lasix or a similar drug, then the patient's normal oral dose is recommended. Otherwise, a starting dose of approximately 40mg is frequently appropriate.	
<b>ALL</b>	<b>III. NOTES</b> A. When attempting to differentiate between COPD and congestive heart failure, the medication history will usually give more valuable information than will the physical exam. B. Transport to the hospital should be initiated immediately if the patient's airway is compromised. Otherwise, transport should be initiated as soon as possible taking into account the time required for pharmacologic therapy. C. For sildenafil (Viagra), nitroglycerin may be given after 24 hours. If the patient has taken vardenafil (Levitra), nitroglycerin may be given after 48 hours. If the patient has taken tadalafil (Cialis), nitroglycerin may be given after 72 hours.	



M405 2014	M405 Nausea and Vomiting Academy of Medicine of Cincinnati - Protocols for SW Ohio	M405 2014
<b>MEDIC</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years or older</li> <li>B. Patient has nausea or vomiting</li> </ul> <p><b>II. EXCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Known allergy to ondansetron (Zofran)</li> <li>B. Known allergies to 5-HT(3) receptors such as Kytril and Aloxi</li> </ul> <p><b>III. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. Administer ondansetron (Zofran) <ul style="list-style-type: none"> <li>1. Can be given IM/IV/IO or PO (solutab) if IV access not available</li> <li>2. IM/PO dosing is a single 4 mg dose <ul style="list-style-type: none"> <li>a) Onset of IM is approximately 30 minutes with half-life similar to IV dose</li> <li>b) Onset of PO dose is more rapid than IM</li> </ul> </li> <li>3. The IV/IO adult dose is 4 mg slow IV push (over at least 30 seconds, preferably over 2-5 minutes)</li> <li>4. Repeat 4 mg IV/IO dose in 5 minutes if symptoms have not resolved</li> </ul> </li> </ul> <p><b>IV. NOTES</b></p> <ul style="list-style-type: none"> <li>A. May be used safely in pregnancy</li> <li>B. Use with caution in patients with impaired liver function</li> <li>C. The frequency of side effects is extremely low, but may include: <ul style="list-style-type: none"> <li>1. Headache and/or dizziness, fever, urinary retention, rash, agitation, mild sedation and extra pyramidal (dystonic) reaction; may cause bronchospasm and arrhythmias, but incidence is uncommon.</li> <li>2. Ondansetron does not prevent motion sickness</li> </ul> </li> <li>D. The side effect profile of Phenergan (promethazine) increases the risk of untoward outcome for some patients; the side effect profile of ondansetron is extremely low favoring the use of this medication</li> <li>E. Ondansetron can increase the QT interval and should be used with caution in patients who are on other medications that can increase the QT interval</li> </ul>	



M406 2014	M406 Hyper/Hypoglycemia Academy of Medicine of Cincinnati - Protocols for SW Ohio	M406 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> <b>A.</b> Patient's age is 16 years or older <b>B.</b> Patients identified or suspected of diabetic problems - hyper/hypoglycemia	
<b>ALL</b>	<b>II. PROTOCOL</b> <b>A. <u>Assess Blood Glucose</u></b> <b>I.</b> If unable to assess blood glucose use history and other assessment means to proceed with treatment. Treatment can be life saving for a hypoglycemic patient but will not necessarily cause a hyperglycemic patient excessive harm. <b>B. <u>Hypoglycemia</u></b> <b>I.</b> Glucose Level is less than 70 mg/dL or glucometer reads "LOW" <b>2.</b> If patient is able to swallow and maintain patent airway administer oral glucose 15g or appropriate high glucose content fluid (such as orange juice). Dispense in small amounts; keep fingers out of mouth; EMS provider can lightly massage the area between the cheek and gum to enhance swallowing.	
<b>MEDIC</b>	<b>3.</b> If patient is unable to maintain airway, administer 12.5-25g Dextrose 50% IV/IO <b>i.</b> Dextrose must be given through a patent IV/IO. If any suspicion of extravasation is present notify receiving Emergency Department. <b>ii.</b> It is acceptable to dilute D50 with normal saline due to the high viscosity based on IV size and vein conditions. <b>4.</b> If unable to establish IV/IO access, administer 1mg Glucagon (Glucagen) IM	
<b>ALL</b>	<b>5.</b> Glucagon (given prior to EMS or by EMS providers) should improve the patient's level of consciousness within about 10 minutes of administration. However, Glucagon must be followed with some Glucose either IV/IO, if the patient does not awaken, or orally as noted above. <b>6.</b> Treatment with Dextrose via IO device should be a last resort or coincide with a patient that requires an IO for other reasons. All patients with an IO should be seen at an Emergency Department. <b>7.</b> See "Non-Transport of Diabetics" section below for "Treat and Release" Criteria <b>C. <u>Hyperglycemia</u></b> <b>1.</b> Glucose Level is greater 400 mg/dL or glucometer reads "HIGH"	
<b>MEDIC</b>	<b>2.</b> Administer a fluid bolus of 500-1000mL IV/IO during transport if no evidence of pulmonary edema <b>3.</b> Place patient on Monitor for possibility of dysrhythmia	
<b>ALL</b>	<b>NOTES:</b> <b>A.</b> Blood glucose level can be measured in mmol/l as well as mg/dl. Conversion: mmol/l x 18 = mg/dl or mg/dl ÷ 18 = mmol/l	



M406 2014	M406 Hyper/Hypoglycemia Academy of Medicine of Cincinnati - Protocols for SW Ohio	M406 2014														
<b><u>Non-Transport of Hypoglycemic Patients – Treat and Release</u></b>																
<b><u>Criteria</u></b>																
<p>A. Patient must be able to refuse transport as per the Clinical Practice Standards protocol SB 200.</p> <p>B. Following treatment of a hypoglycemic state, patient is conscious, alert to time, date and place, and requests that they not be transported to the hospital.</p> <p>C. Certain patients (see below) should be informed that their hypoglycemic state may not be an isolated issue and it is recommended that they be transported.</p> <p>1. Patients with other associated findings of serious illnesses or circumstances that may have contributed to the hypoglycemic episode, including excessive alcohol consumption, shortness of breath, chest pain, headaches, fever, etc.</p> <p>2. Patients on oral hypoglycemic medication such as glipizide, glyburide, or chlorpropamide (hypoglycemic episode may last hours or days).</p> <p>3. Patients who when treated with Dextrose 50% take greater than 10 minutes to return to a normal level of consciousness (treatment with other concentrations of dextrose may have different times until resolution of symptoms).</p> <p>4. Patient’s history does not reveal circumstances that may have contributed to the hypoglycemic episode such as lack of oral intake or insulin reaction.</p> <p>D. Repeat rapid glucose test is greater than or equal to 100 mg/dL</p> <p>E. The patient has a repeat systolic blood pressure of at least 100 mm Hg, pulse rate is greater than or equal to 60.</p>																
<b><u>Protocol for Treat and Release</u></b>																
<p>A. If the criteria above are met then the patient is a candidate for Treat and Release.</p> <p>B. The patient must be released to the care of a responsible individual who will remain with the patient as an observer for a reasonable time and can request assistance (i.e. Call 911) should the symptoms recur.</p> <p>C. The patient should be given both verbal and written instructions for follow-up care prior to being released.</p> <p>1. Instructions for follow-up care should include the following or similar:</p> <p>i. Take action to prevent a recurrent episode such as remain in the care of a responsible individual, consume a light meal to maintain a sufficient blood glucose level, monitor their blood glucose, and advise their personal physician of this episode.</p> <p>ii. Watch for signs and symptoms of another episode. Those signs and symptoms include:</p> <table><tr><td>Anxiousness</td><td>Impaired vision</td></tr><tr><td>Dizziness</td><td>Personality change</td></tr><tr><td>Excessive Sweating</td><td>Pounding heartbeat</td></tr><tr><td>Extreme hunger</td><td>Trembling</td></tr><tr><td>Faintness</td><td>Unable to awaken</td></tr><tr><td>Headache</td><td>Weakness &amp; fatigue</td></tr><tr><td>Irritability</td><td></td></tr></table> <p>iii. If another episode occurs, request medical assistance (i.e. Call 911) immediately.</p>			Anxiousness	Impaired vision	Dizziness	Personality change	Excessive Sweating	Pounding heartbeat	Extreme hunger	Trembling	Faintness	Unable to awaken	Headache	Weakness & fatigue	Irritability	
Anxiousness	Impaired vision															
Dizziness	Personality change															
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Headache	Weakness & fatigue															
Irritability																



M407 2014	M407 Psychiatric Protocol Academy of Medicine of Cincinnati - Protocols for SW Ohio	M407 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years or older</li> <li>B. A medically stable patient who is manifesting unusual behavior including violence, aggression, altered affect, or psychosis.</li> <li>C. Patient demonstrates behavior including violence, delirium, altered effect, or psychosis.</li> <li>D. If obtainable, serum blood sugar greater than or equal to 70 mg/dl (if assessment cannot be obtained prior to physical restraint, then measurement should occur after patient restraint whenever safe or feasible to do so).</li> <li>E. If obtainable, systolic blood pressure greater than or equal to 90 mm Hg and less than 180 mm Hg (if assessment cannot be obtained prior to physical restraint, then measurement should occur after patient restraint whenever safe or feasible to do so).</li> <li>F. If obtainable, heart rate greater than or equal to 50 bpm (if assessment cannot be obtained prior to physical restraint, then measurement should occur after patient restraint whenever safe or feasible to do so).</li> </ul> <p><b>II. EXCLUSION CRITERIA AND DIFFERENTIAL DIAGNOSIS</b></p> <ul style="list-style-type: none"> <li>A. Anemia</li> <li>B. Cerebrovascular accident</li> <li>C. Drug / Alcohol intoxication</li> <li>D. Dysrhythmias</li> <li>E. Electrolyte imbalance</li> <li>F. Head Trauma</li> <li>G. Hypertension</li> <li>H. Hypoglycemia</li> <li>I. Hypoxia</li> <li>J. Infection (especially meningitis / encephalitis)</li> <li>K. Metabolic disorders</li> <li>L. Myocardial ischemia / infarction</li> <li>M. Pulmonary Embolism</li> <li>N. Seizure</li> <li>O. Shock</li> </ul>	
<b>ALL</b>	<p><b>III. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. If EMS personnel have advance knowledge of a violent or potentially dangerous patient or circumstance, consideration should be given to staging in a strategically convenient but safe area prior to police arrival. If staging is indicated and implemented, dispatch should be notified that EMS is staging, the location of the staging area, and to have police advise EMS when scene is safe for EMS to respond.</li> </ul>	



M407 2014	M407 Psychiatric Protocol Academy of Medicine of Cincinnati - Protocols for SW Ohio	M407 2014
	<p>B. If EMS intervention is indicated for the violent or combative patient, patients should be gently and cautiously persuaded to follow EMS personnel instructions. If EMS has cause to believe the patient's ability to exercise an informed refusal is impaired by an existing medical condition, EMS shall, if necessary, cause the patient to be restrained for the purpose of providing the EMS intervention indicated. Such restraint shall, whenever possible, be performed with the assistance of police personnel (see Restraint Protocol). It is recognized that urgent circumstances may necessitate immediate action by EMS prior to the arrival of police.</p> <ol style="list-style-type: none"> <li>1. Urgent circumstances requiring immediate action are defined as: <ol style="list-style-type: none"> <li>i. Patient presents an immediate threat to the safety of self or others.</li> <li>ii. Patient presents an immediate threat to EMS personnel.</li> </ol> </li> </ol> <p>C. Urgent circumstances authorize, but do not obligate, restraint by EMS personnel prior to police arrival. The safety and capabilities of EMS are a primary consideration. Police shall immediately be requested by EMS in any urgent circumstance requiring restraint of a patient by EMS personnel.</p> <p>D. If police initiate restraint inconsistent with the medical provisions of the Restraint Protocol, with the intent that EMS will transport the patient, police must prepare to submit an APPLICATION FOR EMERGENCY ADMISSION in accordance with Section 5122.10 ORC, or the patient must be placed under arrest with medical intervention indicated. Police shall, in either instance, accompany EMS to the hospital.</p> <p>E. APPLICATION FOR EMERGENCY ADMISSION can only be implemented by a:</p> <ol style="list-style-type: none"> <li>1. Psychiatrist</li> <li>2. Licensed clinical psychologist</li> <li>3. Licensed physician</li> <li>4. Health or police officer</li> <li>5. Sheriff or deputy sheriff</li> </ol> <p>F. EMS shall not be obligated to transport, without an accompanying police officer, any patient who is currently violent, exhibiting violent tendencies, or has a history indicating a reasonable expectation that the patient will become violent.</p> <p>G. If the patient is medically stable then he/she may be transported by police in the following circumstances:</p> <ol style="list-style-type: none"> <li>1. Patient has normal orientation to person, place, time, and situation.</li> <li>2. Patient has no evidence of medical illness or injury.</li> <li>3. Patient has exhibited behavior consistent with mental illness.</li> </ol>	



M408 2014	M408 Restraint Protocol Academy of Medicine of Cincinnati - Protocols for SW Ohio	M408 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years or older</li> <li>B. This protocol is intended to address the need for medically indicated and necessary restraint. It shall not apply to regulate, or restrict in any way, operational guidelines adopted by a provider agency addressing use of force related to non-medical circumstances (i.e. civil disturbances, legitimate self-defense relative to criminal behavior).</li> <li>C. Patient restraints are to be used only when necessary in situations where the patient is violent or potentially violent and may be a danger to themselves or others. EMS providers must remember that aggressive violent behavior may be a symptom of a medical condition such as but not limited to: <ul style="list-style-type: none"> <li>1. Anemia</li> <li>2. Cerebrovascular accident</li> <li>3. Drug / Alcohol intoxication</li> <li>4. Dysrhythmias</li> <li>5. Electrolyte imbalance</li> <li>6. Head Trauma</li> <li>7. Hypertension</li> <li>8. Hypoglycemia</li> <li>9. Hypoxia</li> <li>10. Infection (especially meningitis / encephalitis)</li> <li>11. Metabolic disorders</li> <li>12. Myocardial ischemia / infarction</li> <li>13. Pulmonary Embolism</li> <li>14. Seizure</li> <li>15. Shock</li> <li>16. Toxicological ingestion</li> </ul> </li> </ul>	
<b>ALL</b>	<p><b>II. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. Patient health care management remains the responsibility of the EMS provider. The method of restraint shall not restrict the adequate monitoring of vital signs, ability to protect the patient's airway, compromise peripheral neurovascular status or otherwise prevent appropriate and necessary therapeutic measures. It is recognized that the evaluation of many patient parameters requires patient cooperation and thus may be difficult or impossible.</li> <li>B. It is recommended to have Law Enforcement on scene.</li> <li>C. Refer to Psychiatric Emergencies Protocol (M407) for aid in dealing with the combative patient.</li> <li><b>D. <u>The least restrictive means shall be employed.</u></b></li> <li>E. Verbal de-escalation <ul style="list-style-type: none"> <li>i. Validate the patient's feelings by verbalizing the behaviors the patient is exhibiting and attempt to help the patient recognize these behaviors as threatening.</li> <li>ii. Openly communicate, explaining everything that has occurred, everything that will occur, and why the imminent actions are required.</li> <li>iii. Respect the patient's personal space (i.e. asking permission to touch the patient, take pulse, examine patient, etc.).</li> </ul> </li> </ul>	





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<b>ALL</b>	<p><b>III. PHYSICAL RESTRAINTS</b></p> <ul style="list-style-type: none"> <li>A. All restraints should be easily removable by EMS personnel.</li> <li>B. Restraints applied by law enforcement (i.e. handcuffs) require a law enforcement officer to remain available to adjust the restraints as necessary for the patient's safety. The protocol is not intended to negate the ability for law enforcement personnel to use appropriate restraint equipment to establish scene control.</li> <li>C. To ensure adequate respiratory and circulatory monitoring and management, patients shall NOT be transported in a face down prone position.</li> <li>D. Restrained extremities should be monitored for color, nerve, and motor function, pulse quality and capillary refill at the time of application and at least every 15 minutes.</li> </ul>	
<b>MEDIC</b>	<p><b>IV. CHEMICAL RESTRAINTS</b></p> <ul style="list-style-type: none"> <li>A. Chemical restraints may be required before, after, or in place of physical restraints. Any patient who continues to be a danger to themselves or others despite physical restraints, or those who present an extreme danger while attempting physical restraint, may be chemically restrained as follows. <ul style="list-style-type: none"> <li>i. Administer midazolam (Versed) 5 – 10 mg IM/IN (based on weight and agitation). Exposure and cleaning of skin is highly recommended but may not be feasible; injection through clothing and prior to skin cleaning is allowed if crew safety would be compromised.</li> <li>ii. When able and safe, place patient on cardiac monitor and continuous pulse oximetry.</li> <li>iii. When able and safe, administer oxygen.</li> <li>iv. When able and safe, check blood glucose level.</li> <li>v. At no time shall a patient be left unattended after receiving chemical restraint.</li> <li>vi. Any patient receiving chemical restraint must be attended to and transported by a paramedic.</li> <li>vii. Repeat dose(s) of midazolam (Versed) may be ordered by on-line medical control.</li> <li>viii. Pre-arrival notification is highly recommended so the receiving Emergency Department can be prepared for the safe transfer of a combative or violent patient</li> </ul> </li> </ul>	
<b>ALL</b>	<p><b>V. DOCUMENTATION OF RESTRAINTS</b></p> <ul style="list-style-type: none"> <li>A. Patient restraint shall be documented on the run sheet and address any or all the following appropriate criteria: <ul style="list-style-type: none"> <li>i. That an emergency existed and the need for treatment was explained to the patient.</li> <li>ii. That the patient refused treatment or was unable to consent to treatment (such as unconscious patient).</li> <li>iii. Evidence of the patient's incompetence (or inability to refuse treatment).</li> <li>iv. Failure of less restrictive methods of restraint (e.g., if conscious, failure of verbal attempts to convince the patient to consent to treat).</li> <li>v. Assistance of law enforcement officials with restraints, or orders from medical control to restrain the patient, or any exigent circumstances requiring immediate action, or adherence to system restraint protocols.</li> <li>vi. That the treatment and/or restraint were for the patient's benefit and safety.</li> <li>vii. The type of restraint employed (soft, leather, mechanical, chemical).</li> <li>viii. Any injuries that occurred during or after the restraint.</li> <li>ix. The limbs restrained ("four points").</li> <li>x. Position in which the patient was restrained.</li> <li>xi. Circulation checks every 15 minutes or less (document findings and time).</li> </ul> </li> </ul>	



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	xii. The behavior and/or mental status of the patient before and after the restraint.	
<b>MEDIC</b>	<p><b>NOTES</b></p> <ul style="list-style-type: none"> <li>A. Intramuscular midazolam is more rapidly absorbed than other benzodiazepines, including diazepam and lorazepam, making it uniquely ideal for treatment of the acutely agitated patient. Onset 5-10 minutes.</li> <li>B. Midazolam is as effective as haloperidol in acutely agitated and combative patients (Am J Emerg Med 8:97), and has less potential cardiovascular side effects and drug-drug interactions than haloperidol.</li> <li>C. Respiratory depression is a known side effect of benzodiazepines. Monitor and treat respiratory depression as needed. The use of flumazenil is not recommended and is potentially harmful because it may cause uncontrollable seizures. The risk of harm is especially present when the patient history is unknown, unclear, or incomplete.</li> <li>D. Midazolam may be administered intranasal (IN); however, its efficacy in agitated and combative patients is unknown.</li> <li>E. Use of benzodiazepines, including intramuscular Midazolam, for acutely agitated and combative patients is supported by American College of Emergency Physicians clinical policy [Ann Emerg Med 47(1): 79, 2006].</li> </ul>	



M409	M409 Allergic Reaction - Anaphylaxis	M409
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years or older</li> <li>B. Suspected exposure to allergen (insect sting, medications, foods, or chemicals).</li> <li>C. Patient has or complains of any of the following: <ul style="list-style-type: none"> <li>i. Respiratory difficulty</li> <li>ii. Wheezing or stridor</li> <li>iii. Tightness in chest or throat, weakness, or nausea.</li> <li>iv. Flushing, hives, itching, or swelling.</li> <li>v. Anxiety or restlessness.</li> <li>vi. Pulse greater than 100 or Systolic Blood Pressure less than 80 mm Hg.</li> <li>vii. Gastrointestinal symptoms</li> <li>viii. Swelling of the face, lips, or tongue</li> </ul> </li> </ul> <p><b>II. Anaphylaxis Definition</b></p> <p>Serious, rapid onset (minutes to hours) reaction to a suspected trigger <b>AND</b></p> <ul style="list-style-type: none"> <li>A. Two or more body systems involved (e.g., skin/mucosa, cardiovascular, respiratory, GI) <b>OR</b></li> <li>B. Hemodynamic instability <b>OR</b></li> <li>C. Respiratory compromise</li> </ul>	
<b>ALL</b>	<p><b>III. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. Maintain airway and administer Oxygen.</li> <li>B. <b>Airway assessment and management are extremely important since airway compromise may develop rapidly at anytime during the call.</b></li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>C. Request ALS back-up for a patient who has <u>any</u> of the following: <ul style="list-style-type: none"> <li>i. hypotension</li> <li>ii. tachycardia</li> <li>iii. noisy/difficult breathing (including but not limited to wheezing &amp; stridor)</li> <li>iv. received epinephrine by auto-injector, if indicated</li> </ul> </li> <li>D. Determine if the patient has a prescribed epinephrine auto-injector (EpiPen, EpiPen Jr.) and/or albuterol metered dose inhaler available. Even if the patient's condition does not warrant medication at the time, before you leave the scene, ask to take them and any spares for the trip to the hospital. This allows for treatment en route if the patient's condition should warrant or if a second dose is ordered by medical command.</li> <li>E. Some patients may have multiple-dose auto-injectors.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>F. Remove allergen if possible (stinger from skin, etc).</li> <li>G. Check vital signs frequently, reactions may quickly grow more severe</li> </ul>	



<b>EMT</b>	<p>H. For patients with anaphylaxis, epinephrine should be administered as soon as possible.</p> <ul style="list-style-type: none"> <li>i. For patients who have been prescribed an auto-injector administer it in accordance with manufacturer's directions after obtain patient consent.</li> <li>ii. For EMS supplied epinephrine auto-injectors, VERBAL MEDICAL DIRECTION must be obtained.</li> <li>iii. Auto-injector administration may be repeated every 5 – 15 minutes as needed</li> </ul> <p>I. If epinephrine auto-injector is to be administered, then:</p> <ul style="list-style-type: none"> <li>i. Assure injector is prescribed for the patient. (if patient's personal injector).</li> <li>ii. Check medication for expiration date.</li> <li>iii. Check medication for cloudiness or discoloration.</li> <li>iv. Remove safety cap from injector.</li> <li>v. Select appropriate injection site (see notes). If possible, remove clothing from the injection site. If removing the clothing would take too much time, the auto-injector can be administered through clothing.</li> <li>vi. Push injector firmly against site.</li> <li>vii. Hold injector against the site for a <u>minimum of ten seconds</u>.</li> <li>viii. Keep injector to give to hospital personnel upon arrival.</li> </ul> <p>J. If bronchospasm or wheezing is present assist patient with inhaler if they have one per Respiratory Distress Protocol M403</p>
<b>MEDIC</b>	<p>K. Administer epinephrine 0.3 ml 1:1000 solution intramuscularly (IM) in the anterolateral thigh if patient is in anaphylaxis. May repeat dose every 5 – 15 minutes as needed.</p> <p>L. Monitor cardiac rhythm</p> <p>M. If bronchospasm or wheezing is present, administer albuterol (Proventil) 2.5mg via nebulizer, and treat per Respiratory Distress protocol M403. Albuterol may be used without preceding epinephrine in patients with isolated, very minimal respiratory symptoms.</p> <p>N. Initiate IV access. If the patient is hypotensive, begin 1-liter normal saline IV wide open.</p> <p>O. Administer diphenhydramine 25 - 50 mg IV/IM/PO. Diphenhydramine may be used without preceding epinephrine in patients with isolated rash and no other symptoms.</p> <p>P. If hypotension still persists, consider dopamine infusion 5-20 mcg/kg/min titrated to effect to maintain systolic blood pressure. See chart in M401.</p> <p>Q. For persistent symptoms in a patient taking a <math>\beta</math>-blocker, consider 1 mg glucagon IM/IV.</p>



M410 2014	M410 Seizure Academy of Medicine of Cincinnati - Protocols for SW Ohio	M410 2014
<b>ALL</b>	<p><b>A. INCLUSION CRITERIA</b></p> <ol style="list-style-type: none"> <li>1. Patient's age is 16 years or older</li> <li>2. Patient has a decreased Level of Consciousness (GCS less than 15)</li> </ol> <p><b>B. DIFFERENTIAL DIAGNOSIS</b></p> <ol style="list-style-type: none"> <li>1. Refer to Altered Level of Consciousness Protocol</li> <li>2. Identify and rule out possible causes</li> </ol> <p><b>C. PHYSICAL FINDINGS (ONE OR MORE)</b></p> <ol style="list-style-type: none"> <li>1. Patient suspected to have had grand mal seizure based upon description of eyewitnesses, incontinence of urine or stool, or history of previous seizures.</li> <li>2. Patient may or may not have current seizure activity</li> <li>3. May have altered mental status.</li> <li>4. May be incontinent of urine or stool.</li> <li>5. May be salivating.</li> <li>6. May have depressed respiratory status.</li> </ol> <p><b>D. PROTOCOL</b></p> <ol style="list-style-type: none"> <li>1. Maintain airway and administer oxygen .</li> <li>2. Assess for spinal injuries and treat/immobilize appropriately. Refer to Spinal Immobilization Protocol T704</li> <li>3. Check Glucose per M406</li> <li>4. Place on Cardiac monitor if available</li> <li>5. If suspicious for overdose refer to M411 Toxicological Emergencies</li> </ol>	
<b>EMT</b>	<ol style="list-style-type: none"> <li>6. If available, request ALS back-up for a patient who meets one or more of the following criteria: <ol style="list-style-type: none"> <li>i. Is actively seizing</li> <li>ii. Has been seizing for 15 minutes or longer</li> <li>iii. Has airway compromise</li> <li>iv. Has had more than two seizures without gaining consciousness</li> <li>v. Has a history of diabetes and is seizing</li> <li>vi. Is in the third trimester of pregnancy and seizing</li> </ol> </li> </ol>	
<b>MEDIC</b>	<ol style="list-style-type: none"> <li>7. If patient is actively seizing give Versed (midazolam) 10 mg IM. <ol style="list-style-type: none"> <li>i. Alternately Versed (midazolam) can be given 2-4 mg/min IV/IN/IO until seizure resolves or a total of 10 mg is given.</li> </ol> </li> <li>8. Be prepared to support the patient's respirations.</li> <li>9. If the patient is in the third trimester of pregnancy or up to 6 weeks postpartum AND is actively seizing, AND has no known seizure history, if available consider administration magnesium sulfate 4 g diluted slowly IVP over 15 minutes. <ol style="list-style-type: none"> <li>i. One way of diluting Magnesium is by mixing 4 gm/8 mL in a 20 mL syringe diluted with 7 mL of Normal Saline and given 1 ml per minute.</li> <li>ii. Be cautious of hypotension caused by magnesium.</li> <li>iii. <b><u>Transportation of patient to a hospital with Obstetrical Services is important</u></b></li> </ol> </li> </ol>	
<b>ALL</b>	<b>V. NOTES</b>	



M410 2014	M410 Seizure Academy of Medicine of Cincinnati - Protocols for SW Ohio	M410 2014
	<p><b>A.</b> If seizures develop for the first time in a patient over the age of 50, suspect a cardiac cause.</p> <p><b>B.</b> Trauma to the tongue is unlikely to cause serious problems, but trauma to the teeth may. Attempts to force an airway into the patient's mouth can completely obstruct the airway. Use of a nasopharyngeal airway may be helpful.</p> <p><b>C.</b> Most seizures that patients experience are self-limited to 1-3 minutes and will need only oxygen and attention to airway management and will not need treatment with Versed (midazolam).</p> <p><b>D.</b> Each department should have training on using Intranasal Versed with an atomizer device. This route may take longer for a response than the IV method.</p> <p><b>E.</b> Be aware that rectal Valium (Diastat) may have been administered to some patients with known seizure disorders prior to EMS arrival. Adding Versed on top of rectal Valium will exacerbate respiratory depression.</p>	



M411 2014	M411 Toxicological Emergencies Academy of Medicine of Cincinnati - Protocols for SW Ohio	M411 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Patients of any age</li> <li>B. History of actual poisoning either through ingestion, inhalation, injection, or absorption.</li> <li>C. Scene size up that indicates possible poisoning.</li> </ul> <p><b>II. PHYSICAL FINDINGS – PATIENT MAY HAVE ANY COMBINATION OF THE FOLLOWING</b></p> <ul style="list-style-type: none"> <li>A. Altered Mental Status. Also consider Altered Mental Status Protocol SB201</li> <li>B. Anxiety</li> <li>C. Chest tightness</li> <li>D. Headache</li> <li>E. Hallucinations</li> <li>F. Disorganized speech</li> <li>G. Tremors</li> <li>H. Nausea and vomiting</li> <li>I. Seizures/coma</li> <li>J. Excessive salivation</li> <li>K. Dilation or constriction of pupils, pupils should be equal.</li> <li>L. Nystagmus- involuntary eye movement</li> <li>M. Rapid or slow heart rate</li> <li>N. High, normal or low blood pressure</li> <li>O. Respiratory difficulty</li> <li>P. For inhaled toxins patient may have soot or other residues of contaminants around nose, mouth, and oropharynx</li> <li>Q. Presence of drugs, drug paraphernalia, suicide notes, track marks on body, or other items that would suggest overdose.</li> </ul>	
<b>ALL</b>	<p><b>III. RELATED APPENDICES</b></p> <ul style="list-style-type: none"> <li>A. Appendix D: Chemical Agent Exposure</li> <li>B. Appendix E: Transport of Contaminated Patients</li> </ul>	
<b>ALL</b>	<p><b>IV. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. First priority is scene safety</li> <li>B. Evaluate scene for provider safety and take appropriate precautions <ul style="list-style-type: none"> <li>i. Remove or have patients removed from trigger area once appropriate safety standards have been implemented.</li> <li>ii. Park vehicles a safe distance away, uphill and upwind of incident</li> <li>iii. Utilize appropriate monitoring and safety equipment</li> <li>iv. Decontaminate patient as called for depending on agent and exposure.</li> <li>v. Consider requesting additional appropriate resources (HAZMAT, etc.)</li> </ul> </li> <li>C. Maintain airway and administer high flow oxygen as appropriate <ul style="list-style-type: none"> <li>i. If carbon monoxide is suspected or patient is cyanotic administer oxygen at 10-15 LPM regardless of oxygen saturation</li> </ul> </li> <li>D. Obtain vital signs and apply cardiac monitor, if available</li> </ul>	



M411 2014	M411 Toxicological Emergencies Academy of Medicine of Cincinnati - Protocols for SW Ohio	M411 2014
	<ul style="list-style-type: none"> <li>E. If patient has ingested toxins, medications or other substances obtain container(s), if available, and bring them with the patient.               <ul style="list-style-type: none"> <li>i. Try to ascertain how much has been consumed, for how long</li> </ul> </li> <li>F. Be aware of poly-pharmacy overdoses and lack of patient compliance with the intentional overdose patient</li> <li>G. Be prepared for the possibility of patients who have may have multiple intoxicants on board</li> <li>H. If suicide notes are present take to hospital or leave with police as appropriate</li> <li>I. <u>Do <b>NOT</b> treat patients with interventions noted in this protocol (M411) unless symptomatic</u> <ul style="list-style-type: none"> <li>i. Some symptoms may be protective reflexes of the body</li> </ul> </li> <li>J. When in doubt contact Poison Control/Medical Control (National Poison Control Number: <b>1-800-222-1222 or local contact number: 513-636-5111</b>)               <ul style="list-style-type: none"> <li>i. EMS may contact medical command or Poison Control for toxin information.</li> <li>ii. Direct contact with EMS to poison control for treatment orders is discouraged, medical command must give treatment orders. If necessary medical command will contact Poison Control.</li> <li>iii. In cases of HAZMAT and MCI, Poison Control may be a valuable resource.</li> </ul> </li> <li>K. Because of the wide variety of possible adverse effects of assorted toxins it is not practical to detail the management of various toxic exposures. Consultation with the medical control physician can enhance the prehospital care of patients with potentially dangerous exposures and is encouraged.</li> <li>L. All Toxicological Emergency Patients should be transported as soon as possible.               <ul style="list-style-type: none"> <li>i. Transport via police is not appropriate in many situations</li> <li>ii. Reassess frequently and notify receiving facility if there are changes in patient condition or decontamination will be necessary.</li> </ul> </li> <li>M. If patient has seizure activity reference appendices C and D.</li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>N. If available, request ALS back-up for patient who has any of the following:               <ul style="list-style-type: none"> <li>i. An exposure that will require ALS intervention prior to arrival at the Emergency Department</li> <li>ii. Is unresponsive</li> <li>iii. Airway compromise</li> <li>iv. Is an adult with a pulse rate of less than 50 or greater than 130 beats per minute, or a systolic blood pressure less than 90 or greater than 180 mmHg</li> <li>v. Is a pediatric patient with a respiratory rate greater than 50 or a heart rate less than 60 or greater than 180</li> </ul> </li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>O. Establish IV/IO Access</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>P. If toxins remain on the patient wash, brush, and remove clothing as appropriate and depending on type of toxic exposure.</li> </ul> <p><b>V. EXTERNAL EXPOSURE (SKIN AND EYE CONTACT)</b></p> <ul style="list-style-type: none"> <li>1. If eye exposure, flush the eyes with normal saline or clean water.</li> <li>2. If patient has been sprayed with pepper spray (OC spray) or tear gas Sudecon<sup>®</sup> wipes can assist in decontamination.</li> <li>3. Encourage patient not to rub skin or eyes as this will spread the toxin and cause increase irritation.</li> </ul>	





M411 2014	M411 Toxicological Emergencies Academy of Medicine of Cincinnati - Protocols for SW Ohio	M411 2014
	<p><b>VI. INHALED POISONS</b></p> <ul style="list-style-type: none"> <li>A. Remember that many inhaled toxins can also be absorbed through the skin and that further decontamination may be necessary depending on toxic agent.</li> <li>B. Detect and treat any life-threatening problems immediately.</li> </ul> <p><b>VII. INGESTED POISONS</b></p> <ul style="list-style-type: none"> <li>A. Be prepared to manage the airway if ingested poison is corrosive or caustic.</li> <li>B. Determine if activated charcoal is indicated, medical control or poison control may recommend.             <ul style="list-style-type: none"> <li>1. If indicated in particular Toxicological Emergency administer as noted                 <ul style="list-style-type: none"> <li>i. Dosage for all patients is 1 gram of activated charcoal per 1 kilogram of body weight. The usual adult dosage is 25-50 grams. The usual children and infant dose is 12.5-25 grams.</li> <li>ii. Shake commercially prepared container thoroughly.</li> <li>iii. Patient may need to be persuaded to drink, consider placing in a covered container with a straw to improve compliance.</li> <li>iv. If patient does not drink immediately shake or stir the medicine again before administering because charcoal may settle in cup.</li> </ul> </li> <li>2. Contraindications                 <ul style="list-style-type: none"> <li>i. Altered mental status</li> <li>ii. Ingestion of an acid or alkali substance (hydrochloric acid, bleach, ammonia, ethanol, oven cleaners, drain cleaners, toilet bowl cleaner, lye)</li> <li>iii. Ingestion of lithium, iron or other toxic substances</li> <li>iv. Ingestion of petroleum products (paint thinner, kerosene, gasoline, cleaning fluid, fuel oil)</li> <li>v. Unable to swallow.</li> <li>vi. Ingestion that occurred more than 1 hour prior to administration of charcoal.</li> </ul> </li> </ul> </li> </ul>	
	<b>SPECIFIC TOXINS:</b>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>1. <b>ACETAMINOPHEN (TYLENOL)</b> <ul style="list-style-type: none"> <li>A. Treat symptomatically via appropriate protocols</li> <li>B. Early after acute overdose there are usually no symptoms                     <ul style="list-style-type: none"> <li>i. Due to severity of developing symptoms all patients should be transported regardless of symptoms</li> </ul> </li> <li>C. Time of overdose is important to determine and relate to hospital for further treatment</li> </ul> </li> <li>2. <b>ALCOHOL INTOXICATION</b> <ul style="list-style-type: none"> <li>A. If patient is conscious provide supportive therapy.</li> <li>B. Manage airway consistent with Airway Protocol T705</li> <li>C. If patient has seizures refer and treat with Seizure protocol M410 or P610</li> </ul> </li> <li>3. <b>ASPIRIN</b> <ul style="list-style-type: none"> <li>A. See heading: Salicylates</li> </ul> </li> <li>4. <b>BETA BLOCKER OVERDOSE</b> <ul style="list-style-type: none"> <li>A. Beta Blocker Examples:                     <ul style="list-style-type: none"> <li>a) Acebutolol (Sectral)</li> <li>b) Atenolol (Tenormin)</li> <li>c) Carvedilol (Coreg)</li> <li>d) Corzide, Inderide, Lopressor, HCT, Tenoretic, Timolide, Ziac</li> <li>e) Labetalol (Normodyne, Trandate)</li> </ul> </li> </ul> </li> </ul>	



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	<ul style="list-style-type: none"> <li>f) Metoprolol (Topral, Lopressor)</li> <li>g) Nadolol (Corgard)</li> <li>h) Pindolol (Viskin)</li> <li>i) Propranolol (Inderal)</li> <li>j) Sotalol (Betapace)</li> <li>k) Timolol (Blocadren)</li> </ul> <p>B. For patients with symptomatic bradycardia or hypotension</p>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>i. Consider glucagon 1-2 mg IV/IM/IO repeated up to 10 mg (if available) to increase heart rate and blood pressure</li> <li>ii. Consider use of Bradycardia Protocol C302 or P603 <ul style="list-style-type: none"> <li>• Atropine may be ineffective</li> <li>• Do not delay trans-cutaneous pacer for symptomatic patients</li> </ul> </li> <li>iii. Consider dopamine 5-20 mcg/kg/min to maintain blood pressure</li> </ul>	
<b>ALL</b>	<p><b>5. CALCIUM CHANNEL BLOCKER OVERDOSE</b></p> <p>A. Calcium Channel Blocker Examples:</p> <ul style="list-style-type: none"> <li>a) Amlodipine (Norvasc)</li> <li>b) Diltiazem (Cardizem, Dilacos)</li> <li>c) Felodipine (Plendil)</li> <li>d) Isradipine (Dynacirc)</li> <li>e) Nifedipine (Procardia, Adalat)</li> <li>f) Verapamil (Calan, Isoptin, Verelan)</li> </ul> <p>B. For patients with symptomatic bradycardia or hypotension</p>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>a) Consider use of Bradycardia Protocol C302 or P603 <ul style="list-style-type: none"> <li>i. Atropine may be ineffective</li> <li>ii. Do not delay trans-cutaneous pacer for symptomatic patients</li> </ul> </li> <li>b) Consider calcium gluconate, 1 g slow IV over 2 minutes <ul style="list-style-type: none"> <li>i. **A 20mL flush between Calcium and Sodium Bicarb is <u>MANDATORY</u> or a precipitate will form in the IV tubing/bag**</li> </ul> </li> <li>c) Consider glucagon, 1-2 mg IV/IM/IO to increase heart rate and blood pressure</li> <li>d) Consider dopamine 5-20 mcg/kg/min to maintain blood pressure</li> <li>e) Some calcium channel blockers will greatly effect blood glucose; assess and as appropriate via hyper/hypoglycemia protocol</li> </ul>	
<b>ALL</b>	<p><b>6. CRACK / COCAINE / AMPHETAMINE / PCP</b></p> <p>A. If chest pain/cardiovascular emergencies present treat via M400</p> <p>B. Aspirin should be withheld in the Overdose chest pain patient with consideration to patients medical history (lack of prior coronary artery disease, etc.)</p>	
<b>MEDIC</b>	<p>C. If patient is anxious or uncontrollable tremors administer Versed 5mg IM</p> <ul style="list-style-type: none"> <li>i. For seizures refer to Sz Protocol M410 or P610</li> <li>ii. For chemical restraint refer to Restraint Protocol M408</li> </ul>	



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<b>ALL</b>	<p><b>7. DIGOXIN</b></p> <p>A. Treat Digoxin Overdose symptomatically per appropriate protocols (Airway, Bradycardia, etc.)</p> <p><b>8. CYANIDE (SUSPICION OF)</b></p> <p>A. Cyanide poisoning can occur through inhalation, ingestion and absorption</p>	
<b>MEDIC</b>	<p>B. If patient was exposed to fire/smoke in confined space and cyanide poisoning is suspected or known then administer Cyanokit<sup>®</sup> if available (this is an optional drug). (There is a difference between <b>Cyanokit<sup>®</sup></b> and a <b>cyanide antidote kit</b>. The cyanide antidote kit should not be used. See notes)</p> <ul style="list-style-type: none"> <li>i. Adult dose is 5g (both 2.5g vials) IV over 15 minutes (~15 mL/minute or 7.5 minutes/vial) as per Manufacturer's recommendations (see below).</li> <li>ii. Pediatric dose is 70mg/kg <ul style="list-style-type: none"> <li>a. Each 2.5 g vial must be reconstituted with 100 mL of 0.9% NaCl using supplied sterile transfer spike. There is an indicator line on each vial representing this volume. (Normal Saline is the recommended diluent)</li> <li>b. Once filled gently rock or invert the vial to mix for 30 seconds. <b>DO NOT</b> shake the vial.</li> <li>c. If solution does not turn dark red or particulate is still present after mixing dispose of solution and do not administer.</li> <li>d. Depending on severity or clinical response a repeat dose of 5g may be given. The infusion rate for this dose can range from 15 minutes to 2 hours.</li> <li>e. Due to potential incompatibility with drugs commonly used in resuscitation effort and drugs in the cyanide antidote kit, <b>DO NOT</b> administer other drugs through the line supplying the cyanokit<sup>®</sup>.</li> </ul> </li> </ul> <p>C. If patient has seizure activity reference appendices D and E.</p>	
<b>ALL</b>	<p><b>9. DEXTROMETHORPHAN</b></p> <p>A. DXM or DM a drug commonly found in cough syrups when consumed in large dosages they can cause feelings of euphoria, hallucination, loss of motor function, and dissociative sedation.</p> <p>B. Treatment is supportive, keep patient calm and reassure as needed. Invasive treatment should be avoided unless necessary due to complicating issues such as seizure or hypotension.</p> <p>C. If ingestion has been recent consider administration of activated charcoal, unless there is increased lethargy and/or decreased gag reflex.</p>	
<b>MEDIC</b>	<p>D. DM is a semi-synthetic morphine derivative; Narcan may be administered although it does not respond with consistent action. More than likely Narcan will be most effective if patient has potentially taken opiates in conjunction with DM.</p>	
<b>ALL</b>	<p>E. If patient has seizures refer and treat with Seizure protocol M410 or P610</p> <p><b>10. EXTRAPYRAMIDAL (DYSTONIC) REACTIONS</b></p> <p>A. A patient that is currently on drug therapy of a phenothiazine (i.e. Phenergan, Thorazine or Compazine) or a butyrophenone (Haldol, Droperidol) and exhibiting signs of acute muscle spasm or motor restlessness may be suffering from an Extrapyrimal Reaction.</p> <p>B. Physical examination findings may include any of the following:</p> <ul style="list-style-type: none"> <li>a) Oculogyric crisis (spasmodic deviation of eyes in all directions generally fixed upward)</li> <li>b) Buccolingual crisis (protrusion of tongue with slurred speech)</li> <li>c) Trismus (closing of the jaw due to spasm of the muscles also called lockjaw)</li> </ul>	



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	<ul style="list-style-type: none"> <li>d) Difficulty in speaking</li> <li>e) Facial grimacing</li> <li>f) Torticollis (stiff neck causing deviation of the head with the chin pointing to the other side) crisis</li> <li>g) Opisthotonus (extreme back arching)</li> <li>h) Tortipelvic crisis - Typically involves hip, pelvis, and abdominal wall muscles, causes difficulty with walking</li> <li>i) Mental status is unaffected.</li> <li>j) Vital signs are usually normal.</li> <li>k) Remaining physical examination findings are normal.</li> </ul> <p>C. Check blood glucose, consider other possible causes</p>	
<b>MEDIC</b>	D. Consider Diphenhydramine 25-50 mg IV/IM/IO	
<b>ALL</b>	<p><b>11. OPIATE OVERDOSE</b></p> <ul style="list-style-type: none"> <li>A. Consider restraining patient before administration of naloxone (Narcan) especially if patient is unconscious upon initial contact.</li> <li>B. If patient is able to self-maintain their airway and hemodynamically stable, treatment should be supportive.</li> <li>C. If patient has a pulse but is unconscious and there is suspicion of opiate overdose, perform basic airway maneuvers (assisted respiration with BVM and NP/ OP airway) to maintain airway and ventilation. <b>Assisted respirations and basic airway maneuvers are the mainstay of treatment in an otherwise stable patient until the overdose can be reversed with naloxone.</b></li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>a. Advanced airway management with King Airway or intubation should be deferred until appropriate dose of naloxone can be given as long as the patient is otherwise stable.</li> <li>b. Patients in extremis may require advanced airway management (ie if vomiting or not able to maintain airway with good basic maneuvers and good BVM), Patients in cardiac arrest should be managed per protocol (SB204).</li> </ul> <p>D. Administer Naloxone with an initial dose of 0.4 mg - 2 mg IV/IM/IN/IO. EMT's may administer IN naloxone (see note below).</p> <ul style="list-style-type: none"> <li>a. <i>The clinical goal of naloxone administration is improvement in the patient's respirations, not complete resolution of their mental status.</i> Starting with a lower dose is preferred to prevent negative side effects. Example dosing sequence: 0.4mg, then 1mg then 2 mg until respiratory status improves.</li> <li>b. While IV/ IO naloxone may be effective within 1-2 minutes, IM and IN may take up to 5 minutes or more for full clinical effect.</li> <li>c. In patients who are completely apneic or peri-arrest (ie bradycardic, hypotensive), a larger first dose may be appropriate (ie 1-2 mg IV)</li> <li>d. In a patient who has a pulse and whose respirations can be assisted without difficulty via BVM, the preferable route of naloxone administration initially is intranasal 2 mg (1 mg per nostril). If patient condition allows, allow at least 5 minutes after IN administration before redosing.</li> </ul> <p>E. If breathing is not improved after 3-5 minutes, administer a second dose of naloxone. Continue to repeat as necessary up to total of 10 mg.</p> <ul style="list-style-type: none"> <li>a. If no improvement after 10 mg total of naloxone has been given, consider other possible causes for patient's symptoms.</li> </ul>	



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	<ul style="list-style-type: none"> <li>b. IV naloxone typically has onset (ie improvement in breathing) within 1-2 minutes, while the time to onset of IN/ IM naloxone is generally 5-8 minutes. As long as the airway can be maintained with basic maneuvers and BVM, a second dose of naloxone may be delayed beyond 5 minutes if the initial dose was IM/ IN, though up to 25% of patients may need an additional dose.</li> </ul> <p>F. Be cautious to avoid aggressive use of Narcan in patients with suspected opiate overdose as a rapid administration may cause acute withdrawal symptoms. The opiate may also be controlling aggressive side effects of other drugs that have been consumed.</p> <p>G. After naloxone administration, transport to an emergency department is recommended.</p> <ul style="list-style-type: none"> <li>a. The effective half-life of naloxone is between 45 and 90 minutes depending on the dose. The half-life of many narcotic agents is longer (2-3 hours up to 20+ hours, ie Methadone, Fentanyl, Talwin, Oxycontin), and patients generally warrant observation to avoid rebound respiratory depression when the naloxone wears off.</li> <li>b. If after giving naloxone the patient refuses transportation to the hospital for observation, they must sign to leave against medical advice per protocol SB200:</li> </ul>	
<b>ALL</b>	<p><b>12. ORGANOPHOSPHATE POISONINGS</b></p> <ul style="list-style-type: none"> <li>A. Refer to Appendix D</li> <li>B. Keep in mind tachycardia is <u>not</u> a contraindication for Atropine administration in the Organophosphate poisoning patient.</li> </ul> <p><b>13. SALICYLATES</b></p> <ul style="list-style-type: none"> <li>A. Salicylate Examples: <ul style="list-style-type: none"> <li>a) Aspirin (acetylsalicylic acid)</li> </ul> </li> <li>B. Treat symptomatically via appropriate protocols</li> <li>C. Patient may require hyperventilation consistent with metabolic acidosis <ul style="list-style-type: none"> <li>i. If EMS witnesses patient prior to respiratory arrest they may note tachypnea and should adjust assistive ventilation rate accordingly</li> </ul> </li> </ul> <p><b>14. TRICYCLIC (TCA) OVERDOSE</b></p> <ul style="list-style-type: none"> <li>A. Tricyclic antidepressants are used to treat patients with major depressive disorders and bipolar disorder.</li> <li>B. Tricyclic drugs may be found under the following names: <ul style="list-style-type: none"> <li>a) Amitriptyline (Elavil, Endep, Etrafon, Limbitrol)</li> <li>b) Nortriptyline (Palelor, Aventyl)</li> <li>c) Amoxapine (Asendin)</li> <li>d) Clomipramine (Anafranil)</li> <li>e) Desipramine (Norpramine)</li> <li>f) Doxepin (Sinequan)</li> <li>g) Imipramine (Tofranil)</li> <li>h) Protriptyline (Vivactil)</li> <li>i) Trimipramine (Surmontil)</li> </ul> </li> <li>C. Initial treatment is supportive if patient is conscious</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>D. Observe patient for hypotension and a monitor rhythm for symptomatic bradycardia or tachycardia with a prolongation of the QRS complex.</li> </ul>	

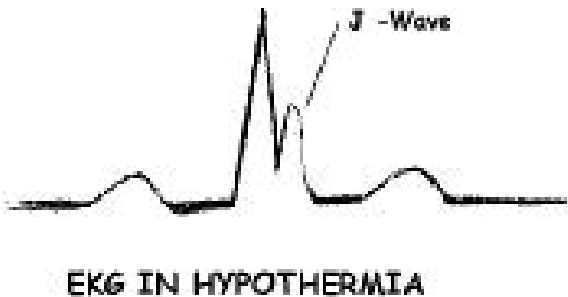


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	<ul style="list-style-type: none"> <li>i. If patient has prolonged QRS, is hypotensive, or has Ventricular Tachycardia administer Sodium Bicarbonate 1 mEq/kg, slow IV/IO over 2 minutes.</li> <li>ii. Repeat Sodium Bicarbonate 0.5 mEq/kg, IV/IO for persistent QRS prolongation.</li> </ul> <p>E. Consider Dopamine 5-20 mcg/kg/min IV/IO infusion per chart in Appendix titrated to maintain systolic blood pressure greater than 100 mmHg for hypotension unresponsive to fluids or sodium bicarbonate.</p>	
<b>Notes</b>	<ul style="list-style-type: none"> <li><b>A.</b> Since some toxic exposures have a high risk for causing rapid deterioration in the patient's mental status, the paramedic should not administer ipecac unless specifically ordered by the medical control physician.</li> <li><b>B.</b> There is a difference between <b>Cyanokit®</b> and a <b>cyanide antidote kit</b>. A cyanide antidote kit is specifically for confirmed cyanide poisonings and contains 3 different types of drugs. The nitrates in the cyanide antidote kit are contraindicated for use in patients with smoke inhalation and CO poisoning. Cyanide antidote kits may also have significant side effects that often prevent their use. The Cyanokit® contains a B12 vitamin derivative.</li> <li><b>C.</b> For more information on cyanokit® refer to, <a href="http://www.drugs.com/pro/cyanokit.html">www.drugs.com/pro/cyanokit.html</a></li> <li><b>D.</b> Administration of intranasal naloxone by EMT's was just approved on 10-16-13. Use of naloxone by EMT's is allowed only after specialized training and approval by the Medical Director. <ul style="list-style-type: none"> <li><b>1.</b> Do not use more than 1 ml of medication per nostril (0.2 to 0.3 is the ideal volume). If a higher volume is required, apply it in two separate doses allowing a few minutes between for the previous dose to absorb.</li> <li><b>2.</b> Always deliver half the medication dose up each nostril. This doubles the available mucosal surface area (over a single nostril) for drug absorption and increases rate and amount of absorption.</li> </ul> </li> </ul>	



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<b>ALL</b>	<p><b>I. DEFINITIONS</b></p> <ul style="list-style-type: none"> <li>A. True hypothermia is a body temperature less than 95° F (35°C).</li> <li>B. Mild hypothermia is a body temperature from 86 to 93°F (30-34°C).</li> <li>C. Severe hypothermia is less than 86°F (less than 30°C).</li> </ul> <p><b>II. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Patients of all ages</li> <li>B. High risk groups: elderly, infants, outdoor workers, patients with central nervous system disorders and alcoholics/drug abusers.</li> <li>C. Predisposing factors <ul style="list-style-type: none"> <li>1. Decrease of body heat due to: <ul style="list-style-type: none"> <li>i. Prolonged exposure to cold</li> <li>ii. Inadequate clothing</li> <li>iii. Intoxication</li> <li>iv. Illness and injury</li> </ul> </li> <li>2. Decrease heat production due to: <ul style="list-style-type: none"> <li>i. Malnutrition</li> <li>ii. Endocrine disorders</li> </ul> </li> <li>3. Impaired thermoregulation due to: <ul style="list-style-type: none"> <li>i. Hypoglycemia</li> <li>ii. Alcohol or drug abuse (barbiturates, phenothiazines)</li> <li>iii. Sepsis</li> <li>iv. Central nervous system disorders</li> </ul> </li> </ul> </li> <li>D. Hypothermia can occur under relatively mild weather conditions</li> <li>E. Variable presentations with a range of presenting symptoms from mild non-specific complaints to unresponsiveness.</li> <li>F. Mild symptoms include decreases in coordination, reflexes, and alertness.</li> <li>G. If unresponsive, the patient may appear pulseless with pupils fixed and dilated.</li> <li>H. Pulse rate may be severely bradycardic making a radial pulse difficult to palpate. Pulse rates should be obtained with palpation of central pulses, carotid or femoral, for at least one minute.</li> <li>I. Extremities may be stiff and resemble rigor mortis or they may be cyanotic or edematous (Frost bite).</li> <li>J. Altered/decreased mental status.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>K. Bradycardia</li> <li>L. If the core temperature falls below 89.6°F (32°C), a characteristic “J” wave, Osborne wave, can be seen. The J wave occurs at the junction of the QRS complex and the ST segment.</li> </ul>	



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<b>ALL</b>	<b>III. DIFFERENTIAL DIAGNOSIS</b> A. Cardiac arrest B. Coma C. Narcotic abuse D. Severe Shock <b>IV. PROTOCOL</b> A. Gentle handling of the patient is important to avoid introducing ventricular fibrillation.	
<b>MEDIC</b>	B. If a rapid glucose test is less than 70 mg/dL, administer glucose 25 g D50 IV. In children less than 6 years of age administer D25 at 2 mL/kg IV. Refer to M406 or P608 C. If considering opiate overdoses, administer Narcan® 0.4 to 2 mg IV. In children 0.1 mg/kg to 2 mg IV. Refer to M411 Toxicological Emergencies.	
<b>ALL</b>	<b>D. Absent pulse and breathing</b> 1. Follow Cardiac Arrest Protocol SB204 2. Maintain airway and administer oxygen. If available heat to 108-155°F (42-46°C)	
<b>EMT</b>	3. If available request ALS	
<b>ALL</b>	4. Initiate transport to a facility capable of cardiopulmonary bypass. Please refer to the Hospital capabilities survey to determine appropriate facility. 5. If possible, a patient's temperature should be documented. 6. Notify the receiving hospital	
<b>ALL</b>	<b>E. Spontaneous respirations and pulses</b> 1. Maintain airway and administer oxygen. (heated to 42 C – 46 C { 108 F – 115 F } if possible). 2. If the patient is unconscious and not able to protect their airway, refer to Airway Protocol T705.	
<b>MEDIC</b>	3. Initiate IV/IO access and begin to administer 1 Liter of normal saline (child 20 ml/kg) fluid bolus. 4. Monitor cardiac rhythm	
<b>ALL</b>	5. Notify the receiving hospital.	





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	<ul style="list-style-type: none"> <li>6. Do not massage extremities as it will cause increased cutaneous vasodilatation and decrease shivering.</li> <li>7. Do not use hot packs, these can cause serious burns as well as possibly increase mortality.</li> <li>8. Gentle evacuation is needed. Remove the victim from the cold environment, remove wet clothing, insulate with dry warm covering, cover patient's head (not face) and immobilize the patient to prevent exertion by patient.</li> <li>9. If patient also presents with frost bite: <ul style="list-style-type: none"> <li>i. Protect injured areas.</li> <li>ii. Remove clothing and jewelry from injured parts</li> <li>iii. Do not attempt to thaw injured parts with local heat.</li> <li>iv. Maintain core temperature.</li> <li>v. Severe frost bite should be transported to a burn center</li> </ul> </li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>vi. Consider vascular access and consider warmed fluids.</li> <li>vii. Apply monitor</li> <li>viii. For pain relief when the patient is conscious, alert, not hypotensive, and is complaining of severe pain, consider pain management protocol S505 and P612.</li> </ul>	
<b>ALL</b>	<b>V. NOTES</b> <ul style="list-style-type: none"> <li>A. Some special equipment may be used to warm IV fluids and oxygen, however, given the short transport times in most situations, warm blankets are probably the most practical equipment.</li> </ul>	



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<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Patients of all ages</li> <li>B. High risk groups: elderly, infants, outdoor workers, and athletes.</li> <li>C. Impaired thermoregulation due to: <ul style="list-style-type: none"> <li>1. Hypoglycemia</li> <li>2. Drugs (Anticholinergic, phenothiazines, antidepressants)</li> <li>3. Infection</li> <li>4. Central nervous system disorders.</li> </ul> </li> <li>D. Hyperthermia can occur with strenuous physical exertion and/or severe environmental conditions.</li> </ul> <p><b>II. PHYSICAL FINDINGS</b></p> <ul style="list-style-type: none"> <li>A. Variable presentations with a range of presenting symptoms from mild nonspecific complaints to unresponsiveness.</li> <li>B. Heat cramps are characterized by: <ul style="list-style-type: none"> <li>1. Muscle cramps</li> <li>2. Hyperventilation</li> </ul> </li> <li>C. Heat exhaustion is characterized by: <ul style="list-style-type: none"> <li>1. Volume depletion</li> <li>2. Fatigue</li> <li>3. Lightheadedness</li> <li>4. Headache</li> <li>6. Tachycardia</li> <li>7. Hyperventilation</li> <li>8. Hypotension</li> <li>9. Body temperature may be normal</li> </ul> </li> <li>D. Heat Stroke is a true medical emergency, it is characterized by: <ul style="list-style-type: none"> <li>1. Elevated temperature</li> <li>2. Neurological symptoms: <ul style="list-style-type: none"> <li>i. Syncope</li> <li>ii. Irritability</li> <li>iii. Combativeness</li> <li>iv. Bizarre behavior</li> <li>v. Hallucinations</li> <li>vi. Hemiplegia</li> <li>vii. Seizures</li> <li>viii. Coma</li> <li>ix. Decorticate/Decerebrate posturing</li> </ul> </li> <li>3. Classic lack of sweating can be delayed.</li> </ul> </li> </ul>	
<b>ALL</b>	<p><b>III. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. Remove patient from external heat sources.</li> <li>B. Remove patient's clothing</li> <li>C. If possible a temperature should be documented.</li> <li>D. Promote evaporative cooling by positioning fans close to undressed patient and then spraying patient with tepid water. <b>Do Not</b> cover patient with wetted sheets as this will impair evaporation.</li> <li>E. Promote conductive cooling by applying ice bags, if available, to axilla, groin, and neck. The neck is vitally important as it supplies blood to the brain.</li> <li>F. Avoid cooling patient so much that they begin to shiver as this will cause increase in body temperature.</li> </ul>	



M413 2014	M413 Hyperthermia and Heat Related Emergencies Academy of Medicine of Cincinnati - Protocols for SW Ohio	M413 2014
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>G. Establish IV access</li> <li>H. Apply Cardiac Monitor</li> <li>I. If patient appears dehydrated administer 500-1000 ml saline bolus or 20 mL/kg for children</li> <li>J. If patient begins to shiver, administer 2-4 mg versed IV or IM.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>K. When core temperature (if available) reaches 101°F (38°C) discontinue cooling efforts to prevent “overshoot” hypothermia.</li> </ul>	
<b>NOTES</b>	<ul style="list-style-type: none"> <li>L. There is no minimum body temperature for heat related illnesses. Patients can be normo-thermic with heat cramps and heat exhaustion, but are usually hyperthermic with heat stroke. The level of hyperthermia 102 to 108°F (38.8 to 42.2°C).</li> <li>M. Many patients with true heat stroke are not dehydrated, while heat exhaustion patients usually are.</li> <li>N. Shivering can begin when the skin temperature drops but the core temperature remains high. Versed is then given to stop shivering to prevent a patient’s core temperature from rising despite cooling efforts.</li> <li>O. Measuring core temperature in the pre-hospital setting is very difficult and does not correlate well to skin/temporal/tympanic temperature</li> </ul>	



M414 2014	M414 Stroke Academy of Medicine of Cincinnati - Protocols for SW Ohio	M414 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <p>A. Patient's age is 16 years or older</p> <p><b>II. DIFFERENTIAL DIAGNOSIS</b></p> <p>A. Refer to Altered Level of Consciousness Protocol SB201</p> <p>B. Identify and rule out possible causes</p> <p><b>II. PROTOCOL</b></p> <p>A. Assess Airway/Breathing/Circulation and Suspicion for Trauma</p> <p>B. Patient may or may NOT have altered level of consciousness</p> <p>C. Assess Patient for Stroke (CVA/TIA) Symptoms</p> <ol style="list-style-type: none"> <li>1. Using a standard such as the Cincinnati Prehospital Stroke Scale will allow for consistency and ease of communication with Emergency Departments</li> <li>2. Cincinnati Prehospital Stroke Scale <ol style="list-style-type: none"> <li>i. Facial Droop (ask patient to show teeth and smile).</li> <li>ii. Pronator drift (Ask patient to extend arms, palms up, with eyes closed. Watch to see if one arm drifts down. If only one arm drifts, the test is positive. If both arms drift down, the results are unclear).</li> <li>iii. Speech (ask patient to say "The Sky is Blue in Cincinnati").</li> <li>iv. Document all abnormalities.</li> </ol> </li> <li>3. Other physical findings possible: <ol style="list-style-type: none"> <li>i. Altered mental status ranging from dizziness or confusion to complete unresponsiveness.</li> <li>ii. Speech disturbances - slurred, garbled, or incomprehensible speech to complete loss of speech.</li> <li>iii. Numbness, weakness, or paralysis on one side of the body.</li> <li>iv. Weak, sagging muscles, paralysis, or loss of expression on one side of the face.</li> </ol> </li> </ol> <p>D. Ensure Glucose Level is greater than 70 mg/dL</p> <ol style="list-style-type: none"> <li>1. If hypoglycemic refer to Hyper/Hypoglycemic Protocol M406</li> </ol> <p>E. <u>Rapidly transport patient and Pre-notify Destination Emergency Department</u></p> <ol style="list-style-type: none"> <li>1. Refer to ED Capability Survey for assistance in transport destination selection</li> </ol> <p>F. Do NOT unnecessarily delay transport for treatment - make efforts to establish IVs while en route to Emergency Departments</p> <p><b>IV. NOTES</b></p> <p>A. Patients who experience transient ischemic attack (TIA) develop most of the same signs and symptoms as those who are experiencing a stroke. The signs and symptoms of TIAs can last from minutes up to one day. Thus the patient may initially present with typical signs and symptoms of a stroke, but those findings may progressively resolve. The patient needs to be transported to the hospital for further evaluation.</p> <p>B. Some patients who have had a stroke may be unable to communicate but can understand what is being said around them.</p> <p>C. Place the patient's affected or paralyzed extremity in a secure and safe position during patient movement and transport.</p>	



M414	M414 Stroke	M414
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
	<p>D. Hypertension in stroke patients should not be treated in the prehospital setting. Observations show that hypertension in a stroke patient tends to improve without drug therapy.</p> <p>E. New therapies for stroke are now available. However, successful use is only possible during a short time window after the start of symptoms. Early notification of the receiving hospital and minimizing scene time are important parts of a strategy to treat patients quickly. Do not discount rapid transport just because the “window” is over, allow the ED to determine timeframes for treatment.</p>	



M415 2014	M415 Patients with Pre-Existing Medical Devices/Drug Administrations Academy of Medicine of Cincinnati - Protocols for SW Ohio	M415 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ol style="list-style-type: none"> <li><b>I.</b> Patient's of any age</li> <li><b>2.</b> Patient has a Pre-Existing Medical Device or Drug Administrations</li> <li><b>A.</b> Pre-hospital patient with a pre-existing physician ordered medical device or drug administration ("MDDA") not covered in the provider's scope of practice</li> <li><b>B.</b> These may include but are not limited to: ventilatory adjuncts (CPAP, BiPAP), continuous or intermittent IV medication infusions (analgesics, antibiotics, chemotherapeutic agents, vasopressors, cardiac drugs), and nontraditional out-of-hospital drug infusion routes (subcutaneous infusaports, central venous access lines, direct subcutaneous infusions, self-contained implanted pumps).</li> <li><b>C.</b> Patient may have implanted adjuncts or other accompanying mechanical devices.</li> </ol> <p><b>II. PROTOCOL</b></p> <ol style="list-style-type: none"> <li><b>A.</b> When encountering a patient who has medical treatments that a Prehospital Provider has not been trained on it is the responsibility of the provider to determine the best course of treatment by utilizing (but not limited to) the following resources: <ol style="list-style-type: none"> <li>1. The patient themselves</li> <li>2. The patient's family</li> <li>3. On-line Medical Control</li> <li>4. MDDA product literature / company representative (in person or via telecommunication)</li> <li>5. Other patient care staff such as MD, RN, LPN, CNA, etc.</li> <li>6. Any other individual who has been trained in the specific care of the patient (i.e. Day Care Worker)</li> </ol> </li> </ol>	
<b>EMT</b>	<ol style="list-style-type: none"> <li><b>7.</b> EMT-Basics should request ALS back-up or intercept if they feel the patient's condition and needs exceed or may exceed their level of care.</li> </ol>	
<b>ALL</b>	<ol style="list-style-type: none"> <li><b>B.</b> Pre-existing MDDA functioning normally: <ol style="list-style-type: none"> <li>1. The Prehospital Provider should provide usual care and transportation while maintaining the pre-existing MDDA.</li> </ol> </li> <li><b>C.</b> Pre-existing MDDA not functioning normally: <ol style="list-style-type: none"> <li>1. Provider is to determine if it is in the patient's best interest to re-establish the treatment or allow the preexisting MDDA to remain as found. The Prehospital Provider is to take all reasonable steps to support the course of treatment decided upon.</li> </ol> </li> <li><b>D.</b> The best course of treatment may include medication administrations outside the provider's normal operations and prior training. <ol style="list-style-type: none"> <li>1. The Prehospital Provider is to determine the appropriate course of medical administration by utilizing available resources.</li> </ol> </li> <li><b>E.</b> If appropriate transport any extra resources/persons with the patient <ol style="list-style-type: none"> <li>1. Some medications may not be safe for an EMT-Basic or Paramedic to continue to administer without accompaniment by appropriately trained personnel most likely from a treatment clinic. If no personnel will accompany the EMS crew, discontinue medication administration. (Ex: Chemotherapy)</li> </ol> </li> </ol>	



M415 2014	M415 Patients with Pre-Existing Medical Devices/Drug Administrations Academy of Medicine of Cincinnati - Protocols for SW Ohio	M415 2014
	<p>2. If transporting a patient from the care of a higher level provider the Prehospital Providers may, if comfortable, use on-scene training during transport without the accompaniment of the higher level provider (MD, RN). The Prehospital Providers have the right to request the higher level provider accompany the patient during transport.</p> <p><b>III. NOTES:</b></p> <ul style="list-style-type: none"> <li><b>A.</b> Intention of this protocol is to supply framework for Prehospital Providers to support existing medical care to provide best outcome for patient.</li> <li><b>B.</b> Under Ohio Scope of Practice EMT-Paramedics are listed as capable of “Medication administration (Protocol approved).” This protocol serves to provide this capability for patients with a pre-existing MDDA. EMT-Basics cannot exceed their particular scope of medications for patient care.</li> <li><b>C.</b> In the ever-evolving realm of medical care it is not practical to create specific guidelines for each individual pre-existing MDDA, the provider should utilize all resources necessary to assist with patient care.</li> <li><b>D.</b> Some hospitals/emergency departments are not equipped to handle complications of certain pre-existing MDDAs. The provider should make an effort to transport to the appropriate facility based on each particular patient’s situation.</li> <li><b>E.</b> This protocol is <b>NOT</b> intended to give EMT-Basics or Paramedics authorization to attempt procedures or administer medicines outside of a patient’s previously established course of care as determined by a physician.</li> <li><b>F.</b> For patients with a Central Venous Access Device in situations requiring emergent venous access due to patient's life being in imminent danger or if patient is in cardio-respiratory arrest refer to the protocol, Emergency Use of Central Venous Access Device.</li> <li><b>G.</b> The best way to handle patients with special situations is proper identification and pre-incident planning. This will allow for the appropriate training and potential to carry pertinent supplies and information should they be needed.</li> </ul>	



S500 2014	S500 Hemorrhagic Shock with/without Suspected Head Injury Academy of Medicine of Cincinnati - Protocols for SW Ohio	S500 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years or older.</li> <li>B. Any significant extremity or truncal wound (neck, chest, abdomen, pelvis), with or without obvious blood loss or hypotension, irrespective of blood pressure. If the patient is coherent, and has a palpable radial pulse, the blood loss has likely stopped.<sup>1</sup></li> <li>C. The trauma patient <b>with a head injury</b> requires special consideration. <ul style="list-style-type: none"> <li>i. Hypotension (Systolic Blood Pressure (SBP) less than 90 mmHg) and hypoxia (Oxygen Saturation (SpO<sub>2</sub>) less than 90%) are known to exacerbate secondary brain injury.</li> <li>ii. The target SBP is 90 mmHg or greater, and improvement in any initial altered mental status.</li> </ul> </li> <li>D. Patients experiencing hemorrhagic shock <b>without a head injury</b> are only volume resuscitated when they have a decreased mental status or absent radial pulses.</li> </ul>	
<b>ALL</b>	<p><b>II. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. Aggressively manage the airway and administer Oxygen.</li> <li>B. If the patient is a victim of any blunt trauma, or a penetrating injury to the head or neck, immobilize the patient with full spinal precautions as per T704 Spinal Immobilization Protocol.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>C. If the patient is not maintaining adequate respirations, intubate with C-spine precautions if the patient will tolerate the attempt. No more than one minute should be spent attempting endotracheal intubation in patients with spontaneous breathing.</li> <li>D. Identify and treat life-threatening respiratory problems (i.e. open chest wounds, flail chest, etc.). For treatment of tension pneumothorax see T701 Tension Pneumothorax Decompression Protocol.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>E. Control all external bleeding.</li> <li>F. Begin transport as soon as possible to appropriate hospital as directed in SB211 Guidelines for Assessment/Transport of Adult Trauma Patients Protocol. Unless the patient is entrapped, scene time should be less than 10 minutes. Hospital notification should be made whenever possible.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>G. Without delaying transport, initiate 2 large bore IVs of Normal Saline (NS). Begin with a fluid bolus of 500 mL NS and reassess the patient's mental status. If no improvement, continue with an additional fluid bolus of 500 mL NS.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>H. In patients with penetrating trauma who are mentating normally and/or have a palpable radial pulse, it is acceptable to initiate and continue transport without the administration of IV fluids.</li> <li>I. Patients who are hypovolemic quickly become hypothermic. All patients should be aggressively managed to decrease body-heat loss.</li> <li>J. Continue secondary assessment throughout transport and continuously reassess mental status, perfusion and vital signs, and breath sounds at least every 5 minutes.</li> </ul>	
<b>ALL</b>	<p><b>NOTES</b></p> <ul style="list-style-type: none"> <li>A. A reasonable performance goal for an EMS system is that 90% of patients who have traumatic shock and are not entrapped should be delivered to a definitive trauma care facility within 30 minutes from the time of injury.</li> <li>B. Patients with penetrating chest trauma, abnormal mental status, and absence of a radial pulse are especially in need of immediate transport to definitive care. Early airway management per T705.</li> </ul>	





S500 2014	S500 Hemorrhagic Shock with/without Suspected Head Injury Academy of Medicine of Cincinnati - Protocols for SW Ohio	S500 2014
	<p style="text-align: center;"><b>Fluid Management for Suspected Hemorrhagic Shock from Trauma</b></p> <pre> graph TD     A["Signs/Symptoms of Shock Present Pale Skin Delayed Capillary Refill Diaphoresis Elevated Heart Rate Absent Radial Pulses Altered Mental Status (GCS&lt;15)"] --&gt; B["GCS=15"]     A --&gt; C["GCS&lt;15"]     B --&gt; D["Permissive Hypotension (2 IV's=KVO or Saline Lock)"]     C --&gt; E["Suspected Head Injury??"]     E -- NO --&gt; F["Fluid Resuscitation until Improvement in Mental Status (500ml Boluses)"]     E -- YES --&gt; G["Fluid Resuscitation to Maintain Systolic Pressure of 90 mm/Hg or Greater and SaO2&gt;90%"] </pre>	
	<p><sup>1</sup>Butler, F, J Hagmann, Butler G. Tactical Combat Casualty Care in Special Operations. Military Medicine. 1996; 161(1).</p>	



S501 2014	S501 Head or Spinal Trauma Academy of Medicine of Cincinnati - Protocols for SW Ohio	S501 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years or older.</li> <li>B. History of loss of consciousness following head injury, OR</li> <li>C. History of motor vehicle accident, diving accident, fall, or other trauma.</li> <li>D. Head contusions, abrasions, or lacerations, OR</li> <li>E. Fluid or blood from nose, ears, or mouth, OR</li> <li>F. Altered mental status.</li> <li>G. May have loss of sensation or movement.</li> <li>H. May have pain in back or neck.</li> <li>I. No signs of shock. If shock is present, refer to S500 Hemorrhagic Shock and/or Suspected Head Injury Protocol.</li> </ul>	
<b>ALL</b>	<b>II. PROTOCOL</b> <ul style="list-style-type: none"> <li>A. Aggressively manage the airway: <ul style="list-style-type: none"> <li>i. If the patient is maintaining adequate respirations, administer Oxygen .</li> <li>ii. If the patient is not maintaining adequate respirations or has an altered mental status initiate Airway management protocol (T705)</li> <li>iii. ONLY if patient has obviously asymmetric pupils, hyperventilate at 20 breaths/minute to a goal end-tidal CO2 (ETCO2 30-35mmHg).</li> </ul> </li> <li>B. Immobilize the patient with full spinal precautions as per T704 Spinal Immobilization Protocol.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>C. Begin transport as soon as possible to appropriate hospital as directed in SB211 or Geriatric Guidelines for Assessment/Transport of Adult Trauma Patients Protocol SB213.</li> <li>D. If GCS is less than 14, or spinal cord injury is suspected, then hospital notification should be made whenever possible.</li> <li>E. If signs and symptoms of altered mental status are present (i.e. suspected hypoglycemia or narcotic overdose), then check Blood Glucose and refer to SB101 Altered Mental Status Protocol.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>F. Place patient on cardiac monitor. If a dysrhythmia is present, then proceed to the appropriate protocol.</li> <li>G. Establish IV/IO access.</li> </ul>	
<b>ALL</b>	<b>NOTES:</b> <ul style="list-style-type: none"> <li>A. Shock is not usually due to head injuries. If patient is in shock, consider another cause for the hypotension.</li> <li>B. Remember that restlessness can be due to hypoxia and shock, not just head injury.</li> </ul>	



S502 2014	S502 Major Burns (Thermal or Electrical) Academy of Medicine of Cincinnati - Protocols for SW Ohio	S502 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> A. Patient of any age. B. Patient complains of shortness of breath, cough, or hoarseness. C. Any patient with electrical injury. D. Second degree burns greater than 20% of body surface area, OR E. Third degree burns greater than 15% of body surface area, OR F. Singed nasal or facial hair, soot or erythema of mouth, or respiratory distress.	
<b>MEDIC</b>	G. If EKG findings are other than normal sinus rhythm, sinus tachycardia, or atrial fibrillation with controlled ventricular response, proceed to appropriate arrhythmia protocol.	
<b>ALL</b>	<b>III. PROTOCOL</b> A. Evaluate scene for safety. B. Remove patient from source of burn including clothing. C. Maintain airway and administer oxygen. D. If patient is pulseless and apneic, intubate immediately.	
<b>MEDIC</b>	E. If patient is unconscious or has any respiratory distress, intubate immediately.	
<b>ALL</b>	F. Remove all prostheses, rings, and constricting bands from all extremities. G. Cover burns with clean, dry sheet.	
<b>MEDIC</b>	H. Initiate IV/IO access. I. Consider the administration of pain medication in alert and hemodynamically stable patients, per protocol S505.	
<b>ALL</b>	J. Transport patient to an appropriate facility capable of treating major burns. K. Notify the receiving facility. L. Consider Cyanide poisoning refer to M411 Toxicological Emergencies.	



S503	S503 Imminent Delivery (Child Birth)	S503
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <p>A. Pregnant woman who is in active labor as defined by regular, frequent uterine contractions and who feels the urge to push.</p> <p>B. Crowning of fetal part at vaginal opening.</p> <p><b>II. PROTOCOL</b></p> <p>A. Assure airway patency and administer Oxygen.</p>	
<b>MEDIC</b>	B. If time permits, establish IV access.	
<b>ALL</b>	<p>C. Assist with normal delivery.</p> <p>D. If baby is delivering in mal-presentation (e.g. foot or arm), elevate hips of mother and transport immediately.</p> <p>E. If cord is prolapsed:</p> <ol style="list-style-type: none"> <li>Relieve pressure on the cord</li> <li>Elevate hips of mother</li> <li>Keep cord moist</li> <li>Transport.</li> </ol> <p>F. If cord is wrapped about neck:</p> <ol style="list-style-type: none"> <li>Attempt manual removal</li> <li>If unsuccessful, then cut cord after clamping prior to completing delivery.</li> </ol> <p>G. Suctioning is only recommended if there is obvious obstruction to spontaneous breathing or the infant requires PPV. If suction is performed, the mouth should be suctioned first.</p> <p>H. After complete delivery, provide routine newborn care with special attention to maintenance of infant body temperature. Place infant on room air and suction if needed. Refer to newborn resuscitation protocol P600 if needed.</p> <p>I. Apply local pressure to any visible bleeding sites.</p> <p>J. Notify the receiving hospital.</p> <p>K. Resume transport to hospital with labor and delivery service.</p> <p>L. If a complication such as massive bleeding or neonatal distress occurs, proceed to nearest appropriate hospital.</p>	
<b>EMT</b>	N. If the mother or infant have any evidence of hemodynamic instability and/or if the delivery is difficult, call for immediate ALS back up.	
<b>ALL</b>	<p><b>NOTES:</b></p> <p>A. Only deliver the placenta when it has detached. Do not pull on the umbilical cord to force out the placenta as this can lead to retained placenta or uterine eversion.</p> <p>B. Pregnant teenagers being transported to the hospital for any issues related to the pregnancy (i.e. vaginal bleeding, imminent delivery, abdominal pain) should be taken to a hospital with a labor and delivery service. If uncertain where patient should be taken, then contact medical control.</p>	



S504 2014	S504 Eye Injuries Academy of Medicine of Cincinnati - Protocols for SW Ohio	S504 2014
<b>ALL</b>	<p><b>I. Inclusion Criteria</b></p> <ul style="list-style-type: none"> <li>A. History of actual or suspected eye injury.</li> <li>B. MAY have foreign body sensation or pain in eye.</li> <li>C. MAY have visible foreign body or visible globe laceration.</li> <li>D. MAY have light sensitivity.</li> <li>E. MAY have poorly reactive or non-reactive pupil.</li> </ul> <p><b>II. Protocol</b></p> <ul style="list-style-type: none"> <li>A. If there is an impaled object, stabilize it in place and cover other eye to prevent movement.</li> <li>B. If there is evidence of a penetrating eye injury such as visible globe laceration or fluid draining from the globe, cover the affected eye with a metal eye patch. Do not press on the globe.</li> <li>C. If the patient has a chemical exposure to the eye or a non-penetrating foreign body in the eye, proceed in the following manner:</li> <li>D. Begin irrigation by instilling copious amounts of tap water or normal saline.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>E. Instill two drops of 0.5% proparacaine (Alcaine) or tetracaine into the affected eye. <ul style="list-style-type: none"> <li>a. Warn the patient not to rub the eye while the cornea is anesthetized, since this may cause corneal abrasion and greater discomfort when the anesthesia wears off.</li> <li>b. After 20 minutes, a second dose of proparacaine may be given if needed.</li> </ul> </li> </ul> <p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Proparacaine administration may cause burning or stinging of the eye initially. The time until onset of anesthesia after proparacaine instillation ranges from 6 to 20 seconds.</li> <li>B. Local instillation in the eye rarely produces adverse effects. Systemic reactions are unlikely when used in recommended doses.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>C. Remember that eye injuries can cause a great deal of patient anxiety. Provide reassurance.</li> <li>D. When not contraindicated by other injuries or need for spinal immobilization, then transport the patient with the head of the bed elevated at least 30 degrees.</li> <li>E. Morgan Lens or IV tubing can be used to flush eyes.</li> <li>F. Do not use Morgan Lens or proparacaine with an open globe injury.</li> </ul>	



S505 2014	S505 Pre-Hospital Pain Management Academy of Medicine of Cincinnati - Protocols for SW Ohio	S505 2014
<b>ALL</b>	<b>I. Historical Findings</b> <ul style="list-style-type: none"> <li>A. Patient's age is 16 years and older.</li> <li>B. Patient is experiencing pain due to an isolated extremity deformity.</li> <li>C. Patient is experiencing pain due to severe burns.</li> <li>D. No history of allergy to Morphine Sulfate (MS04).</li> <li>E. Major Burns (see major burns protocol).</li> <li>F. Other painful conditions, initiate online medical control.</li> </ul>	
<b>ALL</b>	<b>II. Physical Findings</b> <ul style="list-style-type: none"> <li>A. Systolic BP is greater than 100 mmHg.</li> <li>B. No altered level of consciousness, mental status change, or suspected head injury.</li> <li>C. No signs or symptoms of circulatory shock.</li> </ul>	
<b>MEDIC</b>	<b>III. Protocol</b> <ul style="list-style-type: none"> <li>A. Perform continuous pulse oximetry and closely monitor patient's respiratory status</li> <li>B. Administer either: <ul style="list-style-type: none"> <li>a. Fentanyl 25-50 micrograms IV/IO/IN/IM or</li> <li>b. Morphine Sulfate 1-5 mg IV/IO/IM.</li> </ul> </li> <li>C. Recheck BP, respirations, and mental status.</li> <li>D. If patient's pain is not relieved and their systolic BP is greater than 100 mmHg, repeat every 5 minutes either: <ul style="list-style-type: none"> <li>a. Fentanyl 25-50 micrograms IV/IO/IN/IM or</li> <li>b. Morphine Sulfate 1-5 mg IV/IO/IM.</li> </ul> </li> <li>E. If the patients experiences persistent respiratory depression, Naloxone (Narcan) can be administered 0.4 to 2 mg IV/IO/IN or IM. Refer to M411 Toxicological Emergencies protocol.</li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>F. Consider calling for ALS response to the scene or set up a rendezvous if transport to the hospital is longer than 10 minutes.</li> </ul>	
	<b>NOTES:</b> <ul style="list-style-type: none"> <li>A. Pain medication can be given prior to splinting if the patient is hemodynamically stable.</li> <li>B. Pain control is an important medical intervention. Recent medical research indicates that the development of pain management protocols could contribute to the improvement of the patient's prehospital pain therapy. It is the intention of the Protocol Subcommittee that patients with the above-mentioned historical and physical findings are given pain relief medication.</li> </ul>	



P600 2014	P600 Pediatric Newborn Resuscitation Academy of Medicine of Cincinnati - Protocols for SW Ohio	P600 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Newborn infant.</li> <li>B. Not crying, poor or no respiratory effort, and limp muscle tone.</li> </ul> <p><b>II. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. Ensure adequate airway. Suction mouth, oropharynx, then nose.</li> <li>B. Dry infant to provide stimulation and prevent chilling. Keep the infant warm, especially the head.</li> <li>C. Check heart rate by palpating the umbilical cord or listening to the heart with a stethoscope. If less than 100, bag-valve-mask (BVM) with <b>ROOM AIR</b> at a rate of 60 per minute. If heart rate is less than 60 beats/min, despite 30 seconds of adequate BVM ventilation, begin chest compressions at a ratio of 3:1 with breaths.</li> <li>D. Consider use of a pulse-oximeter, with the probe attached to the right upper extremity (if possible), to assess any need for supplementary oxygen.</li> <li>E. Once positive-pressure ventilation or supplementary oxygen administration is begun, reassessment should consist of simultaneous evaluation of 3 clinical characteristics: heart rate, respiratory rate, and evaluation of the state of oxygenation (optimally determined by pulse oximetry rather than assessment of color). If heart rate remains less than 100 after 30 seconds of BVM ventilation, reassess airway and consider intubation. <ul style="list-style-type: none"> <li>1. FULL TERM: 3.0 - 3.5 ET tube</li> <li>2. PREMATURE: 2.5 - 3.0 ET tube</li> </ul> </li> <li>F. Assess response to intubation, again using the 3 clinical characteristics. Check the position of the endotracheal tube using an exhaled CO2 detector, and document the centimeter mark at the gum line. If heart rate less than 60, initiate cardiac compressions (1/2 – 1 inch depth) at 120 per minute. In the newborn, a chest compression to ventilation ratio of 3:1 is used. It is important that you use only enough bag pressure to move the chest. This limits the chance for pneumothorax.</li> <li>G. Contact medical control and transport as soon as possible.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>H. If heart rate is still less than 60 after 30 seconds of chest compressions and adequate assisted ventilation, consider epinephrine 1:10,000 at 0.4 mL IV (0.2 mL for preterm newborn). If vascular access is not available, then give epinephrine 1:10,000 at 0.8 mL via ET (0.4 mL for preterm newborn). Repeat epinephrine every 3 to 5 minutes until heart rate is greater or equal to 60.</li> <li>I. If hypovolemia is suspected due to blood loss at delivery, then give normal saline 40 mL (10 mL/kg) IV (20 mL for preterm newborn).</li> <li>J. Provide medical control with patient update</li> </ul>	
<b>ALL</b>	<p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Resuscitations on newborns should begin with a BVM without supplemental oxygen. Even healthy newborns that do not require resuscitation can take more than 10 minutes to reach saturations of greater than 90%. Using supplemental oxygen for newborns requiring resuscitation may worsen their neurological outcomes because of injury due to oxygen free radicals.</li> <li>B. Newborns lose heat rapidly and need to be kept warm to decrease oxygen demands and prevent metabolic acidosis.</li> <li>C. When dealing with such a short trachea, remember that slippage of even a centimeter in endotracheal tube position can result in inadvertent extubation. Reassess the airway frequently.</li> <li>D. Intubation and suctioning is reserved for newborns with thick meconium who are NON-VIGOROUS (poor respiratory effort, decreased muscle tone, AND heart rate less than 100).</li> <li>E. It is important that you inform medical control of the length of your resuscitation since the new AHA guidelines (Dec. 2010) support the PHYSICIAN discontinuation of resuscitation for newborns born without a heart beat and respirations after 10 minutes.</li> </ul>	



P600 2014	P600 Pediatric Newborn Resuscitation Academy of Medicine of Cincinnati - Protocols for SW Ohio	P600 2014
	<p>F. Decisions about resuscitating newborns with stigmata of extreme prematurity (i.e., very small, fused eyelids, gelatinous skin, etc.) should involve online medical control.</p> <p>G. Term infants who have undergone prolonged resuscitation should not be actively warmed in the pre hospital setting.</p>	





P601 2014	P601 Pediatric Pulseless Cardiac Arrest (V-Fib, V-Tach) Academy of Medicine of Cincinnati - Protocols for SW Ohio	P601 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> A. Age is younger than 16 years. B. Patient is unconscious. C. Patient is apneic. D. Patient has no pulses.	
<b>MEDIC</b>	<b>II. EKG FINDINGS</b> A. Ventricular fibrillation or ventricular tachycardia without pulse.	
<b>ALL</b>	<b>III. PROTOCOL</b> A. Ensure airway and begin ventilation with bag-valve-mask with 100% oxygen. B. Begin CPR and manage airway. C. If using AED continue following AED instructions.	
<b>EMT</b>	D. If available, request ALS back-up or arrange to intercept an ALS unit as appropriate.	
<b>MEDIC</b>	E. Apply quick look with paddles if not already monitored. F. If rhythm is ventricular fibrillation or ventricular tachycardia without pulses, defibrillate immediately at 2 joules/kg (max 200 J). G. Immediately resume CPR for 2 minutes or 5 cycles . H. Check cardiac rhythm. If PEA or asystole, use appropriate protocol. I. If ventricular fibrillation or ventricular tachycardia without pulses, resume CPR immediately while preparing to deliver shock. J. Defibrillation at 4 J/kg (max 360 J) and resume CPR immediately.	
<b>ALL</b>	K. Consider intubation.	
<b>MEDIC</b>	L. Establish IV/IO access. M. Administer Epinephrine 1:10,000 at 0.1 mL/kg IV/IO. If IV or IO is unattainable, give Epinephrine 1:1000 at 0.1 mL/kg via ET (maximum dose 5 mL). Repeat Epinephrine every 3 to 5 minutes, and follow each dose with 2 minutes of CPR or 5 cycles. N. Check cardiac rhythm. If PEA or asystole, use appropriate protocol. O. If ventricular fibrillation or ventricular tachycardia without pulses, resume CPR immediately while preparing to deliver shock. P. Defibrillate at 4 J/kg (maximum 360 joules), then resume CPR immediately. Q. Administer Amiodarone 5 mg/kg (max 300 mg) IV/IO push then resume CPR immediately. R. If Amiodarone is not available, give Lidocaine 1 mg/kg IV/IO push then resume CPR immediately, contact medical control, and continue CPR going back to step M above.	
<b>ALL</b>	<b>NOTES:</b> A. As in all pediatric cardiac arrests, airway control is a key factor in improving the odds of successful resuscitation. Both cuffed and uncuffed endotracheal tubes are acceptable for intubating infants and children. Training in inflating cuffed tubes to minimal airway occlusion pressure is important. In certain circumstances (e.g, poor lung compliance, high airway resistance, or a large glottic air leak) a cuffed endotracheal tube may be preferable to an uncuffed tube, provided that attention is paid to endotracheal tube size, position, and cuff inflation pressure (Class IIa, LOE B). B. Limit the time a pulseless patient is not getting good CPR. C. AEDs may now be used on children of ALL ages. For infants, a manual defibrillator is preferred to	



P601 2014	P601 Pediatric Pulseless Cardiac Arrest (V-Fib, V-Tach) Academy of Medicine of Cincinnati - Protocols for SW Ohio	P601 2014
	an AED for defibrillation. If a manual defibrillator is not available, an AED equipped with a pediatric dose attenuator is preferred. If neither is available, an AED without a pediatric dose attenuator may be used.	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>D. Ventricular fibrillation is rare in children, unlike adults. It is usually due to hypoxia or cardiac disease.</li> <li>E. Dilute Amiodarone by mixing 150 mg of Amiodarone in 100 mL of normal saline. This is 1.5 mg/mL.</li> <li>F. Consider the use of a stopcock for the administration of Amiodarone.</li> <li>G. When choosing joules for defibrillation in pediatric patients, round up.</li> </ul>	



P602 2014	P602 Pediatric Pulseless Cardiac Arrest (Asystole, PEA) Academy of Medicine of Cincinnati - Protocols for SW Ohio	P602 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> A. Age is younger than 16 years. B. Patient is unconscious. C. Patient is apneic D. Patient has no pulse.	
<b>MEDIC</b>	<b>II. EKG FINDINGS</b> A. There is an organized cardiac rhythm with QRS complexes indicating PEA B. Patient shows asystole in the monitor in two or more leads.	
<b>ALL</b>	<b>III. PROTOCOL</b> A. Ensure airway and begin ventilation with bag-valve-mask with 100% oxygen. B. Begin CPR and manage airway. C. Reassess airway and breathing frequently, as hypoxia is a top cause of PEA. D. If using AED continue to follow instructions.	
<b>EMT</b>	E. If available, request ALS back-up or arrange to intercept an ALS unit as appropriate.	
<b>MEDIC</b>	F. Check cardiac rhythm immediately resume CPR G. Establish IV/IO access. H. Epinephrine 1:10,000 at 0.1 mL/kg IO/IV. If vascular access is not available, then give epinephrine 1:1000 at 0.1 mL/kg via ET (maximum dose 5 mL) I. <b>Identify and treat causes</b> (see Notes below). J. Contact medical control. K. Administer normal saline 20 mL/kg IV or IO. L. If PEA persists after 3 to 5 minutes, repeat epinephrine 1:10,000 at 0.1 mL/kg (maximum dose 5 mL) IV, IO, or 1:1000 at 0.1 mL/kg per ET. M. <b>Medical control may consider the following:</b> <ol style="list-style-type: none"> <li>1. Additional 20 mL/kg fluid boluses.</li> <li>2. Needle decompression of the chest.</li> </ol>	
<b>ALL</b>	<b>NOTES:</b> A. Airway management with adequate bag-valve-mask (BVM) ventilation is a priority, and intubation should be considered if ventilation and oxygenation with BVM is difficult to maintain. B. Both cuffed and uncuffed endotracheal tubes are acceptable for intubating infants and children. Training in inflating cuffed tubes to minimal airway occlusion pressure is important. In certain circumstances (e.g., poor lung compliance, high airway resistance, or a large glottic air leak) a cuffed endotracheal tube may be preferable to an uncuffed tube, provided that attention is paid to endotracheal tube size, position, and cuff inflation pressure (Class IIa, LOE B) C. Since a main cause of PEA is hypoxia, the effectiveness of BVM ventilation and oxygenation should be reevaluated constantly. D. The reversible causes of PEA include hypovolemia, tension pneumothorax, cardiac tamponade, acidosis, and pulmonary embolism.	



P603 2014	P603 Pediatric Bradycardia Academy of Medicine of Cincinnati - Protocols for SW Ohio	P603 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> A. Age is younger than 16 years. B. Alteration of level of consciousness OR C. Evidence of poor circulation (delayed capillary refill, or weak peripheral pulses) OR D. Evidence of respiratory distress or failure.	
<b>MEDIC</b>	<b>II. EKG FINDINGS</b> A. Rhythm is sinus bradycardia for child's age.	
<b>ALL</b>	<b>III. PROTOCOL</b> <u>THE PATIENT MUST BE SYMPTOMATIC BEFORE PROCEEDING WITH THIS PROTOCOL.</u> A. Ensure airway, apply 100% oxygen, bag-valve-mask (BVM) ventilate as needed, and recheck pulse rate. B. If despite adequate oxygenation and ventilation, the heart rate is less than 60 in a newborn or child, perform chest compressions at a rate of 100 per minute.	
<b>EMT</b>	C. If available, request ALS back-up or arrange to intercept an ALS unit as appropriate.	
<b>MEDIC</b>	D. Establish IV/IO access. E. Epinephrine 1:10,000 at 0.1 ml/kg IV or IO. If vascular access is not available, then give epinephrine 1:1000 at 0.1 ml/kg via ET (maximum dose 5.0 ml).	
<b>ALL</b>	F. Reassess airway and breathing frequently. G. Contact medical control.	
<b>MEDIC</b>	H. If symptomatic bradycardia persists, repeat epinephrine IV/IO every 3 to 5 minutes. I. If symptomatic bradycardia persists, give atropine 0.02 mg/kg (min 0.1 mg, max 1 mg) IV, ET, or IO.	
<b>ALL</b>	J. Reassess airway and breathing.	
<b>MEDIC</b>	K. If hypotensive, normal saline 20 ml/kg IV push.	
<b>ALL</b>	<b>NOTES:</b> A. The most common cause of bradycardia in the child is hypoxia. Therefore attention to airway is the most important intervention. B. It is important to treat the patient and not the number. Remember that athletes may have heart rates of 40-60.	



P604 2014	P604 Pediatric Supraventricular Tachycardia (PSVT) Academy of Medicine of Cincinnati - Protocols for SW Ohio	P604 2014
ALL	<p>I. <b>INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Age is younger than 16 years</li> <li>B. Older child may complain of chest pain or rapid heart beat.</li> <li>C. Heart rate in infants less than 2 years is usually greater than 220. Heart rate in older children is usually greater than 180.</li> <li>D. The unstable patient displays signs of shock with weak or no distal pulse, delayed capillary refill, poor skin perfusion, and change in mental status.</li> </ul>	
MEDIC	<p>II. <b>EKG FINDINGS</b></p> <ul style="list-style-type: none"> <li>A. QRS duration less than 0.08 (2 little boxes).</li> <li>B. P waves may or may not be seen.</li> <li>C. Little variability in heart rate noted with respiration and movement.</li> </ul>	
ALL	<p>III. <b><u>PROTOCOL</u></b></p> <ul style="list-style-type: none"> <li>A. Maintain airway and administer Oxygen.</li> </ul>	
EMT	<ul style="list-style-type: none"> <li>B. If available, request ALS back-up or arrange to intercept an ALS unit as appropriate.</li> </ul>	
MEDIC	<ul style="list-style-type: none"> <li>C. Obtain 12 lead EKG if available</li> <li>D. <b><u>STABLE PATIENT WITH ADEQUATE PERFUSION</u></b> <ul style="list-style-type: none"> <li>1. Consider one attempt at vagal maneuvers (crushed ice to the mid face for 15 seconds).</li> <li>2. Attempt vascular access preferably in an antecubital vein.</li> <li>3. Contact medical control.</li> <li>4. Administer Adenosine 0.1 mg/kg IV rapid IV push. (Maximum first dose 6 mg) Adenosine should be administer as close to the heart as possible, preferably in the antecubital vein. Consider use of a double stopcock to administer 5 mL flush immediately.</li> <li>5. May double and repeat Adenosine once IV rapid IV push. (maximum second dose 12 mg).</li> <li>6. If the patient is conscious and <b>only on the order of a medical control physician</b> give Versed 0.1 mg/kg (max 5 mg) IV/IM or other medications as directed by medical control.</li> <li>7. <b>Only on the order of a medical control physician:</b> synchronized cardioversion 0.5 J/kg</li> <li>8. If unsuccessful, repeat synchronized cardioversion at 1 J/kg</li> <li>9. If unsuccessful, repeat synchronized cardioversion at 2 J/kg.</li> </ul> </li> <li>E. <b><u>UNSTABLE PATIENT (POOR PERFUSION):</u></b> <ul style="list-style-type: none"> <li>1. Contact medical control.</li> <li>2. If IV access has been established, preferably in an antecubital vein, medical control may consider administration of adenosine 0.1 mg/kg rapid IV push (Maximum first dose 6 mg).</li> <li>3. If IV has not been established, prepare for immediate cardioversion.</li> <li>4. If the patient is conscious and <b>only on the order of a medical control physician</b> give Versed 0.1 mg/kg (max 5 mg) IV/IM or other medications as directed by medical control.</li> <li>5. <b>Only on the order of a medical control physician:</b> synchronized cardioversion 0.5 J/kg.</li> <li>6. If unsuccessful, repeat synchronized cardioversion at 1 J/kg.</li> <li>7. If unsuccessful, repeat synchronized cardioversion at 2 J/kg.</li> </ul> </li> </ul>	
ALL	<ul style="list-style-type: none"> <li>8. Reassess ABCs, consider CPR, and transport.</li> </ul> <p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Children without underlying heart disease or myocardial dysfunction will often tolerate SVT for up to 24 hours without compromise.</li> <li>B. Round up when selecting joules on a defibrillator for cardioversion</li> </ul>	



P605 2014	P605 Pediatric Stridor Academy of Medicine of Cincinnati - Protocols for SW Ohio	P605 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Age 6 months to 6 years.</li> <li>B. Barky "seal" sounding cough with hoarse voice and stridor.</li> <li>C. May have fever and cold symptoms</li> <li>D. No history suggesting foreign body aspiration.</li> <li>E. Inspiratory and expiratory stridor at rest.</li> <li>F. Chest wall retractions.</li> </ul> <p><b>II. DIFFERENTIAL DIAGNOSIS</b></p> <ul style="list-style-type: none"> <li>A. Asthma</li> <li>B. Bacterial tracheitis</li> <li>C. Croup</li> <li>D. Epiglottitis</li> <li>E. Foreign body aspiration</li> </ul> <p><b>III. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. Keep the patient calm. You may have a parent or other trusted adult administer oxygen.</li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>B. If available, request ALS back-up or arrange to intercept an ALS unit as appropriate.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>C. Consider normal saline mist via nebulizer. This can be very helpful in croup patients.</li> <li>D. Place the patient on a cardiac monitor.</li> <li>E. Contact medical control if considering nebulized epi. <ul style="list-style-type: none"> <li>1. Medical control may order epinephrine 0.5 mL of 1:1000 solution mixed in 2.5 mL of normal saline, administered via updraft nebulizer with oxygen and a facemask.</li> </ul> </li> <li>F. Continue normal saline mist via nebulizer when the epinephrine nebulizer is complete.</li> </ul>	
<b>ALL</b>	<p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Pediatric patients with fever, drooling, and stridor should be suspected to have epiglottitis or other potential source of airway obstruction. Epiglottitis is a bacterial infection of the epiglottis that sometimes obstructs the tracheal opening. These may worsen from sticking objects such as fingers or tongue depressors in the patient's throat. These patients are best treated by reassurance and immediate transportation to the hospital. Have the patient breathe oxygen by mask or blow-by as long as this does not cause the patient to become upset.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>B. The purpose of the medical control call is to allow the medical control physician input into the decision to administer nebulized epinephrine. The potential downside to giving nebulized epinephrine is that the patient will need to be observed for 3-4 hours. If the case of croup is mild and receives nebulized epinephrine, the patient will require an unnecessarily longer emergency department stay.</li> </ul>	



P606 2014	P606 Pediatric Respiratory Distress (Obstruction or Foreign Body Aspiration) Academy of Medicine of Cincinnati - Protocols for SW Ohio	P606 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Age is younger than 16 years.</li> <li>B. Sudden onset shortness of breath in a previously well pediatric patient</li> <li>C. Patient MAY have history suggestive of foreign body aspiration such as sudden onset of shortness of breath while eating or playing with a small toy.</li> <li>D. May have decreased or no air movement on exam</li> <li>E. May have retractions and accessory muscle use as they struggle to breath</li> <li>F. May have drooling</li> <li>G. May be cyanotic secondary to hypoxia</li> <li>H. May be unconscious secondary to hypoxia</li> </ul> <p><b>II. DIFFERENTIAL DIAGNOSIS</b></p> <ul style="list-style-type: none"> <li>A. Bacterial tracheitis</li> <li>B. Croup</li> <li>C. Epiglottitis</li> <li>D. Foreign body aspiration</li> </ul> <p><b>III. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. If the patient is alert, awake, and still breathing on his or her own (partial airway obstruction): <ul style="list-style-type: none"> <li>1. Administer oxygen. If patient is a young child, have the parent help administer the oxygen.</li> <li>2. Allow patient to sit up in a position of comfort. If the patient is a young child, keep the patient with the parent and avoid unduly upsetting the child.</li> <li>3. Apply cardiac monitor.</li> <li>4. Perform patient assessment. Do not perform a throat exam.</li> </ul> </li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>5. Do not start an IV to avoid aggravating the child and worsening the airway obstruction.</li> <li>6. If wheezing, consider an albuterol nebulizer treatment.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>B. If the patient is alert, awake, and obviously choking (complete airway obstruction): <ul style="list-style-type: none"> <li>1. For the infant less than one year, give 5 back slaps and up to 5 chest thrusts. Repeat this until the obstruction is relieved or the patient is unconscious.</li> <li>2. For the child from older than 1 year old, give abdominal thrusts or Heimlich maneuver until obstruction is relieved or patient is unconscious.</li> <li>3. If the obstruction is relieved, follow Protocol Section 1, A through G above.</li> </ul> </li> <li>C. If the patient is unconscious: <ul style="list-style-type: none"> <li>1. Begin CPR and attempt to bag-valve-mask ventilate while preparations are made to intubate.</li> </ul> </li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>1. Using the laryngoscope, visualize the posterior pharynx and vocal cords for evidence of a foreign body.</li> <li>2. Remove any foreign bodies very carefully with a suction device or Magill forceps.</li> <li>3. If no foreign body is seen or patient does not begin breathing spontaneously, intubate the trachea. If you suspect a foreign body is below the vocal cords but above the carina, it may be necessary to push the foreign body down the right main stem bronchus with the ET tube in order to aerate at least the left lung.</li> <li>4. If above methods fail, perform needle cricothyrotomy (See Needle Cricothyrotomy—Pediatrics Protocol T708).</li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>5. If available, request ALS back-up or arrange to intercept an ALS unit as appropriate.</li> </ul>	



P607 2014	P607 Pediatric Respiratory Distress (Wheezing or Asthma) Academy of Medicine of Cincinnati - Protocols for SW Ohio	P607 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Age is younger than 16 years.</li> <li>B. Patient complains of worsening shortness of breath or trouble breathing.</li> <li>C. Patient USUALLY has a past medical history of asthma or seasonal allergies.</li> <li>D. Lung exam has wheezing, decreased breath sounds, or poor air exchange.</li> <li>E. May have retractions, rapid respiratory rate, or pursed lip breathing.</li> </ul> <p><b>II. DIFFERENTIAL DIAGNOSIS</b></p> <ul style="list-style-type: none"> <li>A. Bronchiolitis</li> <li>B. Foreign body aspiration</li> <li>C. Pneumonia</li> </ul> <p><b>III. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. Maintain airway and administer oxygen</li> <li>B. If the patient is in impending respiratory failure (i.e., extreme retractions, pale or cyanotic skin, and slow respirations), begin bag-valve-mask ventilation, consider intubation.</li> <li>C. Allow patient to sit up in a position of comfort.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>D. Apply cardiac monitor.</li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>E. If available, request ALS back-up for: <ul style="list-style-type: none"> <li>1. Pediatric who is wheezing, grunting, has retractions, stridor or any other signs of respiratory distress.</li> <li>2. Patient who doesn't have a prescribed inhaler and the transport time is greater than 30 minutes.</li> </ul> </li> <li>F. Confirm that the patient has a prescribed inhaler, such as Proventil/Ventolin/ProAir (generic Albuterol, Alupent/Metaprel (generic metaproteranol). An over-the-counter medication such as Bronkaid Mist, Primatene Mist, Bronitin Mist, Asthma-Haler, and Epinephrine cannot be used.</li> <li>G. Check to see if the patient has already taken any doses prior to arrival. Note time and amount.</li> <li>H. Do not use the inhaler if any of the following are present: <ul style="list-style-type: none"> <li>1. Inability of patient to use device.</li> <li>2. Inhaler is not prescribed for the patient.</li> <li>3. Medication is expired.</li> <li>4. If the patient has met the maximum prescribed dose of their inhaler according to prescription label, contact medical control.</li> </ul> </li> <li>I. Make sure inhaler is at room temperature and shake several times to mix the medication.</li> <li>J. Take oxygen mask off the patient.</li> <li>K. Tell the patient to exhale deeply and put the mouthpiece in front of the mouth. If the patient has a spacer device, it should be used.</li> <li>L. Have patient depress the metered-dose inhaler as they begin to inhale deeply.</li> <li>M. Instruct the patient to hold their breath for as long as comfortable, so the medication can be absorbed.</li> <li>N. Put oxygen mask back on the patient.</li> <li>O. Repeat a dose after one minute. If further medication is necessary beyond the patient's prescribed number of doses, contact medical control.</li> </ul>	





P607 2014	P607 Pediatric Respiratory Distress (Wheezing or Asthma) Academy of Medicine of Cincinnati - Protocols for SW Ohio	P607 2014
	P. Recheck vital signs (including pulse oximetry if available) and perform focused reassessment.	
<b>MEDIC</b>	<p>Q. Administer Albuterol (Proventil) aerosol 2.5mg in 2.5ml normal saline via mask or hand-held nebulizer depending on the age/ability of the patient. Blow-by albuterol nebulization is of NO effect and should not be used when a mask is available.</p> <p>A. Consider adding 1 vial Ipratropium Bromide (0.5mg of 0.017%) to the Albuterol aerosol. May substitute Duoneb (Albuterol plus Ipratropium Bromide that is premixed).</p> <p>R. Deliver up to a total of three albuterol or Duoneb nebulizer treatments en route if needed. Contact medical control if additional treatments are needed.</p> <p>S. If the patient is in impending respiratory failure, contact medical control for consideration of administration of epinephrine 1:1000 solution IM. The dose is 0.01 mL/kg IM (max 0.3 mL).</p>	
<b>ALL</b>	<p><b>NOTES:</b></p> <p>Wheezing in a patient WITHOUT a past medical history of asthma, may still be asthma, but should alert you to the possibility of a foreign body aspiration or pneumonia.</p>	



P608 2014	P608 Pediatric Hypoglycemia and Hyperglycemia Academy of Medicine of Cincinnati - Protocols for SW Ohio	P608 2014
<b>ALL</b>	<b>I. INCLUSION CRITERIA</b> A. Age is younger than 16 years. B. Infants less than 30 days with a blood glucose level less than 45. C. Pediatric patients older than 30 days with a blood glucose level less than 70.	
<b>MEDIC</b>	<b>II. HYPOGLYCEMIA</b> A. Place patient on monitor and obtain rhythm strip. If dysrhythmia is present, proceed to the appropriate protocol. B. Establish IV/IO access. C. Although the patient may have a normal systolic blood pressure, if he or she is tachycardic for their age or shows other signs of hemodynamic shock, start a 20 mL/kg IV/IO bolus of normal saline (max 1 liter). D. For hypoglycemia defined above, administer 1 mL/kg of D50 IV/IO push. For children less than 3 years of age or less than 15 kg, instead administer 2 mL/kg of D25 IV/IO push. E. If peripheral IV/IO access is unobtainable, administer Glucagon 1 mg IM for children 6 years of age and older. For children less than 6 years of age, use 0.5 mg of Glucagon IM. Glucagon does not work reliably in younger children, however; so after Glucagon administration, continue to attempt IV/IO access. <b>III. HYPERGLYCEMIA</b> A. Glucose Level is greater 400 mg/dL or glucometer reads "HIGH" B. Administer a fluid bolus of 20mL/Kg not to exceed 1000mL IV/IO during transport if no evidence of pulmonary edema C. Place patient on Monitor for possibility of Dysrhythmia	
<b>ALL</b>	<b>NOTES:</b> A. D25 is made by mixing D50 1:1 with normal saline. It is very important that you verify that you have a working IV/IO. Dextrose which infiltrates into the surrounding tissues can be damaging to the tissues and blood vessels. B. Especially for adolescent patients, although alcohol is a common cause of altered level of consciousness, it is rarely the cause of complete unresponsiveness. Do not let the patient's alcohol intoxication cloud your judgment. It is safer to assume that the intoxicated patient has a serious medical problem and treat accordingly than it is to conclude that the patient is "just drunk." C. Younger children are particularly prone to developing hypoglycemia from alcohol ingestions	



P609	P609 Pediatric Anaphylaxis / Allergic Reaction	P609
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Patient's age under 16 years</li> <li>B. Suspected exposure to allergen (insect sting, medications, foods, or chemicals).</li> <li>C. Patient has or complains of any of the following: <ul style="list-style-type: none"> <li>i. Respiratory difficulty</li> <li>ii. Wheezing or stridor</li> <li>iii. Tightness in chest or throat, weakness, or nausea.</li> <li>iv. Flushing, hives, itching, or swelling.</li> <li>v. Anxiety or restlessness.</li> <li>vi. Tachycardia or hypotension for age</li> <li>vii. Gastrointestinal symptoms</li> <li>viii. Swelling of the face, lips, or tongue</li> </ul> </li> </ul> <p><b>II. Anaphylaxis Definition</b></p> <p>Serious, rapid onset (minutes to hours) reaction to a suspected trigger <b>AND</b></p> <ul style="list-style-type: none"> <li>D. Two or more body systems involved (e.g., skin/mucosa, cardiovascular, respiratory, GI) <b>OR</b></li> <li>E. Hemodynamic instability <b>OR</b></li> <li>F. Respiratory compromise</li> </ul>	
<b>ALL</b>	<p><b>III. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. Maintain airway and administer Oxygen.</li> <li>B. <b>Airway assessment and management are extremely important since airway compromise may develop rapidly at anytime during the call.</b></li> </ul>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>C. Request ALS back-up for a patient who has <u>any</u> of the following: <ul style="list-style-type: none"> <li>i. hypotension</li> <li>ii. tachycardia</li> <li>iii. noisy/difficult breathing (including but not limited to wheezing &amp; stridor)</li> <li>iv. received epinephrine by auto-injector, if indicated</li> </ul> </li> <li>D. Determine if the patient has a prescribed epinephrine auto-injector (EpiPen, EpiPen Jr.) and/or albuterol metered dose inhaler available. Even if the patient's condition does not warrant medication at the time, before you leave the scene, ask to take them and any spares for the trip to the hospital. This allows for treatment en route if the patient's condition should warrant or if a second dose is ordered by medical command.</li> <li>E. Some patients may have multiple-dose auto-injectors.</li> </ul>	
<b>ALL</b>	<ul style="list-style-type: none"> <li>F. Remove allergen if possible (stinger from skin, etc).</li> <li>G. Check vital signs frequently, reactions may quickly grow more severe</li> </ul>	



P609	P609 Pediatric Anaphylaxis / Allergic Reaction	P609
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>EMT</b>	<p>H. For patients with anaphylaxis, epinephrine should be administered as soon as possible.</p> <ul style="list-style-type: none"> <li>i. For patients who have been prescribed an auto-injector administer it in accordance with manufacturer's directions after obtain patient consent.</li> <li>ii. For EMS supplied epinephrine auto-injectors, VERBAL MEDICAL DIRECTION must be obtained. <ul style="list-style-type: none"> <li>a. For patients <math>\geq 10</math>kg and <math>&lt; 25</math> kg, an EpiPen Jr® (0.15 mg epinephrine) is appropriate.</li> <li>b. For patients <math>\geq 25</math> kg, an adult EpiPen® (0.3 mg epinephrine) is appropriate.</li> <li>c. For patients <math>&lt; 10</math>kg, auto-injector administration is not appropriate.</li> </ul> </li> <li>iii. Auto-injector administration may be repeated every 5 – 15 minutes as needed</li> </ul> <p>I. If epinephrine auto-injector is to be administered, then:</p> <ul style="list-style-type: none"> <li>i. Assure injector is prescribed for the patient. (if patient's personal injector)</li> <li>ii. Check medication for expiration date.</li> <li>iii. Check medication for cloudiness or discoloration.</li> <li>iv. Remove safety cap from injector.</li> <li>v. Select appropriate injection site (see notes). If possible, remove clothing from the injection site. If removing the clothing would take too much time, the auto-injector can be administered through clothing.</li> <li>vi. Push injector firmly against site.</li> <li>vii. Hold injector against the site for a <u>minimum of ten seconds</u>.</li> <li>viii. Keep injector to give to hospital personnel upon arrival.</li> </ul> <p>J. If bronchospasm or wheezing is present assist patient with inhaler if they have one per Pediatric Respiratory Distress Protocol P607.</p>	
<b>MEDIC</b>	<p>K. Administer epinephrine 0.01 mL/kg 1:1000 solution intramuscularly (IM) (max 0.3 mL) in the anterolateral thigh if patient is in anaphylaxis. May repeat dose every 5 – 15 minutes as needed.</p> <p>L. Monitor cardiac rhythm</p> <p>M. If bronchospasm or wheezing is present, administer albuterol (Proventil) 2.5mg via nebulizer, and treat per Pediatric Respiratory Distress protocol P607. Albuterol may be used without preceding epinephrine in patients with isolated, very minimal respiratory symptoms.</p> <p>N. Initiate IV access. If the patient is hypotensive, begin 20 mL/kg normal saline IV bolus (max 1 L) wide open.</p> <p>O. Administer diphenhydramine 1 mg/kg IV/IM/PO (max 50 mg). Diphenhydramine may be used without preceding epinephrine in patients with isolated rash and no other symptoms.</p> <p>P. If hypotension still persists, consider dopamine infusion 5-20 mcg/kg/min titrated to effect to maintain systolic blood pressure. See chart in M401.</p>	



P609	P609 Pediatric Anaphylaxis / Allergic Reaction	P609
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014
<b>ALL</b>	<p><b>IV. NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Anaphylaxis is extremely rare in babies. Without the history of sudden onset of rash and difficulty breathing, most babies with rashes and tachypnea have respiratory infections responsible for their symptomsB. Epinephrine is the drug of choice and the first drug that should be given in acute anaphylaxis.</li> <li>C. Intramuscular injection leads to faster and more consistent blood levels than subcutaneous administration and is thus the standard of care</li> <li>D. Anterolateral thigh IM injection is preferred over deltoid IM injection</li> <li>E. As injection into purely adipose tissue may be less effective, it may be preferable to use the distal anterolateral thigh rather than the proximal anterolateral thigh in obese patients.</li> <li>F. In the absence of reliable weight estimates, age 1 year may be used to initiate the use of the EpiPen Jr, and age 7 years may be used to initiate the use of the adult EpiPen.</li> </ul>	



P610 2014	P610 Pediatric Seizure Academy of Medicine of Cincinnati - Protocols for SW Ohio	P610 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Age is younger than 16 years.</li> <li>B. Recent suspicion of seizure activity based upon description from eyewitnesses, parents, or caretakers</li> <li>C. Patient may or may not have a known history of seizure disorder</li> <li>D. The patient may currently display seizure activity.</li> <li>E. The patient may now be postictal ("after seizure") with a decreased level of consciousness.</li> <li>F. The patient may have focal neurological deficits, which should be noted.</li> <li>G. The patient may have a fever.</li> </ul> <p><b>II. DIFFERENTIAL DIAGNOSIS</b></p> <ul style="list-style-type: none"> <li>A. Refer to Altered Level of Consciousness Protocol SB201</li> </ul> <p><b>III. PROTOCOL</b></p> <ul style="list-style-type: none"> <li>A. Maintain airway and administer oxygen</li> <li>B. Immobilize C-spine if evidence or history of significant trauma, otherwise position the patient in the lateral recumbent position to reduce the risk for aspiration with vomiting.</li> <li>C. Suction as needed.</li> <li>D. Check Glucose in all actively seizing patients. Treat according to protocol P608</li> <li>E. Place on cardiac monitor (if available)</li> <li>F. For suspicion of overdose go to the Toxicological protocol M411 or P611.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>G. Initiate IV/IO access</li> <li>H. If patient has been actively seizing for at least 5 minutes, <ul style="list-style-type: none"> <li>a. If patient is between 13kg and 40kg give Midazolam (Versed) 5mg IM.</li> <li>b. Alternately give Midazolam (Versed) 0.1 mg/kg IV/IO/IN/IM (max 5 mg).</li> <li>c. Above 40 kg treat with adult dosing M410</li> </ul> </li> <li>I. Be prepared to support the patient's airway (nasopharyngeal airway) and breathing (bag valve-mask ventilation) if necessary.</li> </ul>	
<b>ALL</b>	<p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Trauma to the tongue is unlikely to cause serious problems, but trauma to teeth may. Attempts to force an airway into the patient's mouth can completely obstruct the airway. Use of a nasopharyngeal airway may be helpful.</li> <li>B. Most patients will be postictal upon your arrival, needing only oxygen and airway maintenance.</li> <li>C. In children and especially infants, seizure activity may not always be in the form of generalized tonic-clonic activity (i.e., grand-mal). Sometimes eye-deviation or unusual repetitive movements like lip smacking may be the only indication of seizure. Trust the parent's or caretaker's impressions of what is and is not seizure activity in a child with a known seizure disorder (e.g., children with special needs).</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>D. If the patient is in the third trimester of pregnancy or up to 6 weeks postpartum AND is actively seizing, AND has no known seizure history, consider administration magnesium sulfate 4 g slowly IV over 15 minutes. <ul style="list-style-type: none"> <li>ii. Magnesium is diluted by mixing 4 gm/8 mL in a 20 mL syringe diluted with 12 mL of Normal Saline.</li> <li>iii. Be cautious of hypotension caused by Magnesium.</li> <li>iii. Transportation of patient to a hospital with Obstetrical Services is <b>IMPORTANT</b></li> </ul> </li> <li>E. Please be aware that rectal Valium (Diasat) may have been administered to children with known seizure disorders prior to EMS arrival. This is especially true of children with special healthcare needs. Adding Versed on top of rectal Valium will exacerbate respiratory depression.</li> </ul>	



P610 2014	P610 Pediatric Seizure Academy of Medicine of Cincinnati - Protocols for SW Ohio	P610 2014
	F. Most typical febrile seizures last less than 5 minutes and stop on their own without medications. A seizure, which has lasted longer than 5 minutes and is associated with fever, may not be a typical febrile seizure, and should be treated with Versed just as any other seizure lasting longer than 5 min.	



P611 2014	P611 Pediatric Toxicological Emergencies Academy of Medicine of Cincinnati - Protocols for SW Ohio	P611 2014
<b>ALL</b>	<p>I. <b>INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Age is younger than 16 years.</li> <li>B. History of actual or possible poisoning either through ingestion, inhalation, or skin exposure</li> <li>C. Patient has a NORMAL level of consciousness. For altered mental status, refer to appropriate pediatric protocol.</li> <li>D. Normal systolic blood pressure for age.</li> </ul> <p>II. <b><u>PROTOCOL</u></b></p> <ul style="list-style-type: none"> <li>A. Evaluate scene for provider safety. Ensure ABCs are intact.</li> <li>B. Administer Oxygen.</li> <li>C. Assess breath sounds, circulation, level of consciousness and then obtain vital signs.</li> <li>D. If the patient has altered mental status, refer to the appropriate pediatric protocol.</li> <li>E. If the toxin remains on the patient, wash or brush off as appropriate. See App D and App E Contaminated Patient Protocol.</li> <li>F. If there is eye exposure, flush the eyes with normal saline.</li> <li>G. If patient has ingested medication or other substance, obtain container(s), if available, and bring them with the patient to the emergency department.</li> <li>H. Reassess breath sounds, circulation, level of consciousness, and vital signs frequently. If there is any change in these, notify medical control or the receiving hospital.</li> </ul>	
<b>MEDIC</b>	<p>I. If the patient has signs of a possible narcotic overdose such as pinpoint pupils, slow respirations, needle tracks on the antecubital fossa, or injection paraphernalia nearby, then consider administering Naloxone (Narcan<sup>®</sup>) IV/IM/IN/IO. The dose is 0.1 mg/kg (max 2 mg) per protocol M411.</p>	
<b>ALL</b>	<p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Because of the wide variety of possible adverse effects of assorted toxins, it is not practical to detail the management of various toxic exposures. Consultation with medical control can enhance the prehospital care of patients with potentially dangerous exposures and is encouraged</li> <li>B. Ipecac is no longer recommended under any circumstances for ingestions</li> </ul>	





P612 2013	P612 Pediatric Pain Management Academy of Medicine of Cincinnati - Protocols for SW Ohio	P612 2013
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. <b>Ages 5 to less than 16 years of age</b></li> <li>B. Patients experiencing pain due to isolated extremity deformity</li> <li>C. Patients experiencing pain due to burns</li> <li>D. Patients with other painful conditions—contact online medical control</li> <li>E. Excludes patients with history of allergy to morphine sulfate</li> <li>F. Systolic blood pressure greater than <math>(2 \times \text{age in years}) + 70</math></li> <li>G. No altered level of consciousness, mental status change, or suspected head injury</li> <li>H. No signs or symptoms of hemodynamic shock</li> </ul> <p><b>II. <u>PROTOCOL</u></b></p>	
<b>EMT</b>	<ul style="list-style-type: none"> <li>A. Consider calling for ALS response to the scene or set up a rendezvous if transport to the hospital is longer than 10 minutes.</li> </ul>	
<b>MEDIC</b>	<ul style="list-style-type: none"> <li>B. Perform continuous pulse oximetry and closely monitor patient's respiratory status.</li> <li>C. Administer a <b>single dose</b> of either <ul style="list-style-type: none"> <li>1. Fentanyl 1 microgram/kg IV/IO (max 50 mcg for pain) – administer over 3-5 minutes slow IV push to prevent rigid chest.</li> <li>2. Fentanyl 2 micrograms/kg Intranasal (max 100 mcg for pain) – Use the undiluted injectable fentanyl product (100 mcg/2 mL), draw up an extra 0.1 mL of drug solution to prime the atomizer and administer a max of 1 mL per nostril (if giving to larger kid and need to use 100 mcg, you should use the same atomizer for both nostrils).</li> <li>3. Morphine sulfate 0.1 mg/kg IV/IO or IM (maximum dose 5 mg).</li> </ul> </li> <li>D. Recheck blood pressure, respirations, and mental status after 10 mins.</li> <li>E. If the patient experiences a drop in systolic blood pressure to less than <math>(2 \times \text{age in years}) + 70</math>, give a 20 mL/kg normal saline IV bolus.</li> <li>F. <b>If patient's has an allergy to Opioids and or pain is not relieved or for subsequent doses, contact online medical control.</b></li> </ul>	
<b>ALL</b>	<p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. In general, pain medications can and should be given prior to splinting.</li> <li>B. An injured extremity found cool, with poor pulses should be splinted prior to administration of pain medications.</li> <li>C. <b>When dosed appropriately, complications such as respiratory depression and hypotension are as rare in children.</b></li> <li>D. Pain control is an important medical intervention. Medical research proves that children are treated for pain much less often than adults with the exact same injuries. It is the intention of the Protocol Subcommittee that pediatric patients with burns and isolated fractures who meet the above criteria be given pain relief medication</li> </ul>	



P613 2014	P613 Pediatric Head or Spinal Trauma Academy of Medicine of Cincinnati - Protocols for SW Ohio	P613 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Age is younger than 16 years.</li> <li>B. History of MVC, diving accident, fall, or other trauma</li> <li>C. History of a loss of consciousness following head injury</li> <li>D. Infant “found down” from unknown etiology or infant with suspicion of physical abuse.</li> <li>E. Head contusions, abrasions, or lacerations</li> <li>F. Fluid or blood form nose, ears, or mouth</li> <li>G. Altered mental status</li> <li>H. May have loss of sensation or movement</li> <li>I. May have pain in back or neck.</li> <li>J. No signs of shock. If shock is present, refer to Hemorrhagic Shock Protocol P614.</li> </ul> <p><b>II. <u>PROTOCOL</u></b></p> <ul style="list-style-type: none"> <li>A. Control the airway and administer Oxygen .</li> <li>B. If altered mental status, assure good oxygenation and ventilation of the patient and maintain control of the C-spine. ONLY if the patient has obvious asymmetric pupils with altered mental status, hyperventilate to 30 breaths/minute</li> <li>C. Immobilize patient with appropriately sized equipment.</li> <li>D. Begin transport as soon as possible to destination hospital as directed in Trauma Triage Protocol SB212.</li> <li>E. Obtain vital signs and monitor cardiac rhythm</li> <li>F. Assess a GCS or level of consciousness using the AVPU scale.</li> <li>G. If hypoglycemia is suspected, then check glucose. If glucose is less than 70 then refer to Pediatric Hypoglycemia protocol P608.</li> <li>H. If GCS is less than 14 or the patient is not an “A” on the AVPU scale or spinal cord injury is suspected, then contact the receiving hospital.</li> <li>I. If narcotic overdose is suspected, then refer to Toxicological Protocol</li> </ul> <p><b>III. NOTES</b></p> <ul style="list-style-type: none"> <li>A. Shock is not usually due to head injuries. If patient is in shock, consider another cause for hypotension.</li> <li>B. Remember that restlessness can be due to hypoxia and shock, not just head injury.</li> <li>C. In any multiple trauma patients, spine trauma should be assumed until proven otherwise in a hospital emergency department.</li> </ul>	



P614 2014	P614 Pediatric Hemorrhagic Shock with/without Suspected Head Injury Academy of Medicine of Cincinnati - Protocols for SW Ohio	P614 2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <p><b>A. Age is younger than 16 years</b></p> <p><b>B.</b> Significant penetrating injury to extremities or trunk (neck, chest, abdomen, pelvis), with suspected blood loss and risk for hypotensive shock.</p> <p><b>C.</b> The trauma patient with suspected head injury in addition requires special considerations.</p> <p><i>i.</i> Hypotension and Hypoxia (Oxygen Saturation (SpO2) less than 90%) are known to secondarily exacerbate brain injury.</p> <p><i>ii.</i> The target SBP is [70+ (2 x age)] or greater, and improvement in any initial altered mental status.</p>	
<b>ALL</b>	<p><b>II. PROTOCOL</b></p> <p><b>A.</b> Aggressively manage the airway; if patient is maintaining adequate respirations, administer Oxygen.</p> <p><i>i.</i> If patient is not maintaining adequate respirations, support with bag-valve mask ventilations.</p> <p><b>B.</b> Identify and treat live-threatening respiratory problems (i.e. open chest wounds, flail chest). See Protocol T701 for management of Tension Pneumothorax.</p> <p><b>C.</b> If patient is a victim of any blunt trauma, or a penetrating injury to the head or neck, immobilize patient with full spinal precautions as per Protocol T704.</p> <p><b>D.</b> Control all external bleeding</p> <p><b>E.</b> Aggressively manage to decreased body-heat loss. Hypovolemic patients rapidly become hypothermic.</p> <p><b>F.</b> Transport as soon as possible to appropriate hospital as directed in Trauma Triage Protocol. Unless the patient is entrapped, scene time should be less than 10 minutes. Hospital notification should be made whenever possible.</p> <p><b>G.</b> Continuously reassess mental status, breath sounds, perfusion, and vital signs every 5 min.</p> <p><b>H.</b> Continue secondary assessment throughout transport.</p> <p><b>I.</b> For patients with penetrating trauma and no suspected head injury who are mentating normally with palpable peripheral pulses, it is acceptable to initiate and continue transport without IV/IO fluids</p>	
<b>MEDIC</b>	<p><b>J.</b> For patients whose mental status and/or peripheral pulses require IV/IO fluids resuscitation, initiate a minimum of one IV/IO without delaying transport. Syringe push 20 mL/kg of normal saline and reassess the patient's mental status and/or peripheral pulses. If no improvement, repeat fluid bolus and contact medical control</p> <p><b>III. NOTES</b></p> <p><b>A.</b> Patients experiencing hemorrhagic shock <b>without suspected head injury</b> are only bolused with IV/IO fluids for decreased mental status or absent peripheral pulses.</p>	



AGE	0-3 m		6 m		9-24 m		3 y		6 y		8 y		10 y		12 y		14 y	
	Lbs		11		20		30		40		50		60		80		100	
WEIGHT	kg		5		10		15		20		25		30		40		50	
VITAL SIGNS	Low Limit Systolic BP		Pulse		ET size													
	60-70		100-180		3.0-3.5		70-75		80-140		70-130		70-130		60-120		60-120	
AIRWAY																		
DRUGS <sup>4</sup>	Amiodarone (Cordarone <sup>®</sup> ) <sup>1</sup> - 5 mg/kg - IV/IO		15 mg		25 mg		50 mg		75 mg		100 mg		125 mg		150 mg		200 mg	
	Atropine - ET/IV/IO		0.1 mg		0.1 mg		0.2 mg		0.3 mg		0.4 mg		0.5 mg		0.6 mg		0.8 mg	
	Diphenhydramine (Benadryl) <sup>1</sup> - mg/kg						10 mg		15 mg		20 mg		25 mg		30 mg		40 mg	
	IM/IV																	
	Bicarbonate 4.2% - IV/IO		6 mL		10 mL													
	Bicarbonate 8.4% - IV/IO				10 mL		10 mL		15 mL		20 mL		25 mL		30 mL		40 mL	
	Dextrose 25% <sup>2</sup> - IV/IO		6 mL		10 mL		20 mL										50 mL	
	Dextrose 50% - IV/IO						15 mL		20 mL		25 mL		30 mL		40 mL		50 mL	
	Epinephrine 1:10,000 - IV/IO		0.3 mL		0.5 mL		1 mL		1.5 mL		2 mL		2.5 mL		3 mL		4 mL	
	Epinephrine 1:1000 - ET		0.3 mL		0.5 mL		1 mL		1.5 mL		2 mL		2.5 mL		3 mL		4 mL	
	Epinephrine 1:1000 - Intramuscular (IM)				0.05 mL		0.1 mL		0.15 mL		0.2 mL		0.25 mL		0.3 mL		0.3 mL	
	Glucagon <sup>3</sup> - IM		0.5 mg		0.5 mg		0.5 mg		1 mg		1 mg		1 mg		1 mg		1 mg	
IV/IO FLUID <sup>4</sup>	Normal Saline Bolus (20 mL/kg)		60 mL		100 mL		200 mL		300 mL		400 mL		500 mL		600 mL		800 mL	
DEFIBRILLATOR <sup>4</sup>	Round up to closest #		6 J		10 J		20 J		30 J		40 J		50 J		60 J		80 J	

<sup>1</sup> Mix 150 mg of Amiodarone in 100 mL of normal saline for a 1.5 mg/mL solution

<sup>2</sup> Mix 1/2 amp of D50 (25 mL) with 25 mL of normal saline

<sup>3</sup> One unit is equal to 1 mg

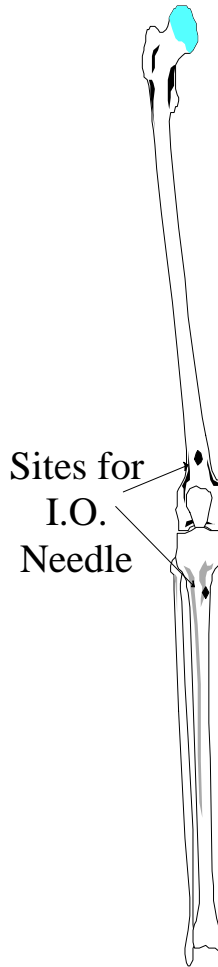
<sup>4</sup> September 2009. Use of a Broslow tape also is acceptable for dosages.


T700 2014	T700 External Pacemaker Academy of Medicine of Cincinnati - Protocols for SW Ohio	T700 2014
<b>MEDIC</b>	<p><b>I. INDICATIONS</b></p> <p>A. Patient's age is 16 years or older.</p> <p>B. Indications for use of external / transcutaneous pacemaker consistent with this protocol</p> <p><b>II. CONTRAINDICATIONS</b></p> <p>A. Patient's age is younger than 16 years.</p> <p><b>III. <u>PROTOCOL</u></b></p> <ol style="list-style-type: none"> <li>1. Connect pacing electrodes and cables. <ol style="list-style-type: none"> <li>i. Monitor/Pacer/Defib devices require the limb leads to be placed for demand mode pacing</li> <li>ii. Asynchronous (non-demand) pacing mode is generally not desired, pacer should normally be in demand-mode</li> </ol> </li> <li>2. Begin pacing at a rate of 60-80 with current output at 20 mA. Increase current output every 10 seconds until either cardiac (electrical and mechanical) capture occurs or maximal output is reached.</li> <li>3. Do not discontinue pacer if the patient complains of significant pain from the pacemaker when treatment is necessary for stability. <ol style="list-style-type: none"> <li>i. Do NOT delay initial treatment of unstable patients for IV/IO access or drug administration.</li> </ol> </li> <li>4. For sedation, consider administration of midazolam 2-5mg IV/IM/IN/IO</li> <li>5. If capture occurs, reassess peripheral pulses and vital signs.</li> </ol> <p><b>NOTES:</b></p> <p>A. Remove any nitroglycerin or other transdermal patches or pads before pacing or defibrillating.</p> <p>B. Consider sedating fully-conscious patients prior to pacing.</p> <ol style="list-style-type: none"> <li>1. Consider other treatment options for fully-conscious patients prior to sedation solely for pacing treatment</li> <li>2. Initially unconscious patients may require sedation after treatment due to improving mental status</li> </ol> <p>C. It is generally not accepted practice to use a pacemaker on patients in cardiac arrest (AHA 2010)</p>	



T701 2014	T701 Tension Pneumothorax Decompression Academy of Medicine of Cincinnati - Protocols for SW Ohio	T701 2014
<b>MEDIC</b>	<p><b>I. INDICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Patients of all ages.</li> <li>B. Patient with one or more signs and symptoms of Tension Pneumothorax <ul style="list-style-type: none"> <li>1. Absent breath sounds on affected side (possible to be both sides simultaneous)</li> <li>2. Respiratory distress</li> <li>3. Hypotension</li> <li>4. Asymmetric chest rise and fall</li> <li>5. Jugular Vein Distention (JVD)</li> <li>6. Tracheal Shift away from affected side (late sign)</li> <li>7. Difficulty with manual ventilation, decreased tidal volume</li> <li>8. Hypoxia</li> </ul> </li> </ul> <p><b>II. DIFFERENTIAL DIAGNOSIS</b></p> <ul style="list-style-type: none"> <li>A. Simple pneumothorax without tension</li> <li>B. Hemothorax</li> <li>C. Cardiac tamponade</li> </ul> <p><b>III. COMPLICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Hemorrhage from vessel laceration.</li> <li>B. Creation of a pneumothorax if one was not already present.</li> <li>C. Laceration of the lung.</li> <li>D. Infection.</li> </ul> <p><b>IV. <u>PROCEDURE</u></b></p> <ul style="list-style-type: none"> <li>A. Maintain airway and administer oxygen. Discontinue automatic ventilator if using.</li> <li>B. Fully expose the entire chest and clean the procedure area of the affected side</li> <li>C. Prepare for the procedure using appropriate commercial device or one of three techniques: <ul style="list-style-type: none"> <li>1. Attach a 2" or longer large bore (10 – 14 gauge) IV catheter and needle to a large syringe (3 inch 10 gauge preferred)</li> <li>2. Use the IV catheter and needle with a one-way, multiposition valve (3 way stopcock), or commercial device</li> <li>3. Use the IV needle and catheter alone leaving it open to air</li> </ul> </li> <li>D. Insert the large bore IV catheter and needle assembly in one of two locations: <ul style="list-style-type: none"> <li>1. Over the top of the rib in the second or third intercostal space in the midclavicular line</li> <li>2. Over the top of the rib of the fifth or sixth intercostal space in the midaxillary line</li> </ul> </li> <li>E. If a tension pneumothorax is present, then a rush of air may be heard or the plunger of the syringe will be easy to pull back.</li> <li>F. Remove the needle from the catheter and leave the plastic catheter in place.</li> </ul> <p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Tension pneumothorax is rare; but when present, it must be treated promptly.</li> <li>B. Non-tension (simple) pneumothorax is relatively common, is not immediately life threatening and should not be treated in the field.</li> <li>C. Positive pressure ventilation may lead to the development of a pneumothorax and to rapid progression to tension pneumothorax.</li> </ul>	



T702 2014	T702 Pediatric Intraosseous Infusion Academy of Medicine of Cincinnati - Protocols for SW Ohio	T702 2014
MEDIC	<p>I. <b>INCLUSION CRITERIA</b></p> <p>A. Age younger than 16 years.</p> <p>II. <b>INDICATIONS</b></p> <p>A. Emergency vascular access for the pediatric patient when peripheral intravenous access is unavailable.</p> <p>B. Cardiopulmonary arrest (non-breathing and absent central pulses).</p> <p>C. The patient must have uncompensated shock (absent peripheral pulses or systolic blood pressure less than 70 mm Hg) when a peripheral IV cannot be established after two attempts (attempts can include actual venipunctures or looking at two different sites to find a vein).</p> <p>III. <b>CONTRAINDICATIONS</b></p> <p>A. Use of a limb with a suspected fracture or prior puncture of the bone since fluid will leak out.</p> <p>B. Placement through an infected or burned area unless this is the only available site.</p> <p>IV. <b>COMPLICATIONS</b></p> <p>A. Extravasation (leaking / effusion) of fluids into the subcutaneous tissue</p> <p>B. Infection of tissue or bone needle</p> <p>C. Injury to the epiphysis (growth plate)</p> <p>V. <b><u>PROCEDURE</u></b></p> <p>A. The preferred site is the proximal tibia, one fingerbreadth (1-3 cm) below the prominence (tibial tuberosity) on the flat anteromedial surface. A different bone should be chosen if the primary bone is fractured or the overlying skin is burned or infected. A secondary site is the distal femur in the midline approximately 3 cm above the patella.</p> <p>B. Prep the skin.</p> <p>C. Adjust the bone marrow needle for insertion by lowering the depth guard to cover about ¼ to ½ of the needle.</p> <p>D. Insert a 15-18-gauge bone marrow needle through the skin with the point directed at a slight angle away from the knee (away from the growth plate). Use a boring or screwing motion until a give is felt upon entering the marrow cavity. If a pop or give is not felt, then raise the depth guard on the needle and continue to apply pressure.</p> <p>E. Remove the stylet and attempt to flush the needle with IV solution. If the solution can be flushed and there is no evidence of swelling around the site, then the needle can be safely assumed to be in the correct place. If resistance is met, then try to pull the needle back slightly and flush again. If still unsuccessful, then remove needle and try again in a different bone.</p> <p>F. Attach IV tubing with stopcock to needle.</p> <p>G. Screw the flange of the needle so it is flush to the skin and tape it in place.</p> <p>H. Begin infusion of medications and fluids (a pressure bag or a syringe may be needed).</p> <p>I. If using an IO insertion device, follow manufacturer instructions.</p> <p>VI. <b>Notes:</b></p> <p>A. Medications and fluids should be given push since gravity flow is often slow.</p> <p>B. If unable to push fluid from the syringe, consider the following:</p> <p>a. If "pop" was not felt, continue advancing needle until pop is felt.</p>	



T702 2014	T702 Pediatric Intraosseous Infusion Academy of Medicine of Cincinnati - Protocols for SW Ohio	T702 2014
	<ul style="list-style-type: none"> <li>b. A piece of bone may be blocking the end of the needle. Reinsert the stylet, remove it, and reattempt to push fluid</li> <li>c. The tip of the needle may have gone through the marrow cavity and is in the other side of the bone. Slowly pull back the needle while pushing fluids from the syringe. When you are able to push fluid from the syringe easily without swelling around the site, secure the needle in place and continue giving fluids and medications.</li> </ul> <p>C. If there is swelling around the site due to fluids in the soft tissues, consider the following:</p> <ul style="list-style-type: none"> <li>a. The fluid may be leaking from a previous puncture site.</li> <li>b. It may be leaking through the hole around the needle, which was enlarged by bumping or jiggling the needle.</li> <li>c. The needle may have gone all the way through the bone and the fluid is leaking from the end of the needle on the other side. You must remove the needle and attempt access in another bone.</li> </ul>	





T703 2014	T703 Emergency Use of Central Access Device (CVAD) Academy of Medicine of Cincinnati - Protocols for SW Ohio	T703 2014
<b>MEDIC</b>	<p><b>I. INDICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Patients of all ages</li> <li>B. Emergent venous access when patient's life is in imminent danger or patient is in cardio-respiratory arrest, and;</li> <li>C. A peripheral IV cannot be established after two attempts (attempts can include actual venipunctures or looking at two different sites to find a vein), and;</li> <li>D. An IO cannot be established, and;</li> <li>E. Patient has central venous access device (CVAD) present.</li> </ul> <p><b>II. DEVICES</b></p> <ul style="list-style-type: none"> <li>A. Indwelling Catheter(s) – Venous access devices whose ports are Luer-locked or capped. Tip of the catheter is located in large vein or superior vena cava. Available brands include Hickman, PICC Line, and Midline.</li> <li>B. Implanted Ports – Single or double (oval) reservoir located under skin on chest or forearm. To access, one must insert a needle through skin into the rubber septum. The catheter tip is located in large vein or superior vena cava. Available brands include Port-a-Cath.</li> <li>C. Aphoresis (the re-transfusion of a donor's or patient's own blood from which certain constituents have been removed) or Hemodialysis Accesses.</li> <li>D. Indwelling Catheters — Large bore, short length double catheters (may have third tail or lumen). "Arterial" and "venous" lumens are actually side-by-side in subclavian, internal jugular, or femoral vein. Available brands include Quinton and Perma Cath. CAUTION: These devices contain high concentrations of heparin. It must be discarded prior to use.</li> <li>E. Gortex Graft or AV Fistula — Natural or plastic connection between vein and artery usually located under skin on arm. The examiner may feel a "thrill" or auscultate a bruit. These sites have high backpressure due to arterialization of vessel.</li> </ul> <p><b>III. PROCEDURE</b></p> <ul style="list-style-type: none"> <li>A. Identify if CVAD is accessible by standard prehospital equipment. (<u>Implanted ports, AV fistulas, and grafts should be accessed by special, non-coring [Huber-type] needles.</u>)</li> <li>B. Identify shut-off, clamps, caps, heparin/saline lock, etc., and clamp line if disconnecting or opening.</li> <li>C. Access the device after cleansing.</li> <li>D. Aspirate with 10-20-ml syringe until blood returns, but site may be functional without return. Only use venous access devices that have a blood return unless the patient or family can verify that the device is functional despite the lack of blood return.</li> <li>E. Discard aspirated fluid.</li> <li>F. Flush lumen or port with 10-ml saline, avoiding excessive pressure.</li> <li>G. Establish tubing connection, avoiding air entry.</li> <li>H. Secure connections</li> </ul> <p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Arterial bleeding will result if the needle is dislodged from a dialysis graft or fistula.</li> <li>B. Dialysis fistulas and grafts (located under skin or arm) may have high back pressure and require positive pressure to infuse.</li> <li>C. When attempting to insert a needle into a dialysis fistula, avoid the scar line or any lumpy areas in the graft or fistula. Follow the track marks that are present from previous use of the site for dialysis</li> </ul>	



T704 2014	T704 Spinal Immobilization Academy of Medicine of Cincinnati - Protocols for SW Ohio	T704 2014
<b>ALL</b>	<p><b>I. INTRODUCTION</b></p> <p>A. The following policy and procedure are to be followed for all patients with potential or actual injury to any part of the spine. Airway and ventilation are paramount, and none of the guidelines listed below are intended to compromise or prevent maintenance of these vital functions.</p> <p><b>II. INDICATIONS</b></p> <p>A. Patients of all ages.</p> <p>B. A patient should be immobilized if any of the following are present:</p> <ol style="list-style-type: none"> <li>1. Significant multi-system trauma</li> <li>2. Inability to conduct a reliable history and physical (i.e. presumed intoxication, non-English speaking, mental disability) and significant mechanism of injury (defined in Notes)</li> <li>3. Obvious neurological deficit</li> </ol> <p><b>III. OMISSION CRITERIA:</b> - A patient does NOT need c-spine immobilization if ALL of the following are present:</p> <p>A. Age greater than 16, less than 64</p> <p>B. Normal mental status</p> <ol style="list-style-type: none"> <li>1. no signs of intoxication</li> <li>2. GCS 15</li> <li>3. alert and oriented to person, place, time, events</li> </ol> <p>C. No distracting injuries</p> <ol style="list-style-type: none"> <li>1. obvious fracture/dislocation</li> <li>2. suspected fracture requiring splint</li> <li>3. injury requiring administration of pain medication</li> </ol> <p>D. No neurological deficit</p> <ol style="list-style-type: none"> <li>1. No mid-line spine pain/tenderness on palpation of spinous processes</li> </ol> <p><b>IV. RELATIVE OMISSION CRITERIA:</b> Patients who do not meet all of these omission criteria may not need immobilization, based on provider judgment (examples: restrained 12 year-old in minor MVC without complaint, Spanish-speaking male with isolated ankle injury after fall).</p> <p><b>V. PROCEDURE</b></p> <p>A. The following procedure is to be used to properly immobilize a patient when injury to the cervical spine is possible:</p> <ol style="list-style-type: none"> <li>1. The neck must be maintained in a neutral position at all times. <b>DO NOT APPLY TRACTION AT ANY TIME.</b></li> <li>2. While maintaining the neutral position, you may apply an <b>APPROVED</b> mechanical adjunct to further stabilize the neck prior to or upon placing the patient on a long immobilizer. The following devices are approved mechanical adjuncts for cervical spine immobilization: <ol style="list-style-type: none"> <li>i. Kendrick Extrication Device (KED), XP1, or equivalent</li> <li>ii. Cervical Immobilization Device (CID)</li> <li>iii. Rigid cervical collar properly fitted</li> <li>iv. Towels or similar materials stabilizing the neck and secured</li> <li>v. Approved cervical immobilization devices may not always be possible to use on some patients. Use judgment and other materials (i.e. towels and tape) to accomplish immobilization.</li> </ol> </li> <li>3. As soon as practical, the patient will be placed supine on a long immobilizer. The following such devices are approved: <ol style="list-style-type: none"> <li>i. Scoop stretcher</li> <li>ii. Long spine board (wood or equivalent radiolucent material)</li> </ol> </li> </ol>	



T704 2014	T704 Spinal Immobilization Academy of Medicine of Cincinnati - Protocols for SW Ohio	T704 2014
	<ul style="list-style-type: none"> <li>iii. Stokes litter (high angle rescue only)</li> <li>iv. Full body vacuum splint</li> <li>4. Straps must also be placed across the patient's chest, pelvis, and legs to secure their body to the long immobilizer. CAUTION: It is DANGEROUS to secure the head if the BODY is allowed to move on the long immobilizer. This will subject the neck to unacceptable torque and bending. Airway secretions and vomitus are to be cleared using suction devices. If necessary, the patient may be log rolled together with the immobilization equipment for the purpose of airway maintenance.</li> <li>5. Once the patient is on the long immobilizer so they cannot slip around on it, lateral neck supports such as towel rolls, Head bed, or equivalent must be applied and the patient's head secured across the forehead and collar.</li> <li>B. The following procedure is to be used to immobilize the thoracic and lumbar spine when injury to the cervical spine is highly unlikely: If the cervical spine has been cleared, either because of a mechanism of injury isolated to the lower spine, such as direct trauma to only to the lumbar spine, or because of other factors that make cervical spine injury extremely unlikely, then cervical immobilization is not necessary. A long immobilizer must be used. <b>NOTES:</b> <ul style="list-style-type: none"> <li>A. Prior to using this protocol in the field, each EMT must attend a training course approved by their Medical director in the proper use of this protocol.</li> <li>B. "Significant mechanism of injury" refers to "violent impact forces that are clearly capable of damaging the bony spinal column" such as a high velocity vehicle crash, a fall from a 20 foot roof, or a high velocity gunshot wound near the spine.' All of these patients should be immobilized regardless of the lack of signs and symptoms.</li> <li>C. Protective equipment worn or used by patient does not automatically need to be removed. This may include helmets or shoulder pads. Patients may be immobilized with these items in place if appropriate. Proper padding should be ensured, as these situations will likely present unusual void areas. <ul style="list-style-type: none"> <li>1. If removing protective equipment utilize proper procedures, maintaining spinal stabilization throughout. <ul style="list-style-type: none"> <li>i. If patient has both helmet and pads they should typically both be removed</li> </ul> </li> <li>2. Situations where equipment <u>should</u> be removed: <ul style="list-style-type: none"> <li>i. Airway compromise or need to access airway</li> <li>ii. Helmet does not fit properly, allowing movement</li> <li>iii. Helmet is damaged</li> <li>iv. Cannot properly immobilize patient</li> </ul> </li> </ul> </li> <li>D. The elderly may have altered perception of pain and therefore may not report the same intensity of symptoms as younger patients. Therefore extra caution is in order when assessing elderly patients.</li> <li>E. Keep in mind that patients who are immobilized properly on a long immobilization device with cervical immobilization will not be able to reliably protect their airways in the event they vomit. Therefore it is imperative that a working suction device be handy to clear vomit from the patient's upper airway.</li> <li>F. The mere smell of alcohol does not mean that the patient is intoxicated. However, if there is any question about whether or not the patient is intoxicated, then the patient should be treated as if he has a spine injury, at least until he is "calm, cooperative, sober, and alert enough to give a reliable exam."</li> <li>G. Current research shows that selective spinal immobilization can be safely done in the pre-hospital setting. The same research also shows that immobilization can cause respiratory compromise and increased pain in patients without bony spine injuries.</li> </ul> </li> </ul>	



T705 2014	T705 Airway Protocol Academy of Medicine of Cincinnati - Protocols for SW Ohio	T705 2014
<b>ALL</b>	<p><b>I. INTRODUCTION</b></p> <p>A. Patients of all ages.</p> <p>B. Airway skills are essential to all providers. This protocol is developed to guide the provider through the progressive and complicated steps of appropriate airway management. The protocol is designed to provide progressively more aggressive airway techniques dependent upon the patient's condition. The paramedic should always be mindful that <b>BASIC AIRWAY SKILLS ARE ESSENTIAL!</b> Most airways can be managed with well performed basic airway maneuvers.</p> <p>C. Indications:</p> <ol style="list-style-type: none"> <li>1. In general, the need for airway management or ventilatory support should be identified using rapid "global assessment" techniques. Except for apnea, there is no isolated single indicator of the need for airway or ventilatory management. Therefore, the patient should be globally assessed for any of the following indicators of airway obstruction and/or ventilatory insufficiency/failure. <ol style="list-style-type: none"> <li>i. Airway patency and respiratory effort (breathing) must be assessed in all patients.</li> <li>ii. Indications of airway compromise <b>MUST</b> be recognized at the earliest opportunity.</li> <li>iii. Indications of failure to maintain or protect the airway may include: <ol style="list-style-type: none"> <li>1. Lack of air movement at the mouth/nose</li> <li>2. Stridorous or snoring respirations</li> <li>3. Gurgling sound with breathing</li> <li>4. Failure of a normal gag reflex</li> <li>5. Adventitious breath sounds (wheezing, rhonchi, crackles)</li> <li>6. Absent breath sounds</li> <li>7. Loss of end-tidal carbon dioxide readings</li> </ol> </li> <li>iv. Indications of respiratory insufficiency/failure may include: <ol style="list-style-type: none"> <li>1. Decreased mental status</li> <li>2. Apprehension or agitation</li> <li>3. Increased respiratory rate</li> <li>4. Obvious respiratory fatigue</li> <li>5. Accessory muscle use (suprasternal, intercostal, abdominal muscles)</li> <li>6. Apnea</li> <li>7. Shortness of breath</li> <li>8. Pallor, Cyanosis, low pulse oximetry readings</li> <li>9. Nasal flaring</li> <li>10. Abnormal breathing pattern: rapid, slow or shallow <ul style="list-style-type: none"> <li>▪ This may be age specific</li> </ul> </li> <li>11. Asymmetric chest wall movement</li> <li>12. Increasing end-tidal carbon dioxide readings</li> </ol> </li> </ol> </li> </ol> <p><b>II. <u>PROTOCOL</u></b></p> <p>A. This protocol presents an algorithmic approach to this important procedure in emergency medicine.<sup>1</sup></p> <p>B. Establish the need for airway intervention based on assessment (see indications above)</p>	

<sup>1</sup> An Algorithmic Approach to Prehospital Airway Management, Prehospital Emergency Care 2005;9:145–155



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	<p>C. Apply basic airway techniques</p> <ol style="list-style-type: none"> <li>1. Head-tilt chin-lift               <ol style="list-style-type: none"> <li>i. Use Jaw thrust technique in trauma patients suspected of having a cervical spine injury</li> <li>ii. Utilize the Head-tilt chin-lift only as a last resort basic airway technique in the trauma patient</li> </ol> </li> <li>2. Jaw thrust               <ol style="list-style-type: none"> <li>i. Use this technique for patients suspected of having a cervical spine injury</li> </ol> </li> <li>3. Basic airway adjuncts               <ol style="list-style-type: none"> <li>i. Nasopharyngeal airway should be used for obtunded or unconscious patients</li> <li>ii. Oropharyngeal airway should be used in patients that are unconscious only                   <ol style="list-style-type: none"> <li>i. Both of these airway techniques may stimulate the patients gag reflex and cause vomiting. Be prepared to suction.</li> </ol> </li> </ol> </li> <li>4. Basic Airway attempt failure               <ol style="list-style-type: none"> <li>i. If a patent airway is not obtainable after basic skills attempts, default immediately to rescue airway device.</li> </ol> </li> </ol> <p>D. After successful basic airway techniques a decision to provide a more definitive airway should be based on the following indications:</p> <ol style="list-style-type: none"> <li>1. The patient's mental status will not maintain a sufficient airway</li> <li>2. Concern for potential vomiting and aspiration.</li> <li>3. Excess oropharyngeal fluids not well managed by the patient (blood)</li> <li>4. Excessive work of respiratory effort indicating impending respiratory failure</li> </ol> <p>F. Tracheal Intubation</p> <ol style="list-style-type: none"> <li>1. Indications:               <ol style="list-style-type: none"> <li>i. Failure to maintain or protect the airway (see criteria above)</li> <li>ii. Failure of ventilation or oxygenation (see criteria above)</li> </ol> </li> <li>2. Special Consideration               <ol style="list-style-type: none"> <li>i. CPAP: For patients with severe respiratory distress and/or impending respiratory failure from CHF, the early initiation of Continuous Positive Airway Pressure (CPAP) has been shown to reduce the need for immediate intubation and reduce acute mortality. Please refer to the CPAP protocol for indications and application of this treatment modality.<sup>2</sup></li> </ol> </li> <li>3. Preparation:               <ol style="list-style-type: none"> <li>i. All equipment that could potentially be required for airway management should be immediately ready for use. This equipment may include:                   <ol style="list-style-type: none"> <li>a. oxygen cylinder</li> <li>b. BVM</li> <li>c. NPA, OPA</li> <li>d. suction unit with appropriate suction devices</li> <li>e. laryngoscope blades</li> <li>f. ET tubes</li> <li>g. rescue airway device</li> </ol> </li> </ol> </li> <li>4. Procedure               <ol style="list-style-type: none"> <li>i. Orotacheal intubation - Refer to Oral Intubation Protocol <a href="#">T706</a></li> </ol> </li> </ol>	

<sup>2</sup> Effectiveness of Prehospital Continuous Positive Airway Pressure in the Management of Acute Pulmonary Edema, Prehospital Emergency Care, 10:4, 430 – 439



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	<p>ii. Nasotracheal intubation - Refer to Nasal Intubation Protocol <a href="#">T707</a></p> <p>G. Intubation Verification</p> <ol style="list-style-type: none"> <li>1. In the prehospital setting, a small percentage of endotracheal tubes are either placed incorrectly or inadvertently dislodged during patient movement. To avoid adverse effects of a missed intubation or dislodged endotracheal tube, all providers will use three of the following procedures to aid in verifying correct endotracheal tube placement. Continuous reassessment of tube placement is essential. The initial and all successive airway placement assessments should be documented. <ol style="list-style-type: none"> <li>i. Visualization of the tube passing through the cords</li> <li>ii. Auscultation in the following locations: <ol style="list-style-type: none"> <li>a. First: epigastrium for absence of epigastric air sounds</li> <li>b. Second: axillae for equal, bilateral breath sounds</li> <li>c. If there are epigastric sounds and an absence of breath sounds in the axillary regions then an esophageal intubation should be suspected.</li> </ol> </li> <li>iii. Establish the presence of carbon dioxide in the air leaving the endotracheal tube. A variety of carbon dioxide detection devices are available. Each emergency medical service Medical Director will approve the carbon dioxide detector device to be used by the service and provide the appropriate training in the use of that device.</li> <li>iv. Utilization of an esophageal detection device. Each emergency medical service Medical Director will approve the esophageal detection device to be used by the service and provide the appropriate training in the use of that device.</li> </ol> </li> </ol> <p>H. Drug Assisted Intubation (DAI) (aka Rapid Sequence Intubation)</p> <ol style="list-style-type: none"> <li>1. Based on a review of the literature and a position statement from the National Association of EMS Physicians and the American College of Emergency Physicians<sup>3</sup>, the Academy of Medicine EDS committee currently does not approve the use of Drug Assisted Intubation or Rapid Sequence Intubation. Services that provide these techniques do so under the direction of the service Medical Director. Strict adherence to administrative and quality assurance guidelines listed in the administrative portion of these protocols is strongly advised.</li> <li>2. Sedation for intubation <ol style="list-style-type: none"> <li>i. In highly selective cases it may be advantageous to perform intubation with sedation. Contact with medical control for guidance is required.</li> </ol> </li> </ol> <p>III. <b>RESCUE AIRWAY (ALTERNATIVE AIRWAY DEVICE)</b><sup>4</sup></p> <ol style="list-style-type: none"> <li>A. In the case of failed attempts at intubation, reversion to basic airway skills is essential. A rescue airway device should be employed as needed to maintain the airway. There are numerous types of rescue airway devices available. Each emergency medical service Medical Director will approve the device to be used by the service and provide the appropriate training in the use of that device</li> <li>B. Use of an alternative rescue airway device may proceed or substitute for endotracheal intubation when patient anatomy or situation indicates.</li> <li>C. The King Airway is an acceptable alternate airway device to be used. There has been some problem with FDA approval, but the EDS committee is comfortable with its use in the prehospital setting.</li> <li>D. Per scope of practice EMT's may use many alternate airway devices.</li> </ol> <p>IV. <b>END TIDAL CO2 DETECTION</b></p> <ol style="list-style-type: none"> <li>A. Waveform capnography should be used to confirm and monitor endotracheal tube and rescue airway</li> </ol>	

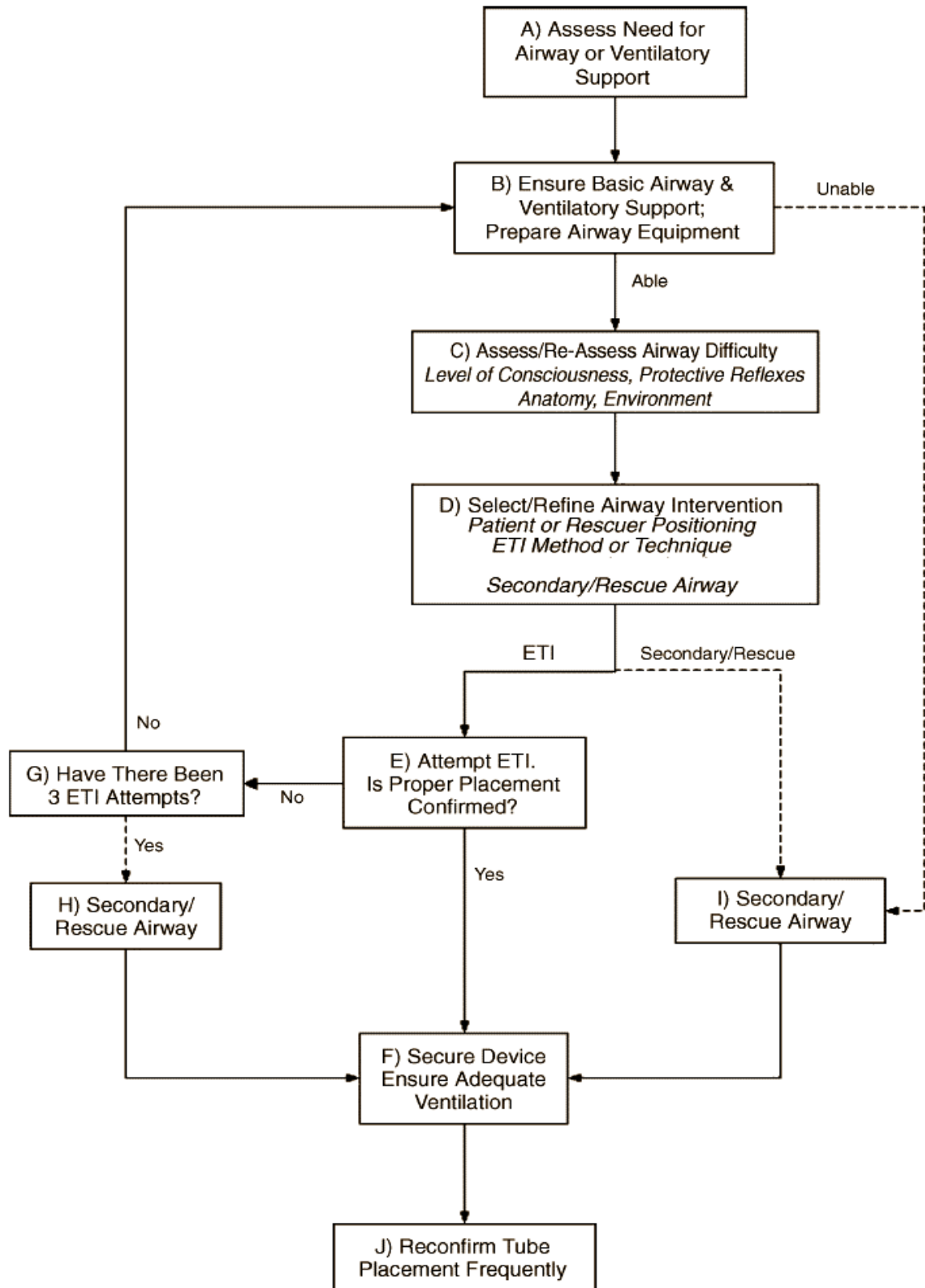
<sup>3</sup> Drug-Assisted Intubation In The Prehospital Setting Position Statement Of The National Association Of Emergency Physicians; Prehospital Emergency Care. 2006;10(2):260.

<sup>4</sup> Alternate Airways in the Out-of-Hospital Setting Position Statement of the National Association of EMS Physicians, Prehospital Emergency Care, 2007;11:1, 55



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	<p>placement in the field, in the transport vehicle, on arrival at the hospital, and after any patient transfer to reduce the risk of unrecognized tube misplacement or displacement.</p> <p>B. Studies on waveform capnography have shown 100% sensitivity and 100% specificity in identifying correct endotracheal tube placement.</p> <p>V. <b>SURGICAL AIRWAY</b></p> <p>A. In rare cases when an airway cannot be managed by either basic, advanced or rescue airway techniques, a surgical airway may need to be performed.</p> <p>B. Indications</p> <ol style="list-style-type: none"> <li>1. Acute upper airway obstruction, which cannot be relieved by basic airway obstruction skills or the utilization of Magill forceps for direct removal.</li> <li>2. Respiratory arrest with facial or neck anatomy or injury that makes endotracheal intubation impossible.</li> </ol> <p>C. Each emergency medical service Medical Director will approve the surgical airway device to be used by the service and provide the appropriate training in the use of that device</p> <p>V. <b>DOCUMENTATION:</b></p> <p>A. A complete record of each airway attempt should be placed in the patient care record. Each airway intervention (including basic skills) should include the following (if applicable):</p> <ol style="list-style-type: none"> <li>1. Precautions taken (i.e. in-line stabilization)</li> <li>2. Size of device</li> <li>3. Number of attempts</li> <li>4. Depth of insertion (i.e. "X" number of centimeters at the lips/teeth)</li> <li>5. Complications encountered</li> <li>6. Method of confirmation of correct placement (e.g. esophageal intubation detector, clinical exam).</li> </ol> <p><b>NOTES:</b></p> <p>A. Once airway is established assure high flow oxygen delivery</p> <p>B. In a suspected opioid overdose, utilization of successful basic airway skills will allow your patient to be treated with naloxone therefore avoiding the need for advanced airway placement.</p> <p>C. It is recommended that inline end tidal CO<sub>2</sub> (when available) be used in the following settings:</p> <ol style="list-style-type: none"> <li>1. Patients in severe respiratory distress</li> <li>2. Intubated Patient</li> </ol>	







T706 2014	T706 Orotracheal Intubation Academy of Medicine of Cincinnati - Protocols for SW Ohio	T706 2014
<b>MEDIC</b>	<p><b>I. INDICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Patients of all ages.</li> <li>B. After basic airway management skills, advanced airway skills become essential for management of the critically ill patient and is a primary function of the paramedic.</li> </ul> <p><b>II. CONTRAINDICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Suspected epiglottitis characterized by a sore throat, fever, and drooling</li> </ul> <p><b>III. COMPLICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Unrecognized esophageal intubation with subsequent hypoxic brain injury</li> <li>B. Orotracheal bleeding</li> <li>C. Injury to vocal cords, epiglottis, or other airway structures</li> <li>D. Vomiting and subsequent aspiration</li> </ul> <p><b>IV. <u>PROTOCOL</u></b></p> <ul style="list-style-type: none"> <li>A. Hyper-oxygenate the patient if time allows</li> <li>B. Assemble and check equipment: <ul style="list-style-type: none"> <li>1. Ventilation equipment</li> <li>2. Laryngoscope</li> <li>3. Choose an appropriate size endotracheal tube (ETT). <ul style="list-style-type: none"> <li>i. To size a pediatric ETT Broselow tape may be used</li> </ul> </li> <li>4. Stylet</li> <li>5. Syringe</li> <li>6. Stethoscope</li> <li>7. Endotracheal tube placement verification device <ul style="list-style-type: none"> <li>i. Capnography/Capnometry (if available) should be used</li> <li>ii. Colorchange EtCO<sub>2</sub> detector, EID, or EDD may be used in conjunction</li> </ul> </li> <li>8. Suction equipment</li> <li>9. Intubation facilitation equipment as available <ul style="list-style-type: none"> <li>i. May include (but not limited to): <ul style="list-style-type: none"> <li>i. Intubating Stylet (Bougie)</li> <li>ii. Video laryngoscope</li> <li>iii. Intubating LMA</li> </ul> </li> </ul> </li> </ul> </li> <li>C. Position head in “sniffing” position. <ul style="list-style-type: none"> <li>1. Contraindicated in patients with a known/suspected cervical spine injury. These patients require continuous manual in-line cervical stabilization during any intubation attempt.</li> </ul> </li> <li>D. Consider use of a second rescuer to aid intubation attempt <ul style="list-style-type: none"> <li>1. BURP (Backwards, upwards, rightwards, pressure) technique</li> <li>2. Cricoid pressure (Sellick’s Maneuver)</li> </ul> </li> <li>E. Insert laryngoscope blade on the right side of the mouth, displacing the tongue to the left.</li> <li>F. Lift tongue and mandible with laryngoscope <ul style="list-style-type: none"> <li>1. Avoiding a “prying” action and laryngoscope contact with teeth</li> </ul> </li> <li>G. Visualize vocal cords and pass the ETT tip through cords to proper depth (approx. 1cm past proximal end of the cuff) <ul style="list-style-type: none"> <li>1. Use of adjuncts or intubation facilitation equipment may not require direct visualization of cords. Proper technique and documentation of method used should be followed.</li> </ul> </li> <li>H. Inflate cuff with 5-10mL of air.</li> </ul>	



T706 2014	T706 Orotracheal Intubation Academy of Medicine of Cincinnati - Protocols for SW Ohio	T706 2014
	<ul style="list-style-type: none"> <li>I. Ventilate patient via bag-valve device.</li> <li>J. Confirm proper placement as per the "Intubation Verification" in the Airway protocol.</li> <li>K. Secure endotracheal tube BEFORE any patient movement.</li> </ul> <p><b>V. DOCUMENTATION IN THE PATIENT'S RECORD SHOULD INCLUDE AT LEAST THE FOLLOWING:</b></p> <ul style="list-style-type: none"> <li>A. Precautions taken (i.e. in-line stabilization)</li> <li>B. Size of tube</li> <li>C. Number of attempts</li> <li>D. Depth of insertion (i.e. "X" number of centimeters at the lips/teeth)</li> <li>E. Complications</li> <li>F. Method of confirmation of correct placement (e.g. esophageal intubation detector, clinical exam)</li> <li>G. Adjuncts used</li> </ul> <p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. If positive pressure ventilation with the bag-valve device produces sounds of air leakage around the cuff, check the cuff inflation and the tube placement.</li> <li>B. Whenever possible, pulse oximetry should be used during the procedure to monitor the patient's oxygenation status.</li> <li>C. If the patient can vocalize, then the endotracheal tube has not passed through the vocal cords.</li> <li>D. If there is enough time to intubate the patient in the prehospital setting, then there is enough time to secure the tube. A frequently stated reason for accidental esophageal intubation is "the tube moved." After each patient movement (e.g. board to stretcher, stretcher to ambulance), the tube position should be rechecked.</li> <li>E. When in doubt, take it out; and assure oxygenation by another attempt or method</li> <li>F. Both cuffed and uncuffed endotracheal tubes are acceptable for intubating infants and children. Training in inflating cuffed tubes to minimal airway occlusion pressure is important. Over-inflation even for a short time can cause severe damage. In certain circumstances (e.g., poor lung compliance, high airway resistance, or a large glottic air leak) a cuffed endotracheal tube may be preferable to an uncuffed tube, provided that attention is paid to endotracheal tube size, position, and cuff inflation pressure (Class IIa, LOE B)</li> </ul>	



T708 2014	T708 Pediatric Needle Cricothyrotomy Academy of Medicine of Cincinnati - Protocols for SW Ohio	T708 2014
<b>MEDIC</b>	<p><b>I. INDICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Age younger than 16 years</li> <li>B. Acute upper airway obstruction which cannot be relieved using basic airway maneuvers, finger sweep, endotracheal visualization with Magill forceps removal, or endotracheal intubation.</li> <li>C. Respiratory arrest with facial or neck anatomy or injury that makes endotracheal intubation impossible.</li> <li>D. Causes of Upper Airway Obstruction <ul style="list-style-type: none"> <li>1. Airway burns with edema</li> <li>2. Epiglottitis or other life-threatening local infections with swelling of upper airway structures</li> <li>3. Foreign body aspiration</li> <li>4. Laryngeal fractures</li> <li>5. Laryngoedema or angioedema from allergic reactions</li> <li>6. Massive facial trauma</li> </ul> </li> </ul> <p><b>II. COMPLICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Subcutaneous emphysema</li> <li>B. Bleeding (minimized by puncturing in the lower third of the cricothyroid membrane to avoid vessels)</li> <li>C. Pneumothorax (from allowing insufficient time for passive exhalation in between breaths)</li> </ul> <p><b>III. <u>PROTOCOL</u></b></p> <ul style="list-style-type: none"> <li>A. Following exposure of the neck, identify the trachea, cricoid cartilage and cricothyroid membrane below it.</li> <li>B. Prep the skin, if time permits.</li> <li>C. Attach a 5 mL syringe with 2-3 mL of saline to a 16 or 18 gauge angiocatheter.</li> <li>D. Hold the trachea in place and provide skin tension with the thumb and fingers of non-dominant hand.</li> <li>E. Puncture the cricothyroid membrane with the angiocatheter attached to the syringe. This should be at a 30-45 degree angle from the skin and directed toward the patient's feet.</li> <li>F. Advance the needle with continual aspiration. The appearance of bubbles confirms tracheal placement. Proceed to slide the cannula off the needle until the hub rests securely on the skin surface.</li> <li>G. Remove the needle with the syringe and connect the cannula to a manual jet ventilator device.</li> <li>H. Ventilate the patient using 1 second bursts of oxygen from the 50 psi manual source. The rate used should be at least 20 per minute.</li> </ul> <p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Because children vary greatly in size, many commonly used rescue airway devices for adults such as QuickTrach by Rusch, Inc. are not approved for use in pediatric patients.</li> <li>B. Prepackaged kits for tracheal access using a Seldinger-type technique are available. For example, Pertrach by Pertrach Inc. can be used for pediatric patients with airway obstruction. However this type of product should be used only upon the direction of medical control.</li> <li>C. If the cricothyroid membrane cannot be located, the catheter may be safely inserted in a lower intercartilaginous tracheal space.</li> </ul>	



T709 2014	T709 CPAP Procedure Protocol Academy of Medicine of Cincinnati - Protocols for SW Ohio	T709 2014
<b>ALL</b>	<p><b>I. INTRODUCTION</b></p> <p>A. Continuous Positive Airway Pressure (CPAP) works by “splinting” the airways with a constant pressure of air, which reduces the work of breathing. In CHF it forces the excess fluid out of the alveoli and interstitial space back into the vasculature which decreases venous return to the heart thereby lessening its workload. In asthma, it is thought to splint the constricted airways open allowing air exchange. CPAP can also be a palliative intervention for patients with DNR orders due to the non-invasive nature of pressure support versus ventilatory support.</p> <p>B. Indications</p> <ol style="list-style-type: none"> <li>1. Age 16 years and older</li> <li>2. Patient is awake and oriented.</li> <li>3. Patient has the ability to maintain an open airway (GCS greater than 10).</li> <li>4. Systolic blood pressure above 90 mmHg.</li> </ol> <p>C. Contraindications</p> <ol style="list-style-type: none"> <li>1. Respiratory arrest.</li> <li>2. Suspected pneumothorax.</li> <li>3. Patient has a tracheostomy.</li> <li>4. Patient is at risk for aspiration i.e.: vomiting, foreign body airway occlusion.</li> <li>5. The patient is intubated. (The CPAP device is not configured for use with ETT).</li> </ol> <p>D. Physical Findings</p> <ol style="list-style-type: none"> <li>1. Acute Respiratory Distress due to Congestive Heart Failure or asthma.</li> <li>2. <b>INCLUSION CRITERIA (2 OR MORE OF THE FOLLOWING)</b> <ol style="list-style-type: none"> <li>i. Respiratory rate greater than 25 breaths per minute.</li> <li>ii. Retractions, accessory muscle use or fatigue.</li> <li>iii. SaO<sub>2</sub> less than 94% at any time.</li> <li>iv. Lung exam could have wheezing, rales, or diminished breath sounds depending on etiology of respiratory distress.</li> <li>v. Respiratory Failure of any etiology if a valid DNR is present.</li> </ol> </li> </ol> <p><b>II. <u>PROTOCOL</u></b></p> <p>A. The CPAP device should be applied as soon as it is indicated.</p> <ol style="list-style-type: none"> <li>1. Ensure that the patient is on continuous cardiac monitor and pulse oximetry.</li> <li>2. Explain the procedure to the patient.</li> <li>3. Ensure adequate oxygen supply and assemble CPAP mask, circuit, and device.</li> <li>4. Assemble required equipment and personnel for intubation in the event the patient deteriorates or is unable to tolerate CPAP.</li> <li>5. Attach quick connect device to a portable or fixed oxygen source</li> <li>6. Place the mask over the mouth and nose.</li> <li>7. Secure the mask with straps.</li> <li>8. Check for air leaks and adjust mask as needed.</li> <li>9. Do not break the mask seal to administer nitroglycerin (nitro-lingual) SL.</li> <li>10. Continue to coach patient to keep mask in place, however if the patient is experiencing increasing anxiety versed 1-2 mg IV every 5 minutes to a maximum of 10 mg may be administered (MEDIC Only). The goal of versed is to decrease anxiety enough so that the patient tolerates CPAP.</li> <li>11. Reassess patient’s vital signs and response to CPAP every 5 minutes.</li> <li>12. If the patient’s status improves continue CPAP until the patient is transferred to the care of the</li> </ol>	



T709 2014	T709 CPAP Procedure Protocol Academy of Medicine of Cincinnati - Protocols for SW Ohio	T709 2014
	<p>receiving hospital.</p> <p>13. If patient's status deteriorates discontinue CPAP and assess the patient for the need to intubate.</p> <p>14. Notify destination hospital that CPAP has been used.</p> <p>15. CPAP is only to be removed at the receiving hospital under the following circumstances.</p> <ul style="list-style-type: none"> <li>i. Personnel are present to transfer the patient to their equipment, or</li> <li>ii. The receiving ED PHYSICIAN is present and requests that CPAP be discontinued.</li> </ul>	



T710 2014	T710 Tourniquet Application Protocol Academy of Medicine of Cincinnati - Protocols for SW Ohio	T710 2014
<b>ALL</b>	<p><b>I. INTRODUCTION</b></p> <ul style="list-style-type: none"> <li>A. A tourniquet is a constricting or compressing device used to control venous and arterial circulation to an extremity for a period of time. Pressure is applied circumferentially to the skin and underlying tissues of a limb; this pressure is transferred to the vessel walls causing a temporary occlusion.</li> <li>B. There are a number of commercially available tourniquets available for prehospital and hospital patients of exsanguinating extremity trauma.</li> <li>C. While there are potential risks involved in the utilization of tourniquets (see “Notes” section), expeditious and clinically appropriate application in the presence of potentially life threatening hemorrhage is in keeping not only with the standards of medical professionals, but accordingly so with the best interests of the patient.</li> </ul> <p><b>II. INDICATIONS:</b></p> <ul style="list-style-type: none"> <li>A. Life-threatening extremity hemorrhage from an extremity that cannot be controlled by direct pressure and elevation. A mass casualty incident may be an indication for the use of tourniquets for temporary control of hemorrhage while the situation is brought under control.</li> </ul> <p><b>III. CONTRAINDICATIONS:</b></p> <ul style="list-style-type: none"> <li>A. Never use a tourniquet for more than the recommended period of time (product-specific). With any extrication plus transport time of less than 180 minutes, there is minimal risk of developing an ischemic limb.</li> <li>B. An amputation with hemorrhage does not necessitate the use of a tourniquet; most bleeding from these injuries is controllable through use of direct pressure, elevation and packing of the wound. If these actions do not achieve homeostasis, then tourniquet use is indicated.</li> <li>C. Never apply a tourniquet over an impaled object.</li> </ul> <p><b>IV. PROCEDURE:</b></p> <ul style="list-style-type: none"> <li>A. Check neurovascular status prior to tourniquet application (pulse, sensation, motor function distal to hemorrhage).</li> <li>B. Apply tourniquet proximal to the area of bleeding, at least 3–5 centimeters from the wound margins.</li> <li>C. Secure the tourniquet in place; continue to tighten the tourniquet until hemorrhage is controlled – avoid “over-tightening” the tourniquet. Use only the minimal effective pressure required to reliably maintain arterial occlusion throughout the procedure.</li> <li>D. Elevate the extremity if possible.</li> <li>E. Note the time the tourniquet was applied. Reassess neurovascular status every five minutes post application.</li> <li>F. Notify the receiving hospital that a tourniquet is in place. Once tourniquet is in place, do not remove prior to transferring patient to the emergency department staff.</li> </ul> <p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. Tourniquets should not be applied over joints. Application of the cuff over the peroneal nerve (knee or ankle) or ulnar nerve (the elbow) may result in nerve damage or paralysis.</li> <li>B. Tourniquets should not be applied over clothing. Any limb with an applied tourniquet should be fully exposed with removal of all clothing, and the tourniquet should never be covered with any other bandage.</li> <li>C. Continued bleeding (other than medullary oozing from fractured bones) distal to the site of the tourniquet is a sign of insufficient pressure and a need to tighten the tourniquet further.</li> <li>D. A tourniquet should not be loosened in any patient with obvious signs of shock or amputation that necessitated use of the device.</li> </ul>	



T711 2014	T711 Intraosseous (IO) Access and Infusion Guidelines Academy of Medicine of Cincinnati - Protocols for SW Ohio	T711 2014
<b>MEDIC</b>	<p><b>I. INTENTION</b></p> <ul style="list-style-type: none"> <li>A. To allow a means of vascular access when intravenous access (IV) is unavailable.</li> <li>B. This protocol does not specify the type of device to be used, which may include, but not limited to EZ-IO, FAST1, Cook IO needles, Jamshidi IO needles, Bone Injection Gun. Agencies that elect to carry IO equipment must provide instruction on the device per manufacturer's guideline. It is important to note, that the sites eligible for IO vary depending on the device used and Medical Director's approval.</li> </ul> <p><b>II. INCLUSION CRITERIA</b></p> <ul style="list-style-type: none"> <li>A. Patient requiring vascular access and unable to obtain IV access.</li> <li>B. For patients deemed to be critical, entrapped, or for patients undergoing resuscitation it may be appropriate to place an IO without searching for an IV site at the discretion of the providers. Consider consult with medical control if unsure.</li> </ul> <p><b>III. CONTRAINDICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Fracture or previous orthopedic procedure at site: consider alternatives.</li> <li>B. Previous IO at the same site within 24 hours prior: consider alternatives.</li> <li>C. Unable to distinguish site due to patient anatomy or significant edema: consider alternatives.</li> <li>D. Infection at the insertion site: consider alternatives.</li> <li>E. Patient is alert (relative contraindication pending device and provider discretion).</li> </ul> <p><b>IV. <u>PROTOCOL</u></b></p> <ul style="list-style-type: none"> <li>A. Explain procedure and apply anesthetic, if available, in alert patients.</li> <li>B. Ascertain the site per Medical Director approval to be used (device specific) and prepare the site using sterile technique.</li> <li>C. Follow all device specific protocols for insertion of catheter.</li> <li>D. Confirm device placement and proper positioning. Attach extension tubing or device specific connection tubing.</li> <li>E. Consider 2% Lidocaine (preservative free) for conscious patients prior to flushing or administering fluids/drugs via IO. Slowly administer 20-40mg 2% Lidocaine (adults) or 0.5mg/kg 2% Lidocaine (pediatrics). Follow device recommendations.</li> <li>F. Flush with 10 mL (adults) or 5 mL (pediatrics) fluids or follow device recommendation for flushing. <ul style="list-style-type: none"> <li>1. It is important to flush the IO after attaching an extension, a common complication of poor flow is thought to be due to failure to immediately flush the catheter.</li> </ul> </li> <li>G. Attach IV tubing, secure catheter, and check surrounding area for extravasation.</li> <li>H. Establish a TKO rate for fluids when not administering medication/fluids. <ul style="list-style-type: none"> <li>1. All medication administrations should be followed with a 10mL NaCl flush due to IO anatomy</li> <li>2. For continuous infusions, if flow rates are slower than desired with gravity only, utilize a pressure infusion device or BP cuff to increase rate</li> <li>3. If flow appears to have stopped, administer a 10mL NaCl flush to reopen catheter</li> </ul> </li> <li>I. Continuously monitor patient for complications to the procedure.</li> </ul> <p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>A. It is difficult to establish a specific detailed protocol due to the number and type of IO devices available. Agencies are recommended to publish a department specific protocol for the IO device they use.</li> <li>B. IO access has been proven to be as effective as IV access for a broad range of medication/fluid</li> </ul>	



T711 2014	T711 Intraosseous (IO) Access and Infusion Guidelines Academy of Medicine of Cincinnati - Protocols for SW Ohio	T711 2014
	<p>administration.</p> <ol style="list-style-type: none"> <li>1. Dye injection studies in normal circulating studies have shown drugs reach the heart in 1 second from the proximal humerus or sternum and 4 seconds from the tibia. In cases of cardiac arrest, with proper CPR, it can take drugs 28 seconds from the sternum and 51 seconds from the tibia.</li> </ol> <p>C. Lidocaine is administered because conscious patients have reported pain with infusion; one study found that 23% of patients with a GCS of 8 or greater rated the pain 10/10.</p> <p>D. Patients do not need to be unconscious for insertion, but be wary of the psychological effects of the procedure of establishing IO access.</p> <ol style="list-style-type: none"> <li>1. Of the three major adult devices: EZ-IO, FAST1, and, Bone Injection Gun, none of the manufacturers list the patient's level of consciousness as a contraindication to insertion. However, the FAST1 and EZ-IO both recommend local anesthetic prior and all three devices recommend Lidocaine flush post insertion.</li> </ol> <p>E. Some devices have sites that are being used off-label (without FDA approval). Providers should only utilize sites that have received their Medical Director's approval.</p> <p>F. When transferring patient to another medical provider highlight the use of and ensure that they are familiar with the specific IO device used.</p> <p>G. It is common practice to look/attempt IV access without success in at least 2 locations before establishing IO access but is not required.</p> <p>H. All uses of IO devices should be reviewed as part of a department's quality assurance process</p>	





T712	T712 Taser/Conducted Energy Weapon Emergencies	T712
2014	Academy of Medicine of Cincinnati – Protocols for SW Ohio	2014
<b>ALL</b>	<p><b>I. INCLUSION CRITERIA</b></p> <p>a. Any patient who has been subjected to a Taser or similar conducted energy weapon.</p> <p><b>II. PHYSICAL FINDINGS</b></p> <p>a. Patient will likely be hand-cuffed and in Police custody.</p> <p>b. May have Taser barb(s) embedded in skin or clothing.</p> <p>i. Barbs are similar to barbed style fish hooks, and are extremely sharp. Use caution when handling to avoid contaminated needle stick exposure.</p> <p>c. Minor/inactive bleeding and redness may be present at/near site of Taser barb penetration.</p> <p>d. May present with secondary injuries associated with an un-supported fall such as, but not limited to:</p> <p>i. Lacerations, abrasions, bruising or possibly stress fractures associated with involuntary muscle contractions.</p> <p>e. Altered level of consciousness.</p> <p>i. If needed refer to <i>SB201 Altered Level of Consciousness</i>.</p> <p>f. May be anxious, agitated or combative.</p> <p>i. If needed refer to <i>M407 Psychiatric Protocol</i> or <i>M408 Restraint Protocol</i>.</p> <p>g. Chest pain and/or respiratory distress are not commonly associated symptoms, but may present.</p> <p>i. If needed refer to <i>SB203 Chest Pain</i> or <i>SB202 Respiratory Distress</i> protocols.</p> <p><b>III. PROTOCOL</b></p> <p>a. Assure that scene is safe and patient has been restrained by Police.</p> <p>b. Maintain airway and administer oxygen if needed.</p> <p>c. Assess for spinal injury.</p> <p>i. Refer to <i>T704 Spinal Immobilization</i> protocol.</p> <p>d. Obtain vital signs.</p> <p>i. Pulse, B/P and respiratory rate may be initially elevated, but should return to age specific normal ranges within a reasonable time.</p>	
<b>MEDIC</b>	<p>ii. Apply cardiac monitor if warranted; refer to appropriate cardiac protocol if dysrhythmia exists.</p>	
<b>ALL</b>	<p>e. Assess patient's neurological status; examine for signs/symptoms of a potential head injury.</p> <p>f. Complete a secondary exam, looking for secondary injuries associated with an un-supported fall.</p> <p>i. Bandage, dress, splint or otherwise treat all injuries/wounds as needed.</p> <p>g. If patient again becomes agitated or combative; consider physical or chemical restraint as outlined in <i>M408 Restraint Protocol</i>.</p> <p>i. Involve Police personnel when restraining.</p> <p>ii. Be aware that patient may be exhibiting behavior consistent with Excited Delirium, refer to notes below.</p> <p>h. Removal of Taser probe barb:</p> <p>i. Prior to Taser probe barb removal, patient must be cooperative and non-combative.</p> <p>ii. Cartridge must be removed from Taser gun body by Police prior to touching Taser probe barb(s) or removal from patient. At no time should Taser wires be cut or pulled from probe barb assembly.</p>	
<b>ALL</b>	<p>iii. Patient with Taser barb embedded in eye, eye lid, female breast tissue, genitalia, neck or other body areas of concern should be transported, accompanied by Police, for removal by hospital staff.</p>	



- iv. Grasp the probe portion of the barb assembly firmly (with gloved hand or forceps,) holding skin taut between two fingers. At a 90° angle to the skin, quickly remove the probe barb from the patient's skin and bandage wounds accordingly.
- v. Probe barb(s) should be inspected to ensure assembly is complete. Usually the entire barb is approximately 1/4" in length.
- vi. Once removed, Taser barb(s) should be considered a contaminated sharp and handled accordingly. The Taser cartridge usually contains a slot/hole to insert the deployed barb for safe storage.
- vii. Deployed barbs shall be given to Police. If not given to the Police, they should be disposed of in an appropriate sharps container.

**NOTES:**

- A. Delirium is a mental state characterized by an acute circumstance or disorientation, disorganized thought process and disturbances in speech. When the mental state involves violent behavior, it is called excited delirium. In the state when there is sudden death and autopsy fails to reveal a cause, it becomes excited delirium syndrome.
- B. Essentially three things initiate excited delirium:
  - a. Overdose on hallucinogenic, cocaine or other stimulant drugs.
  - b. Drug withdrawal.
  - c. Psychiatric patient not taking prescribed medications.
- C. Signs and symptoms of excited delirium include:
 

-Bizarre, aggressive behavior.	-Dilated pupils.
-Elevated body temperature.	-Incoherent speech.
-Fear and Panic.	-Profuse sweating.
-Excessive tear production.	-Shivering.
-Nakedness.	-Hypoglycemia.
-Head trauma.	
- D. A key symptom to the potential onset of sudden death from excited delirium is "instant tranquility." The patient who was initially very violent and combative suddenly becomes calm and docile. This is a serious and ominous sign; patient should be constantly monitored and transported for further evaluation.



App A 2014	Appendix A: Protocol Medication List Academy of Medicine of Cincinnati - Protocols for SW Ohio			App A 2014
NDC #	BRAND NAME	ESTABLISHED OFFICIAL NAME	DOSAGE FORM	
	ADENOCARD	ADENOSINE	INJ. SOLUTION	
	ADRENALIN CHLORIDE (1:1000)	EPINEPHRINE	INJ. SOLUTION	
	ALCAINE	PROPACARCAINE OPTHAMLIC SOLN	SOLN, NON-INJ	
	ASPIRIN CHILDRENS	ACETYLSALICYCLIC ACID	TAB, CHEWABLE	
	ATROPINE SULFATE	ATROPINE SULFATE	INJ. SOLUTION	
	ATROVENT	IPRATROPIUM BROMIDE	INHALANT	
	BENADRYL	DIPHENHYDRAMINE	INJ. SOLUTION	
	CALCIUM GLUCONATE	CALCIUM GLUCONATE	INJ. SOLUTION	
	CETACAINE TOPICAL ANESTHETIC	CETACAINE	AEROSOL SPRAY	
	CORDARONE	AMIODARONE HYDROCHLORIDE	INJ. SOLUTION	
	CYANO KIT	HYDROXOCOBALAMIN	INJ. SOLUTION	
	DEXTROSE 50%	DEXTROSE	INJ. SOLUTION	
	DEXTROSE 10% in 250 ml	DEXTROSE	INJ. SOLUTION	
	DEXTROSE 25% in 100 ml	DEXTROSE	INJ. SOLUTION	
	DIAZEPAM	VALIUM	INJ. SOLUTION	
	DUODOTE AUTO-INJECTOR	PRALIDOXIMECL/ATROPINE SULFATE	INJ. SOLUTION	
	DUONEB	ALBUTEROL/IPRATROPIUM	INHALANT	
	EPINEPHRINE	EPINEPHRINE HCL	INJ. SOLUTION	
	EPINEPHRINE 1MG/ML	EPINEPHRINE HCL	INJ. SOLUTION	
	FENTANYL	FENTANYL	INJ. SOLUTION	
	FLU VACCINE	FLU VACCINE	UNIT DOSE	
	GLUCAGON	GLUCAGON	INJ, DRY-SOLN	
	INTROPIN	DOPAMINE	INJ. SOLUTION	
	LASIX	FUROSEMIDE	INJ. SOLUTION	
	LIDOCAINE HYDROCHLORIDE 2%	LIDOCAINE HYDROCHLORIDE	INJ. SOLUTION	
	LORAZEPAM	ATIVAN	INJ. SOLUTION	
	MAGNESIUM SULFATE	MAGNESIUM SULFATE	INJ. SOLUTION	
	MORPHINE SULFATE	MORPHINE SULFATE	INJ. SOLUTION	
	NARCAN® 2MG/2ML	NALOXONE HYDROCHLORIDE	INJ. SOLUTION	
	NARCAN® 0.4 MG/ML	NALOXONE HYDROCHLORIDE	INJ. SOLUTION	
	NEO-SYNEPHRINE NASAL SPRAY 0.25%	PHENYLEPHRINE HCL SPRAY 0.25%	SOLN, NON-INJ	
	NITROSTAT	NITROGLYCERIN	TAB, SUBLINGUAL	
	NORMAL SALINE	SODIUM CHLORIDE 0.9%	INJ. SOLUTION	
	OXYGEN	OXYGEN, MEDICAL GRADE	GAS	
	PITRESSIN	VASOPRESSIN	INJ. SOLUTION	
	PRALIDOXIME COMBOPEN (2-PAM CL)	PRALIDOXIME CHLORIDE	INJ. SOLUTION	
	PREDNISONE	PREDNISONE	TAB,UNCOATED	
	PROMETHAZINE	PHENERGAN	INJ. SOLUTION	
	PROVENTIL	ALBUTEROL	INHALANT	
	SODIUM BICARBONATE	SODIUM BICARBONATE	INJ. SOLUTION	



App A 2014	Appendix A: Protocol Medication List Academy of Medicine of Cincinnati - Protocols for SW Ohio		App A 2014
	SODIUM CHLORIDE 0.9%-IRRIGATION	SODIUM CHLORIDE	SOLN, NON-INJ
	SOLU-MEDROL	METHYLPREDNISOLONE	INJ. SOLUTION
	STERILE WATER	STERILE WATER	DILUTANT
	TETRACAINE HCL	TETRACAINE HCL	SOLN, NON-INJ
	VERSED	MIDAZOLAM	INJ. SOLUTION
	XYLOCAINE	LIDOCAINE	JELLY
	XYLOCAINE VISCOUS	LIDOCANE HYDROCHLORIDE	SOLN, NON-INJ
	ZOFRAN	ONDANSETRON HCL	INJ. SOLUTION
	ZOFRAN 4MG ORAL 3 PACK	ONDANSETRON	TAB
	ZOFRAN 4MG ORAL 100 PACK	ONDANSETRON	TAB
Ohio State Board of Pharmacy 77 South High Street, Room 1702 Columbus, Ohio 43215-6126		Phone: 614-466-4143 Fax: 614-752-4836 email: <a href="mailto:licensing@bop.state.oh.us">licensing@bop.state.oh.us</a> <a href="http://www.pharmacy.ohio.gov">www.pharmacy.ohio.gov</a>	

App B 2014	Appendix B: Medication Substitution Academy of Medicine of Cincinnati - Protocols for SW Ohio		App B 2014
<b>MEDIC</b>	<p>I. For any protocols under the Academy of Medicine protocols that use the following medications equivalent dosages can be substituted as noted below:</p> <ol style="list-style-type: none"> <li>Dextrose 50% (50 ml) ----Dextrose 10% in 250ml (give 250ml wide open)</li> <li>Dextrose 50% (50ml) --- Dextrose 25% (100ml)</li> <li>Epinephrine 1:10,000 (10 ml)--- Epinephrine 1mg/1ml (take 1 ml and dilute in 9 ml of saline and then give IV push)</li> <li>Fentanyl 25-50 micrograms --- Morphine 1-5 mg</li> <li>Versed 2mg --- Ativan 2mg IM/IV</li> <li>Versed 2mg --- Valium 5mg IV</li> <li>Dopamine Drip --- Epinephrine 1ml of 1:10,000 in 9ml of NS give -1ml per minute of diluted mixture</li> <li>Zofran 4mg IV/IM – Phenergan 25mg IM (should not be used IV)</li> <li>Zofran 4mg IV/IM – Zofran ODT PO (Melts in mouth)</li> <li>Refer to Academy of Medicine website for any emergency substitutions</li> </ol>		



 <b>State Board Emergency Medical, Fire and Transportation Services Division of EMS/Department of Public Safety</b>					
Updated August 22, 2013					
	Airway Management	EMR	EMT	AEMT	PARAMEDIC
1	Open and maintain the airway	x	X	x	x
2	Oropharyngeal airway adjunct	x	X	x	x
3	Nasopharyngeal airway adjunct	x	X	x	x
4	Manual removal of obstructed airway	x	X	x	x
5	Laryngoscopy for removal of airway obstruction			x	x
6	Oral suctioning	x	X	x	x
7	Endotracheal (ET) tube suctioning via through a previously established airway or a stoma		X	x	x
8	Tracheostomy tube replacement			x	x
9	Cricothyrotomy, surgical				x
10	Cricothyrotomy, needle				x
11	Pulse oximeter and capnography equipment application and reading	x	X	x	x
12	Oxygen administration				
	a. Nasal cannula	x	X	x	x
	b. Non-rebreather mask	x	X	x	x
	c. Mouth-to-barrier devices	x	X	x	x
	d. Partial rebreather mask		X	x	x
	e. Venturi mask		X	x	x
13	Ventilation management				
	a. Bag valve mask	x	X	x	x
	b. Ventilation with a flow-restricted oxygen-powered device	x	X	x	x
	c. Positive pressure ventilation devices (manually triggered or automatic ventilators)		X	x	x
14	Ventilator management - 16 years of age or older				x
15	Orotracheal intubation				x
	a. Apneic patients			x	x
	b. Pulseless <u>and</u> apneic patients			x	x
16	Nasotracheal intubation				x
17	Dual lumen airway				x
	a. Apneic patients			x	x
	b. Pulseless <u>and</u> apneic patients		X	x	x
18	Extraglottic airways				x
	a. Apneic patients			x	x
	b. Pulseless <u>and</u> apneic patients		X	x	x
19	CPAP administration and management		x	x	x
20	BiPAP administration and management				x



	Positive end-expiratory pressure (PEEP)				X
21	End tidal CO <sub>2</sub> monitoring and detecting		X	X	X
22	Oxygen humidifier equipment application and monitoring		X	X	X
23	Chest tube monitoring and management				X
24	Nasogastric (NG) tube placement				X
25	Orogastric (OG) tube placement				X

	Cardiac Management	EMR	EMT	AEMT	PARAMEDIC
1	Cardiopulmonary resuscitation (CPR)	X	X	X	X
2	Chest compression assist devices		X	X	X
3	Automated external defibrillator (use of an AED)	X	X	X	X
4	Manual defibrillation			X	X
5	Administration of cardiac medication				X
6	Set up cardiac monitor <sup>A</sup>		X		
7	Cardiac monitor strip interpretation			X	X
8	Cardioversion				X
9	Carotid massage				X
10	Transcutaneous cardiac pacing				X
11	12-lead EKG performance and interpretation				X
12	12-lead EKG application assisting Paramedic <sup>B</sup>		X	X	
13	12-lead EKG set up and application for electronic transmission <sup>C</sup>		X	X	X

<sup>A</sup> Set up of cardiac monitor only. Procedure shall not be performed unless an AEMT or Paramedic is present.

<sup>B</sup> Set up of 12-lead EKG application only. Procedure shall not be performed unless a Paramedic is present.

<sup>C</sup> An EMT or AEMT may set up and apply a 12-lead electrocardiogram when assisting a Paramedic or for the purposes of electronic transmission if all of the following conditions are met: 1) performed in accordance with written protocol; 2) EMT or AEMT shall not interpret the electrocardiogram; 3) delay in patient transport is minimized; and 4) EKG is used in conjunction with destination protocols approved by the local medical director.

	Medical Management	EMR	EMT	AEMT	PARAMEDIC
1	Epinephrine administration via auto-injector	X	X	X	X
2	Epinephrine administration via SQ or IM routes			X	X
3	Epinephrine administration via IV route				
4	Aspirin administration		X	X	X
5	Oral glucose administration		X	X	X
6	Activated charcoal administration		X	X	X
7	Nitroglycerin administration (patient assisted) <sup>D</sup>		X	X	X
8	Nitroglycerin administration (non-patient assisted)			X	X
9	Aerosolized or nebulized medications administration (patient assisted) <sup>D</sup>		X	X	X
10	Administration of aerosolized or nebulized medications (non-patient assisted)			X	X
11	Administration of intranasal medications			X	X
12	Medication administration (protocol-approved) <sup>E</sup>			X	X
13	Immunizations for influenza to firefighters or EMS providers (ORC 4765.391)				X



App C	Appendix C: EMS Scope of Practice	App C
2014	Academy of Medicine of Cincinnati - Protocols for SW Ohio	2014

14	Set up of IV administration kit <sup>E</sup>		X		
15	IV maintenance and fluid administration			X	X
16	Maintenance of medicated IV fluids				X
17	Central line monitoring				X
18	IV infusion pump				X
19	Intraosseous needle insertion			X	X
20	Saline lock initiation			X	X
21	Peripheral IV blood specimens			X	X
22	Maintenance of blood administration				X
23	Thrombolytic therapy initiation and monitoring				X

<sup>D</sup> Patient Assisted Definition: May assist with 1) patient's prescription upon patient request and with written protocol - OR - 2) EMS provided medications with verbal medical direction.

<sup>E</sup> See "AEMT Medications Approved by the EMFTS Board."

<sup>F</sup> Set up of IV equipment only. Procedure shall not be performed unless an AEMT or Paramedic is present.

	Trauma Management	EMR	EMT	AEMT	PARAMEDIC
1	PASG		X	X	X
2	Long spine board	X	X	X	X
3	Short spine board	X	X	X	X
4	Splinting devices	X	X	X	X
5	Traction splint		X	X	X
6	Cervical immobilization device (CID)	X	X	X	X
7	Helmet removal		X	X	X
8	Rapid extrication procedures		X	X	X
9	Needle decompression of the chest			X	X
10	Soft tissue management	X	X	X	X
11	Management of suspected fractures	X	X	X	X
12	Controlling of hemorrhage	X	X	X	X

	Basic Performances	EMR	EMT	AEMT	PARAMEDIC
1	Body substance isolation precaution/administration	X	X	X	X
2	Taking and recording of vital signs	X	X	X	X
3	Patient Care Report (PCR) documentation	X	X	X	X
4	Trauma triage determination per OAC 4765-14-02	X	X	X	X

	Additional Services	EMR	EMT	AEMT	PARAMEDIC
1	Emergency childbirth management <sup>G</sup>	X	X	X	X
2	Glucose monitoring system use (with Clinical Laboratory Improvement Amendments (CLIA) waiver in place)		X	X	X
3	Blood chemistry analysis				X
4	Eye irrigation	X	X	X	X
5	Eye irrigation with Morgan lens				X
6	Maintenance of blood administration				X
7	Thrombolytic therapy initiation and monitoring				X

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App D 2014	Appendix D: Chemical Agent Exposure Academy of Medicine of Cincinnati - Protocols for SW Ohio	App D 2014
<b>ALL</b>	<b><u>PROTOCOL FOR USE OF THE DUODOTE AND MARK-1 NERVE AGENT ANTIDOTE KITS</u></b>	
	<p><b>I. HISTORICAL FINDINGS</b></p> <ul style="list-style-type: none"> <li>A. Patients exhibiting signs and symptoms of nerve agent or organophosphate poisoning.</li> <li>B. Known terrorist incident involving chemical agents.</li> <li>C. Multiple patients presenting from a single location, especially a previously designated vulnerable target (federal building, mass gathering, abortion center, etc) or intelligence indicates high probability of terrorist incident involving chemical agents</li> </ul> <p><b>II. PRECAUTIONS</b></p> <ul style="list-style-type: none"> <li>A. <u>SELF PROTECTION OF THE RESCUER/PROVIDER IS THE FIRST PRIORITY.</u> Withdraw all EMS assets to a safe distance and notify the appropriate Hazardous Materials response team. Continually assess the situation from a safe distance. Be aware of additional disseminating devices. Proceed with appropriate hazardous material guidelines and procedures. Assure proper decontamination has been performed.</li> </ul> <p><b>III. PHYSICAL FINDINGS</b></p> <ul style="list-style-type: none"> <li>A. Over-stimulation of muscarinic sites increases secretion. Two acronyms which help identify the presence of an organophosphate nerve agent or insecticide exposure are:             <ul style="list-style-type: none"> <li>1. SLUDGE – Salivation, Lacrimation (Tearing), Urination, Defecation, Gastrointestinal distress, Emesis</li> <li>2. SLUGBAM – Salivation, Lacrimation (Tearing), Urination, Gastrointestinal emptying, Bradycardia and Bronchial constriction, Abdominal effects, Miosis (constricted pupils)</li> </ul> </li> <li>B. Over-stimulation of nicotinic sites causes severe muscle twitching, cramping, and weakness.</li> <li>C. Release of or exposure to possible chemical agent.</li> </ul> <p><b>IV. CHEMICAL AGENT CONSIDERATIONS</b></p> <ul style="list-style-type: none"> <li>A. The effects caused by a mild vapor exposure, namely rhinorrhea and a tightness in the chest, may easily be confused with an upper respiratory malady or an allergy.</li> <li>B. Miosis (constricted pupils), if present, will help to distinguish this as a nerve agent incident, but the eyes must be examined in a very dim light to detect this.</li> <li>C. GI symptoms from another illness may be confused with those from nerve agent effects.</li> <li>D. Exposure to organophosphates will produce the same signs and symptoms as exposure to nerve agents.</li> <li>E. History is the best indicator of nerve agent exposure:             <ul style="list-style-type: none"> <li>1. Large number of patients exhibiting signs and symptoms of nerve agent poisoning</li> <li>2. Known terrorist incident</li> </ul> </li> </ul> <p><b>V. INDICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Poisoning by organophosphorus nerve agents or insecticides with accompanying symptoms.</li> </ul> <p><b>VI. CONTRAINDICATIONS</b></p> <ul style="list-style-type: none"> <li>A. The DuoDote AND Mark 1 Kit are intended for adult use. It is not recommended that they be used for patients less than 90 pounds. Consult medical control for further direction related to use with children.</li> <li>B. For adults, in the presence of life-threatening poisoning by organophosphorus nerve agents or</li> </ul>	



App D 2014	Appendix D: Chemical Agent Exposure Academy of Medicine of Cincinnati - Protocols for SW Ohio	App D 2014
	<p>insecticides, there are no absolute contraindications to the use of the DuoDote or Mark 1 Kit Auto-Injectors. When symptoms of poisoning are not severe, DuoDote or Mark 1 Kit Auto-Injectors should be used with extreme caution in people with heart disease, arrhythmias, recent myocardial infarction, severe narrow angle glaucoma, pyloric stenosis, prostatic hypertrophy, significant renal insufficiency, chronic pulmonary disease, or hypersensitivity to any component of the product.</p> <p><b>VII. RELATIVE CONTRAINDICATIONS</b></p> <ul style="list-style-type: none"> <li>A. Patients with poor muscle mass at injection site.</li> <li>B. Asymptomatic nerve agent exposure.</li> </ul> <p><b>VIII. GUIDELINES</b></p> <ul style="list-style-type: none"> <li>A. Medication administration using the DuoDote Nerve Agent Antidote Kit involves the administration of Atropine (2.1 mg / 0.7 mL) and 2-PAM (Pralidoxime Chloride-600 mg / 2 mL) via a single auto-injector to a victim of Nerve Agent Exposure.</li> <li>B. Medication administration using the Mark 1 Nerve Agent Antidote Kit involves the administration of Atropine (2.0 mg / 0.7 mL) and 2-PAM (Pralidoxime Chloride-600 mg / 2 mL) contained in two separate auto-injectors to a victim of Nerve Agent Exposure.</li> </ul> <p><b>IX. PHYSICAL PROCEDURES:</b></p> <ul style="list-style-type: none"> <li>A. In the situation of known or suspected organophosphorus poisoning:</li> <li>B. <b>FOR PATIENTS EXHIBITING <u>MILD SYMPTOMS</u></b> <ul style="list-style-type: none"> <li>1. <b>MILD SYMPTOMS</b> <ul style="list-style-type: none"> <li>i. Blurred vision, miosis (excessive constriction of the pupils)</li> <li>ii. Excessive, unexplained teary eyes</li> <li>iii. Excessive, unexplained runny nose</li> <li>iv. Increased salivation, such as sudden drooling</li> <li>v. Chest tightness or difficulty breathing</li> <li>vi. Tremors throughout the body or muscular twitching</li> <li>vii. Nausea and/or vomiting</li> <li>viii. Unexplained wheezing, coughing, or increased airway secretions</li> <li>ix. Acute onset of stomach cramps</li> <li>x. Tachycardia or bradycardia (abnormally fast or slow heartbeat)</li> </ul> </li> <li>2. <b>FIRST DOSE:</b> Administer <b><u>one (1) DuoDote or Mark 1 Kit</u></b> injection if the patient experiences <b><u>2 or more MILD</u></b> symptoms.               <ul style="list-style-type: none"> <li>i. <b><u>Emergency medical services personnel with mild symptoms may self-administer a single dose of DuoDote or Mark 1 Kit.</u></b></li> </ul> </li> <li>3. Wait 10 to 15 minutes for DuoDote or Mark 1 Kit to take effect. If, after 10 to 15 minutes, the patient does not develop any SEVERE symptoms, no additional DuoDote or Mark 1 Kit injections are recommended.               <ul style="list-style-type: none"> <li>i. <i>For emergency medical services personnel who have self-administered using a DuoDote or Mark 1 Kit, an individual decision will need to be made to determine their capacity to continue to provide emergency care.</i></li> </ul> </li> <li>4. <b>ADDITIONAL DOSES:</b> If, at any time after the first dose, the patient develops any <b>SEVERE</b> symptoms, administer 2 additional DuoDote or Mark 1 Kit injections in rapid succession, and immediately seek definitive medical care.</li> </ul> </li> </ul>	



App D 2014	Appendix D: Chemical Agent Exposure Academy of Medicine of Cincinnati - Protocols for SW Ohio	App D 2014
	<p><b>C. FOR PATIENTS EXHIBITING <u>SEVERE SYMPTOMS</u></b></p> <ol style="list-style-type: none"> <li>1. <b>SEVERE SYMPTOMS</b> <ol style="list-style-type: none"> <li>i. Strange or confused behavior</li> <li>ii. Severe difficulty breathing or copious secretions from lungs/airway</li> <li>iii. Severe muscular twitching and general weakness</li> <li>iv. Involuntary urination and defecation</li> <li>v. Convulsions</li> <li>vi. Loss of consciousness</li> <li>vii. Respiratory arrest (possibly leading to death)</li> </ol> </li> <li>2. <b>FIRST DOSE:</b> Immediately administer <b>three (3) DuoDote or Mark 1 Kit</b> injections in rapid succession if a patient has any <b><u>SEVERE</u></b> symptoms.</li> <li>3. <b>ADDITIONAL DOSES:</b> No more than 3 doses of DuoDote or Mark 1 Kits should be administered unless definitive medical care (e.g., hospitalization, respiratory support) is available. <ol style="list-style-type: none"> <li>i. <i>The limit of 3 doses is specific to the pralidoxime component of the DuoDote and Mark 1 Kit. If necessary, additional doses of atropine can be administered if the 3 doses of the DuoDote or Mark 1 Kit do not produce an adequate response.</i></li> </ol> </li> </ol> <p><b>D.</b> Emergency care of the severely poisoned individual should include removal of oral and bronchial secretions, maintenance of a patent airway (including advanced airway devices/intubation), IV/IO access, supplemental oxygen, and, if necessary, artificial ventilation.</p> <p><b>E.</b> An anticonvulsant such as Midazolam (Versed) may be administered to treat convulsions if suspected in the unconscious individual. The effects of nerve agents and some insecticides can mask the motor signs of a seizure.</p> <p><b>F.</b> Close supervision of all severely poisoned patients is indicated for at least 48 to 72 hours.</p> <p><b>NOTES:</b></p> <ol style="list-style-type: none"> <li>A. DuoDote and Mark 1 are interchangeable based on availability.</li> </ol>	



App E 2014	Appendix E: Transport of the Contaminated Patient Academy of Medicine of Cincinnati - Protocols for SW Ohio	App E 2014
<b>ALL</b>	<p><b>I. HISTORICAL FINDINGS</b></p> <p>A. Patient states they have had direct contact or exposure to a known hazardous material, toxin, or an unknown potentially hazardous substance</p> <p><b>II. PHYSICAL FINDINGS</b></p> <p>A. Patient has signs and symptoms consistent with some form of chemical inhalation or exposure</p> <p><b>III. <u>PROTOCOL</u></b></p> <p>A. Attempt to ascertain the:</p> <ol style="list-style-type: none"> <li>1. type and name of material involved</li> <li>2. form of the material – liquid, gas or solid</li> <li>3. the amount of material the patient contacted or inhaled</li> </ol> <p>B. Attempt to obtain an MSDS and other pertinent information sheets on material(s)</p> <p>C. Determine whether the patient was exposed versus contaminated</p> <ol style="list-style-type: none"> <li>1. Exposure indicates the patient has inhaled a gas or had minimal contact with a potentially hazardous or toxic substance</li> <li>2. Contamination indicates the patient has come in direct contact with or inhaled a significant quantity of the substance involved</li> <li>3. Exposed patients seldom need decontamination. In some cases, such as those involving inhalation of a known or unknown gaseous material, decontamination may not be possible</li> </ol> <p>D. Be aware that prior to decontamination, secondary contamination of rescuers may occur due to hazardous materials still being present on the patient's clothing and skin.</p> <ol style="list-style-type: none"> <li>1. Substances with a high risk for secondary contamination include: <ol style="list-style-type: none"> <li>i. acids, alkalis, corrosives (if concentrated)</li> <li>ii. asbestos (large amounts, crumbling)</li> <li>iii. cyanide salts and related compounds (e.g., nitriles) and hydrogen cyanide</li> <li>iv. hydrofluoric acid solutions</li> <li>v. nitrogen containing and other oxidizers which may produce methemoglobinemia (aniline, aryl amines, aromatic nitro-compounds, chlorates, etc.)</li> <li>vi. pesticides</li> <li>vii. PCBs (polychlorinated biphenyls)</li> <li>viii. phenol and phenolic compounds</li> <li>ix. many other oily or adherent toxic dusts and liquids</li> </ol> </li> <li>2. Although rare, in some cases, the patient's exhalation may contain hazardous gases</li> </ol> <p>E. If field decontamination is indicated, consult a hazardous materials team and/or poison control for guidance</p> <p>F. Notify the receiving hospital as soon as possible of the situation. Information relayed should include, but is not limited to:</p> <ol style="list-style-type: none"> <li>1. the number of patients</li> <li>2. the name of the material involved if known</li> <li>3. the form of the material the amount of material the patient contacted or inhaled</li> <li>4. the length of the exposure</li> <li>5. whether field units consider this an exposure or contamination</li> <li>6. whether field decontamination is indicated, and if so, what level of decontamination is being performed</li> <li>7. patient condition including specific signs and symptoms</li> </ol>	



App E 2014	Appendix E: Transport of the Contaminated Patient Academy of Medicine of Cincinnati - Protocols for SW Ohio	App E 2014
	<div>8. whether field units feel further decontamination will be needed at the hospital</div> <div>9. ETA to the receiving hospital</div> <div>NOTES:</div> <div><div>A. This protocol is not intended as a field decontamination protocol. However, since decontamination may need to be accomplished prior to the arrival of a Hazardous Materials Team, the following should be considered:</div><div><div>1. The personal safety of EMS crewmembers and other emergency response personnel is paramount</div><div>2. Consider whether there is time to wait for a Hazardous Materials Team or engine company</div><div>3. What resources to perform decontamination are readily available on the scene (i.e. garden hose or other water source) or on the ambulance (i.e. pour solutions or IV fluids)</div><div>4. To adequately decontaminate a patient, clothing should be removed</div><div>5. In most cases, bleach should not be used on skin; Plain water and a soap (such as Simple Green®, Dawn®, or Tide®) is often all that is needed</div><div>6. Powdered chemicals should first be brushed off the skin, then the skin should be flushed with copious amounts of water</div><div>7. If adequate quantities of water are not available, applying a minimal quantity of water to a hazardous material may cause more damage than if the skin was not flushed</div><div>8. Consult field references if available for guidance</div></div><div>B. The practice of placing contaminated or decontaminated patients in body bags to contain any contaminants is discouraged. This practice can cause heat stress for the patient and can also increase absorption of hazardous materials.</div><div>C. Remember that contact with some common materials may result in the need for field decontamination. Prime examples include patients who have been significantly contaminated with gasoline or diesel fuel.</div></div> <div>Contamination by organophosphates (i.e. pesticides) often presents with gastrointestinal signs and symptoms. Chemical warfare agents also produce a similar clinical picture. The following acronym may be helpful in recognizing organophosphate poisoning.</div> <div><div><div>S- Salivation</div><div>L- Lacrimation (Tearing)</div><div>U- Urination</div><div>D- Defecation</div><div>G- Gastrointestinal Distress</div><div>E- Emesis</div></div><div><div>S- Salivation</div><div>L- Lacrimation (Tearing)</div><div>U- Urination</div><div>G- Gastrointestinal Emptying</div><div>B- Bradycardia; Bronchial constriction</div><div>A- Abdominal effects</div><div>M- Miosis (Constricted pupils)</div></div></div> <div>If these signs and symptoms are present and a chemical warfare agent is suspected, see “Appendix C: Mark 1 Kit Protocol”</div>	



App F 2014	Appendix F: Management of Mass Casualty Incidents Academy of Medicine of Cincinnati - Protocols for SW Ohio	App F 2014
<b>ALL</b>	<p><b>I. INTRODUCTION</b></p> <p>A. A Mass Casualty Incident (MCI) poses considerable challenges for first responding EMS units. For purposes of this protocol, an MCI is defined as an incident that generates a large number of patients and overwhelms first responding EMS units. In addition, the underlying cause of the incident (natural disaster, terrorist attack, etc.) may further decrease the initial effectiveness of traditional EMS response. It is recognized that these special circumstances will be varied and that the EMS agency itself will be responsible for defining exactly what meets the criteria of an MCI.</p> <p>B. Successful scene management of an MCI occurs in a standardized, predictable fashion. The procedures, tactical objectives and operational approach must be consistent across various EMS agencies to ensure maximum effectiveness and optimum patient outcome when operating at major medical incidents. The following is intended to provide first responders with general direction in the management of an MCI, including basic tactical objectives for EMS command and guidelines for the triage of patients. It is <b>not</b> intended to limit or supersede the local incident command system or local medical control but rather to provide broad guidelines that are common from community to community.</p> <p><b>II. MCI MANAGEMENT CONSIDERATIONS:</b></p> <p>A. Generally an incident with 10 or more patients constitutes an MCI. Depending upon the size of the incident, command personnel and first responders should consider performing the following upon confirmation of an MCI:</p> <ol style="list-style-type: none"> <li>1. Assign a Triage Unit <ol style="list-style-type: none"> <li>i. Can be first-in units; depends on hazard mitigation concerns</li> </ol> </li> <li>2. Notify area hospitals that an MCI has occurred <ol style="list-style-type: none"> <li>i. Utilize the Disaster Net radio system through local communications center</li> </ol> </li> <li>3. Request additional transport units as necessary <ol style="list-style-type: none"> <li>i. Consider establishing a Staging Area for incoming units and resources</li> </ol> </li> <li>4. If appropriate, move patients to a Treatment Area <ol style="list-style-type: none"> <li>i. The Treatment Area is under the direction of a Treatment Unit Leader</li> <li>ii. Consider personnel and equipment required to move victims</li> </ol> </li> <li>5. Establish a Transportation Unit or Group <ol style="list-style-type: none"> <li>i. The Transportation Unit or Group will handle hospital coordination and communication</li> </ol> </li> <li>6. Report completion of EMS Tactical Benchmarks <ol style="list-style-type: none"> <li>i. All patients triaged</li> <li>ii. All patients tagged as "IMMEDIATE" transported</li> <li>iii. Other benchmarks as determined by local authority</li> </ol> </li> <li>7. For a larger MCI, Command personnel should also consider the following: <ol style="list-style-type: none"> <li>i. Request additional resources such as the Red Cross Medical Assistance Team (MAT) and other MCI equipped units (e.g. supply trailers / vehicles)</li> <li>ii. Establish a medical supply sector</li> <li>iii. Establish multiple Treatment Areas as necessary</li> <li>iv. Request ancillary support services</li> <li>v. Request buses for transport of patients or for use as holding areas or rehab areas at the scene</li> </ol> </li> </ol>	



App F 2014	Appendix F: Management of Mass Casualty Incidents Academy of Medicine of Cincinnati - Protocols for SW Ohio	App F 2014
	<p><b>III. GUIDELINES FOR TRIAGE</b></p> <p>A. Simple Triage and Rapid Treatment (START) provides an easy-to-use procedure allowing for the rapid sorting of patients into specific categories. START does not require a specific diagnosis; rather it focuses on specific signs or symptoms. <b>The following guideline represents only a brief outline of the START triage system and in no way replaces the need for a course to fully describe the system.</b></p> <p>B. The first step is to order all ambulatory patients to walk to an assigned area. These patients are initially tagged MINOR (green).</p> <p>C. Begin the second step by moving from where you stand in an orderly and systematic manner through the remaining victims, stopping at each person for assessment and tagging. Each patient should NEVER take more than one minute.</p> <p>D. Evaluate each patient using RPM:</p> <ol style="list-style-type: none"> <li>1. R = Respiration <ol style="list-style-type: none"> <li>i. If the victim is NOT breathing quickly clear the mouth and open the airway</li> <li>ii. If the victim resumes breathing tag the patient as IMMEDIATE (red)</li> <li>iii. If the victim needs help maintaining an airway tag as IMMEDIATE (red)</li> <li>iv. If medically appropriate, insert an oropharyngeal airway</li> <li>v. If you doubt the patient's ability to breathe tag as IMMEDIATE (red)</li> <li>vi. If apnea persists despite simple maneuvers tag as DEAD (black)</li> <li>vii. If the victim is breathing greater than 30 bpm tag as IMMEDIATE (red)</li> <li>viii. If the victim is breathing less than 30 bpm move on to "P=Perfusion (Pulse/Circulation)"</li> </ol> </li> <li>2. P = Perfusion (Pulse/Circulation) <ol style="list-style-type: none"> <li>i. Control severe bleeding</li> <li>ii. Check a radial pulse for five to ten seconds</li> <li>iii. If irregular or absent tag the victim as IMMEDIATE (red)</li> <li>iv. If the radial pulse is present move on to "M=Mental Status"</li> </ol> </li> <li>3. M = Mental Status <ol style="list-style-type: none"> <li>i. Performed on patients who have adequate breathing and adequate circulation.</li> <li>ii. Test by having the patient follow a simple command:</li> <li>iii. Open your eyes, close your eyes, and squeeze my hand</li> <li>iv. Patients who can follow these commands are tagged DELAYED (yellow)</li> <li>v. Patients who are unresponsive or cannot follow simple commands are tagged IMMEDIATE (red)</li> </ol> </li> </ol>	
	<p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>• To the extent possible, EMS agencies should utilize a tagging system endorsed by their respective county Fire and EMS organizations (e.g. fire chiefs' association, academy of medicine, EMA, etc.) to aid in familiarity of the tags, consistent delivery of care and accountability of all victims.</li> </ul> <p>A. Colored ribbons have been successfully used in the past and are an acceptable alternative for the initial response of crew that are overwhelmed in the early stages of an event. However, proper tagging of patients with triage tags should occur as soon as possible afterwards (normally when the patient is re-triaged upon entering the Treatment Area) for purposes of accountability and maintenance of a patient care record.</p> <p>B. When performing triage at an MCI, EMS providers are encouraged to use discretion when directing MINOR (green) patients to walk from the scene. For example, a minor collision involving a bus may dictate c-spine evaluation and immobilization be accomplished prior to moving patients so long as</p>	



App F 2014	Appendix F: Management of Mass Casualty Incidents Academy of Medicine of Cincinnati - Protocols for SW Ohio	App F 2014
	<p>no other threats to patient health and welfare exist. In such a case, initial Triage Group personnel would NOT order all victims who can get up and walk to move to a specific area.</p> <p>C. All patients initially categorized under the START triage system must be regularly reevaluated. This is especially true of the MINOR (green) patients. Although initially ambulatory, these victims may have more significant underlying injuries that are not immediately discernible. When re-triaging, some patients may be upgraded to a higher priority while others may be downgraded to a lower priority as medically appropriate.</p> <p>D. The primary goal in the management of multi-patient or mass casualty incidents is to do the most good for the greatest number of victims. In general, early triage and transport improves survivability. However, in some cases mitigation of a hazard may take precedence over the triage and/or removal of victims. Nothing in this protocol should be interpreted as limiting the ability of the Incident Commander to manage the situation</p>	



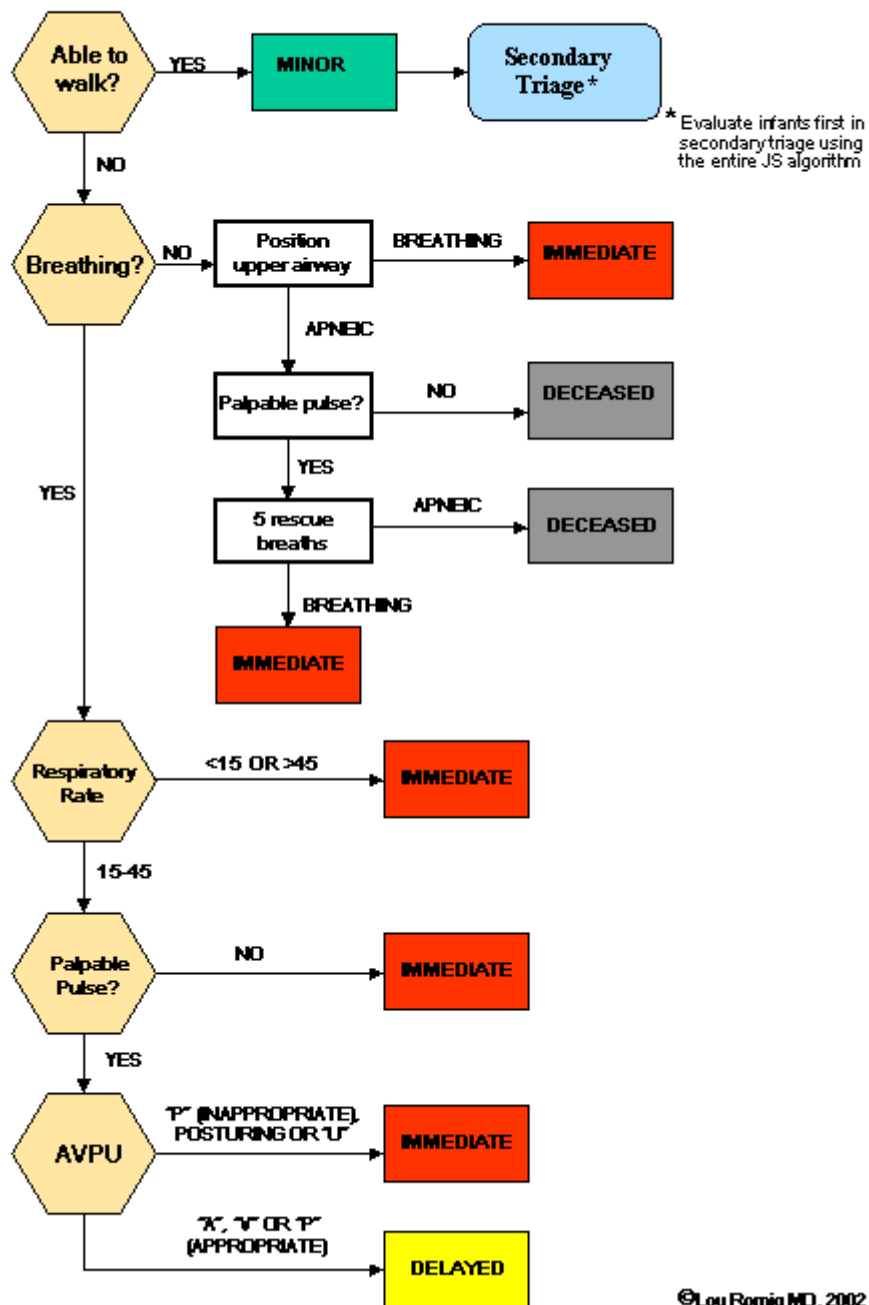
App G 2014	Appendix G: Jump S.T.A.R.T (Rapid Pediatric Triage System) Academy of Medicine of Cincinnati - Protocols for SW Ohio	App G 2014
<b>ALL</b>	<p>I. <b>INTRODUCTION</b></p> <p>A. If a patient looks like a young adult, use START; if he/she looks like a child, use JumpSTART.</p> <p>II. <b><u>PROCEDURE</u></b></p> <p>A. <b>STEP 1</b></p> <ol style="list-style-type: none"> <li>1. All children who are able to walk are directed to the area designated for minor injuries, where they will undergo secondary triage. Infants who are developmentally unable to walk should be screened at the initial site, using the JumpSTART. If they satisfy all of the physiologic “delayed” criteria and appear to have no significant external injury, infants may be triaged to the minor category.</li> <li>2. Note: Children with special health care needs are often chronically unable to ambulate. These children can be triaged similarly to infants who are developmentally unable to walk. A caregiver with knowledge of the children involved would be of invaluable assistance in assessing neurologic status.</li> </ol> <p>B. <b>STEP 2</b></p> <ol style="list-style-type: none"> <li>1. Non-ambulatory pediatric patients are initially assessed for presence/absence of spontaneous breathing. Any patient with spontaneous respirations is then assessed for respiratory rate (see STEP 3). Any patient with absolute apnea or intermittent apnea must have their airway opened by conventional positional technique, including BLS airway foreign body clearance if indicated. If the patient resumes spontaneous respirations, a red ribbon ( immediate) is applied and the triage officer moves on.</li> <li>2. If upper airway opening does not trigger spontaneous respirations, the rescuer palpates for a peripheral pulse ( radial, brachial). If there is no peripheral pulse, the patient is tagged as deceased ( black ribbon) and the triage officer moves on.</li> <li>3. If there is a palpable pulse, the rescuer gives 5 breaths (about 15 sec) using mouth to mask/barrier technique. <i>This is the pediatric “jumpstart.”</i> If the ventilatory trial fails to trigger spontaneous respirations, the child is classified as deceased (black). If spontaneous respirations resume, the patient is tagged as immediate (red) and the triage officer moves on without providing further ventilations. The child may or may not still be breathing on arrival of other non-triage personnel. Appropriate intervention can then be determined based upon the resources available at the designated treatment site.</li> </ol> <p>C. <b>STEP 3</b></p> <ol style="list-style-type: none"> <li>1. All patients at this point have spontaneous respirations. If the respiratory rate is roughly 15-45 breaths/min proceed to Step 4 (assess perfusion). If the respiratory rate is less than 15 or faster than 45 or very irregular, the patient is classified as immediate (red) and the triage officer moves on.</li> </ol> <p>D. <b>STEP 4</b></p> <ol style="list-style-type: none"> <li>1. All patients at this point have been judged to have “adequate” respirations. Assess perfusion by palpating peripheral pulses on an uninjured limb. This has been substituted for capillary refill (CR) because of variation in CR with body and environmental temperature and because it is a tactile technique more adaptable to poor environmental conditions.</li> <li>2. If there are palpable peripheral pulses, the rescuer assesses mental status (Step 5 ). If there are no peripheral pulses, the patient is categorized as an immediate (RED) patient and the triage officer moves on.</li> </ol> <p>E. <b>STEP 5</b></p> <ol style="list-style-type: none"> <li>1. All patients at this point have “adequate” ABCs. The rescuer now performs a rapid “AVPU” assessment, keeping in mind the apparent developmental stage of the child. If the patient is alert, responds to voice or responds appropriately to pain, the patient is triaged in the delayed category (yellow ribbon). If the child does not respond to voice and responds inappropriately to pain, has</li> </ol>	





decorticate or decerebrate posturing, or is truly unresponsive, a red ribbon (immediate) is applied and the triage officer moves on

## JumpSTART Pediatric MCI Triage®



**ALTERED MENTAL STATUS SB201**

- If rapid Glucose test < 70 then 25g of D-50 IV or if no IV then Glucagon 1 mg IM
- Narcan 0.4 to 2 mg IV/IM if signs of possible narcotic overdose are present

**ANAPHYLACTIC/ALLERGIC REACTION M409**

- Epinephrine 0.3 ml 1:1000 IM if either hypotension or severe respiratory distress is present
- Albuterol (Proventil) 0.5 ml in 2.5 ml NS via HHN if wheezing is present
- If hypotension infuse 1 liter NS IV WO rate.
- Benadryl 50 mg IV (may be given IM if IV not available) unless reaction is mild
- After 5 mins, if hypotensive despite IV fluid consider repeat epinephrine
- If hypotension persists, consider Dopamine infusion

**ASTHMA/COPD M403**

- Albuterol (Proventil) 0.5 ml in 2.5 ml NS via HHN. May repeat to a total of 3 treatments
- For first treatment may add ipratropium bromide or use Duoneb
- Epinephrine 1:1000 0.3 ml IM
- Consider CPAP if available
- Consider 60 mg Prednisone PO or Solumedrol 125mg IV

**ASYSTOLE or PEA C301**

- Confirm asystole in two leads
- Search for and treat possible causes: tension pneumothorax, hypovolemia, hypoxia, drug overdose, hypo/hyperthermia, pulmonary embolism, acidosis, cardiac tamponade
- Epinephrine 1 mg (10 ml of 1:10,000) IV/IO. Repeat every 3-5 minutes for duration of cardiac arrest OR
- Vasopressin 40 units IV/IO for 1st or 2nd dose of Epinephrine
- Consider Sodium bicarbonate 1 mEq/kg IV/IO for pre-existing conditions.
- Consider termination

**BACKBOARD/SPINAL IMMOBIL. T704****Non application rules**

- Age >16, <64
- Normal mental status
- no signs of intoxication
- GCS 15 & A & O x 4
- No distracting injuries
- obvious fracture/dislocation
- suspected fracture requiring splint
- injury needing IV pain medication
- No neurological deficit
- No mid-line spine pain/tenderness on palpation of spinous processes

**BRADYCARDIA C302**

- Atropine 0.5 IV/IO q 3-5 min (3 mg max)
- Consider pacing – preferable to atropine for patients with Mobitz II or 3<sup>rd</sup> degree HB with wide QRS – Consider sedation - Versed 2-4 mg/min IV/IM until patient's speech slurs or a total of 8 mg.
- Dopamine drip at 5-20 mcg/kg/min IV
- Consider fluid bolus

**CARDIOGENIC SHOCK M401**

- 500 ml bolus of 0.9 NS fluid challenge if lungs are clear, otherwise TKO
- Dopamine drip (1600mcg/ml) at 2-10 mcg/kg/min

**CHEST PAIN M400**

- 12-Lead ECG
- Nitroglycerin 0.4 mg SL q 5 min X 3 if patient has not taken any erectile dysfunction drugs: sildenafil (Viagra), vardenafil (Levitra), or tadalafil (Cialis) in the previous 24- 72 hours and BP > 100 systolic
- 324 mg baby aspirin (chewed) if not contraindicated or if patient has not taken a dose of aspirin within the previous 24 hours
- If chest pain persists after 3 Nitroglycerin doses or 12-lead indicates acute MI, notify receiving hospital
- Morphine Sulfate up to 2-4 mg IV (10mg total) or Fentanyl 25-50mcg IV (200mcg total) if BP > 100 mm Hg and pain persists.

**CONGESTIVE HEART FAILURE M404**

- CPAP if available
- Intubate if necessary
- Nitroglycerin 0.4 mg SL if systolic BP ≥ 100 if patient has not taken any erectile dysfunction drugs: sildenafil (Viagra), vardenafil (Levitra), or tadalafil (Cialis) in the previous 24- 72 hrs
- If pt taking Lasix, then pt's normal oral dose given IV; Otherwise, Lasix 40 mg IV

**PAIN MANAGEMENT S505****(BURNS/EXTREMITY INJURY)**

- Continuous pulse oximetry
- Morphine Sulfate 5 mg IV/IM/IO or Fentanyl 25-50 mcg IV/IO/IN/IM repeat once if pain is not relieved in 5 minutes and BP remains > 100 systolic
- Monitor BP, respirations, and mental status
- Narcan 0.4 to 2 mg IV if patient experiences respiratory depression

**REGIONAL TRAUMA GUIDELINES S211**

- Pulse >120 BP <90
- RR <10 or >29
- Intubated
- Evidence of Head Injury
- GCS < or equal to 13
- Alteration in LOC or LOC > 5 min
- Failure to localize pain
- Suspected Spinal Cord injury
- Penetrating Trauma to Head, chest, abd, neck, proximal to knee or elbow
- Amputation proximal to wrist or ankle
- Fractures of 2 or more proximal long bones
- Evidence of neurovascular compromise
- Tension pneumothorax that is relieved
- Head, neck or torso visible crush injury
- Abd tenderness, distention or seat belt sign
- Pelvic fracture
- Flail Chest
- Burn injury > 10% TBSA and other traumatic injuries
- Significant mechanism of injury = high index of suspicion
- < 30 min transport time to level 1 trauma

**GERIATRIC TRAUMA IS 65 YEARS OR OLDER WITH SB213**

- GCS < 14
- SBP < 110
- Fall with evidence of Traumatic Brain injury, even from standing
- Pedestrian struck by motor vehicle
- Suspected long bone fx from MVC
- Multiple body regions injured

**SEIZURE M410**

- Immobilize C-spine if evidence of significant trauma is present, otherwise lateral recumbent position
- Dextrose 50% 25 gm IV if Glucose < 70
- Narcan 0.4 to 2 mg IV if suspect narcotic OD
- Versed 2-4 mg/min IV/IM/IO, until seizure resolves or a total of 8 mg is given
- If in the 3<sup>rd</sup> trimester of pregnancy- up to 6 wks postpartum -actively seizing with no seizure history consider magnesium sulfate 4 gm IVP slowly over 15 mins

**TACHYCARDIAS STABLE/UNSTABLE PSVT (STABLE) C305**

- Valsalva.
- 12 lead ECG, if available
- Adenosine 6 mg RAPID IV
- Adenosine 12 mg RAPID IV
- Adenosine 12 mg RAPID IV

**PSVT (UNSTABLE) C306**

- Consider sedation - Versed 2-4 mg IV/IM until patient's speech slurs or a total of 8 mg.
- Synchronized cardioversion at 50-100 joules.
- If no change, repeat synchronized cardioversion at 100/200/300/360 joules

**VENTRICULAR TACH W/ PULSE (STABLE) C304**

- Consider Adenosine
- Amiodarone 150 mg IV/IO over 10 min
- If VT persists, may repeat Amiodarone 150 mg IV/IO over 10 min

**VENTRICULAR TACH W/ PULSE (UNSTABLE) C303**

- Consider sedation- Versed 2-4 mg IV/IM until patient's speech slurs or a total of 8 mg.
- Synchronized cardioversion at 100 joules.
- If no change, repeat synchronized cardioversion at 200/300/360 joules.

**V-FIB/ PULSELESS V-TACH C300**

- Defibrillate at 360 joules.
- Epinephrine 1 mg (10 ml 1:10,000) IV/IO every 3 to 5 minutes during arrest.  
OR
- Vasopressin 40 units IV/IO for 1st or 2nd of Epinephrine
- Defibrillate at 360 joules if still VF or VT.
- Amiodarone 300 mg IV/IO. May Repeat amiodarone 150 mg IV/IO in 3-5 min  
OR
- Lidocaine 1.5 mg/kg IV/IO. May Repeat lidocaine in 3 to 5 min 0.5 – 0.75 mg/kg
- Defibrillate at 360 joules after each drug administration.
- Consider sodium bicarbonate 1 mEq/kg IV/IO for pre-existing conditions.



App I	Appendix I: Pediatric Quick Reference Chart	App I
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#### NEWBORN RESUSCITATION P600

1. Suction mouth, then nose.
2. Dry infant, keep warm.
4. BVM for HR < 100 at rate of 60 breaths per minute.
4. Apply pulse ox to determine oxygen requirement
5. Chest compressions for HR < 60, 3:1 ratio with breaths. 120 events/minute.
6. After 30 seconds of BVM ventilation, consider intubation.

**FULL TERM:** 3.0 - 3.5 ET tube

**PREMATURE:** 2.5 - 3.0 ET tube

7. Contact medical control.
8. After 30 seconds of chest compressions consider **epinephrine**

IV: 1:10,000 at 0.4 mL

(0.2 mL for preterm newborn)

ETT: 1:10,000 at 0.8 mL

(0.4 mL for preterm newborn)

Repeat **epinephrine** every 3 to 5 minutes until HR > 60.

9. If significant blood loss at delivery, IV/IO normal saline 40 mL (20 mL for preterm newborn).

#### PULSELESS ARREST P602

##### (PEA AND ASYSTOLE)

1. After 2 minutes of chest compressions and BVM, check cardiac rhythm and pulse, then consider intubation.
2. **Epinephrine** 1:10,000 at 0.1 mL/kg IO/IV or 1:1000 at 0.1 mL/kg via ETT (maximum dose 5 mL)
3. Contact medical control.
4. Normal saline 20 mL/kg IV/IO pushed.
5. Repeat **epinephrine** every 3 to 5 minutes.

#### SYMPTOMATIC BRADYCARDIA P603

1. The most common cause of bradycardia in pediatrics is hypoxia.
2. For HR < 60, BVM and chest compressions.
3. IV/IO **epinephrine** 1:10,000 at 0.1 mL/kg or 1:1000 at 0.1 mL/kg via ETT (maximum dose 5 mL)
4. Contact medical control.
5. Repeat **epinephrine** every 3 to 5 minutes.
6. After **epinephrine**, consider 1 dose of atropine 0.02 mg/kg (min 0.1 mg, max 1.0 mg) IV, ET, or IO.
7. If hypotensive, normal saline 20 mL/kg IV push.

#### PSVT P604

1. Obtain 12 lead EKG

##### **Stable Patient**

2. Vagal maneuvers.
3. Contact medical control.
4. **Adenosine** 0.1 mg/kg IV rapid push. (Maximum first dose 6 mg). May repeat with double the dose (Maximum second dose 12 mg).

##### **Unstable Patient**

2. Contact medical control.
3. **Versed** 0.1 mg/kg (max 5 mg) IV/IM
4. Synchronized cardioversion 0.5 J/kg. May repeat at 1 J/kg and 2 J/kg. Round the J up.

#### PULSELESS ARREST P601

##### (V FIB & TACH)

1. Defibrillate at 2 J/kg (max 200 J) and resume CPR.
2. Defibrillate at 4 J/kg (max 360 J) and resume CPR
3. Consider intubation.
4. **Epinephrine** 1:10,000 at 0.1 mL/kg IV/IO or **epinephrine** 1:1000 at 0.1 mL/kg via ETT (maximum dose 5 mL).
5. Repeat **epinephrine** every 3 to 5 minutes, followed by 2 minutes of CPR.
6. If still V Fib or V Tach without pulses, defibrillate at 4 J/kg then resume CPR.
7. **Amiodarone** 5 mg/kg (max 300 mg) IV/IO then resume CPR.
8. **Lidocaine** 1 mg/kg IV/IO then resume CPR.
9. Contact medical control and transport to **closest** appropriate facility.

#### STRIDOR P605

1. Keep the patient calm.
2. Contact medical control.
3. **Epinephrine** 0.5 mL of 1:1000 solution mixed in 2.5 mL of normal saline, nebulized.
4. Continuing just nebulized normal saline afterwards may be beneficial.

#### AIRWAY OBSTRUCTION OR FOREIGN BODY ASPIRATION P606

1. Alert & not choking
  - A. Begin transport with patient as comfortable as possible.
  - B. If wheezing, **albuterol** nebulized treatment.
2. Alert & choking
  - A. < 1 year, give 5 back slaps and 5 chest thrusts. Repeat.
  - B. 1 year to puberty, give abdominal thrusts (Heimlich)
3. Unconscious
  - A. Begin BVM/CPR.
  - B. With laryngoscope, look for foreign body and remove with Magill Forceps.
  - C. If no foreign body, intubate.
  - D. If still no chest rise, consider pushing tube in right mainstem or needle cric
  - E. Contact medical control and transport to the **closest** appropriate facility.

#### RESPIRATORY DISTRESS P607

1. Assess need for assisted ventilation.
2. Allow patient to sit up in a position of comfort.
3. If wheezing, **albuterol** 0.5 mL in 2.5 mL normal saline nebulized.
4. Begin transport.
5. May give 3 **albuterol** nebulized treatments. Contact medical control if additional treatments are needed.
6. For severe respiratory distress, contact medical control while BVM ventilating.
7. **Epinephrine** 1:1000 **IM**. 0.01 mL/kg (max 0.3 mL).

#### ALTERED MENTAL STATUS P608

1. If dysrhythmia is present, proceed to the appropriate protocol.
  2. For signs of shock, push 20 mL/kg of normal saline IV/IO (max 1 L).
  3. If Glucose is less than 70, administer 1 mL/kg of D50 IV push. For children less than 3 years of age or less than 15 kg, instead administer 2 mL/kg of D25 IV push. D25 is made by mixing D50 1:1 with normal saline.
- IF no IV then Glucagon** 1 mg IM for > 6 years. For children < 5 years, 0.5 mg.

#### ANAPHYLAXIS / ALLERGIC P609

1. Remove exposure to allergen, if possible (bee stinger, for example).
2. For respiratory symptoms **or** low blood pressure, give **epinephrine** 1:1000 **IM** 0.01 mL/kg (max 0.3 mL) AND give 20 mL/kg of normal saline IV push (max 1 L)
3. If wheezing, give **albuterol** nebulizer treatment 0.5 mL in 2.5 mL of normal saline
4. Medical control may order **diphenhydramine** 1 mg/kg IV/IM (max 50 mg).

#### SEIZURES P610

1. 100% O2 or BVM ventilate if needed.
2. Consider nasopharyngeal airway
3. Seizing > 5 minutes, give **Midazolam** 0.1 mg/kg IV/IM (max 5 mg).
4. Contact medical control for seizing > 15 minutes.

#### TOXICOLOGIC EMERGENCIES P611

1. If narcotic overdose, **naloxone** IV/IM 0.1 mg/kg (max 2 mg).
2. If toxin remains on patient, wash or brush off as appropriate. Alert medical control if patient will require further decontamination. These patients are not to be brought through regular Triage.
3. For eye exposure, flush the eyes with normal saline for at least 15 minutes.
4. If patient has ingested medication or other substance, obtain container(s), and bring them with the patient to the emergency department.

#### PREHOSPITAL PAIN MANAGEMENT P612

1. For children 5-14 years of age suffering from an extremity injury or burn
2. Give **morphine** 0.1 mg/kg IV/IM (maximum dose 5 mg), OR **Fentanyl** 1 mcg/kg IV/IO (max 50 mcg), OR **Fentanyl** 2 mcg/kg IN (max 100 mcg)
3. If patient experiences a drop in systolic blood pressure to < (2 x age in years) + 65, give 20 mL/kg normal saline IV push.
4. For pain not relieved or for subsequent doses, contact medical control.



<b>App-J</b>	<b>Appendix J: Dispensing Prophylactic Antibiotics</b>
<b>1/1/2014</b>	<b>Academy of Medicine of Cincinnati - Protocols for SW Ohio</b>

**Southwest Ohio and Northern Kentucky  
Medical Protocol for Dispensing of Prophylactic Antibiotics to Emergency Responders & Family**

All individuals presenting for prophylactic treatment will be screened for signs and symptoms of infectious disease before they are allowed into the Point of Dispensing (POD) area.

I \_\_\_\_\_ M.D., order any staff employed by \_\_\_\_\_ (Fire/EMS agency) to directly, or by delegation and supervision, administer antibiotic medications herein prescribed by the Ohio Director of Health, to individuals and members of their households, in order to protect against infection by a known or potentially harmful biologic agent.

All medications are prescribed, and must be dispensed in accordance with the national prophylactic treatment recommendations and within the stated restrictions and guidelines of the Center for Disease Control and Prevention Strategic National Stockpile (SNS) program, and according to the attached guidelines as approved by \_\_\_\_\_.

When, in response to a public health event involving anthrax, mass dispensing sites are activated and operational, one of the following post-exposure prophylaxis dispensing orders/algorithms must be followed:

Prescribed Post-exposure Prophylaxis for Inhalational Anthrax-Summary  
Anthrax Prophylaxis Algorithm - Adult  
Anthrax Prophylaxis Algorithm - Child  
Anthrax Prophylaxis Algorithm – Pregnant or lactating female

In addition to the dispensing algorithms, the following Addendums are also included:

Addendum E.      name, address, phone number and health history (NAPH) forms, and  
Addendum F.      Notification of Primary Care Physician form  
Addendum G.      Dosing Guidelines for Pediatric patients  
Addendum H.      Drug Interaction Sheet  
Addendum I.      Patient Information Sheets  
Addendum J.      Medication “Common” Names

Review of this order, and agency policies and procedures related to carrying out this order, will occur at least once every year. This medical protocol will terminate one year from the date of signature.

\_\_\_\_\_ Date \_\_\_\_\_ MD



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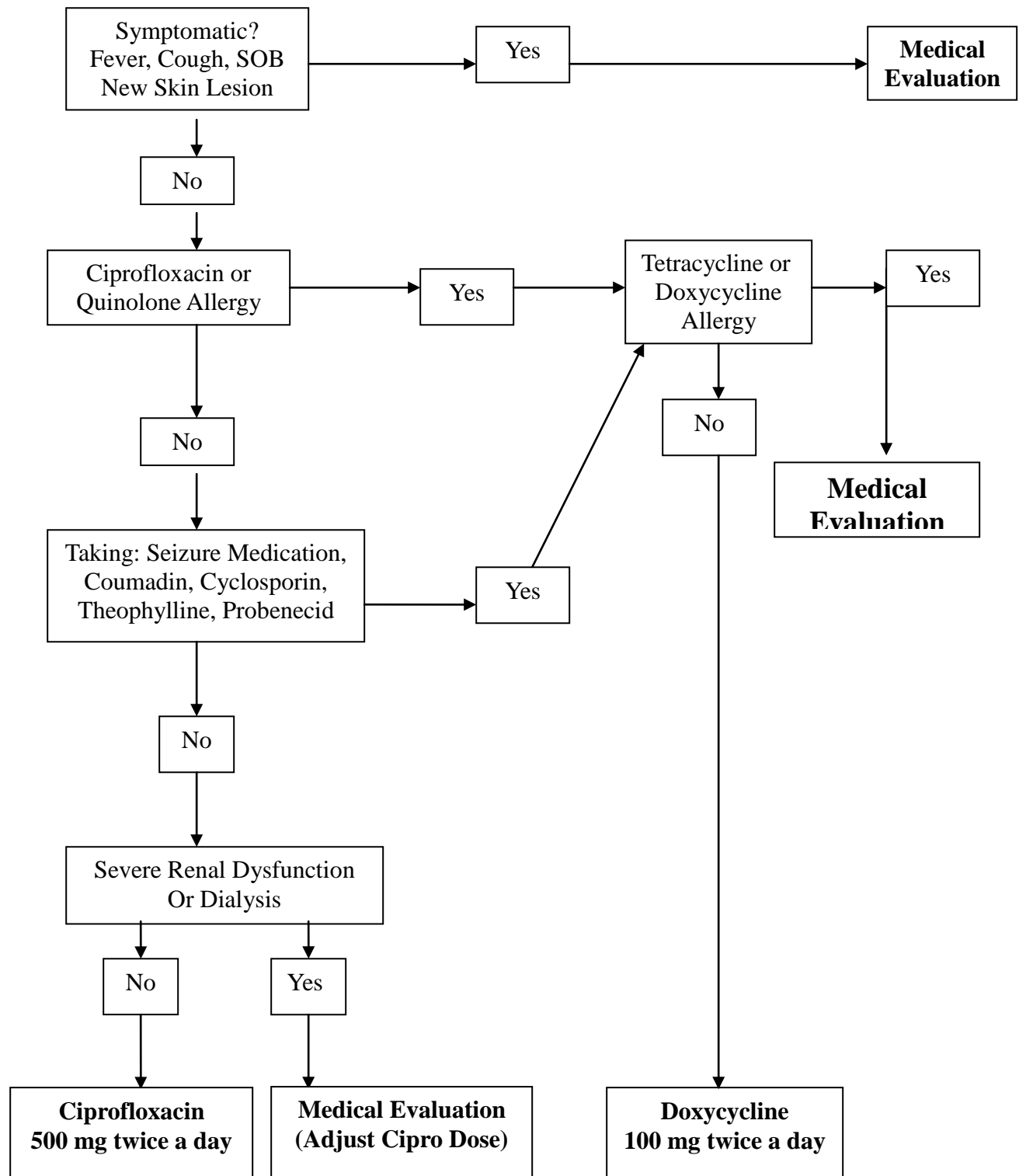
## Prescribed Post-exposure Prophylaxis for Inhalational Anthrax-Summary

<b>Table 1.</b>		
<b>Patient Category</b>	<b>Initial Therapy</b>	<b>Duration</b>
<b>Adults</b> (including immuno-compromised patients)	<b>Preferred Choices:</b> <b>Ciprofloxacin, 500 mg PO</b> twice daily, <b>OR</b> <b>Doxycycline, 100 mg PO</b> twice daily	10 days
<b>Children</b> (including immuno-compromised patients)	<b>Preferred Choices:</b> <b>Ciprofloxacin, 15 mg/kg PO</b> every 12 hr, not to exceed 1 gm/day, <b>OR</b> <b>Doxycycline: 2.2mg/kg PO</b> twice daily	10 days
<b>Pregnant women and Breastfeeding mothers</b>	<b>Preferred Choices:</b> <b>Ciprofloxacin, 500 mg PO</b> twice daily, <b>OR</b> <b>Doxycycline, 100 mg PO</b> twice daily	10 days
Abbreviation: PO = orally		



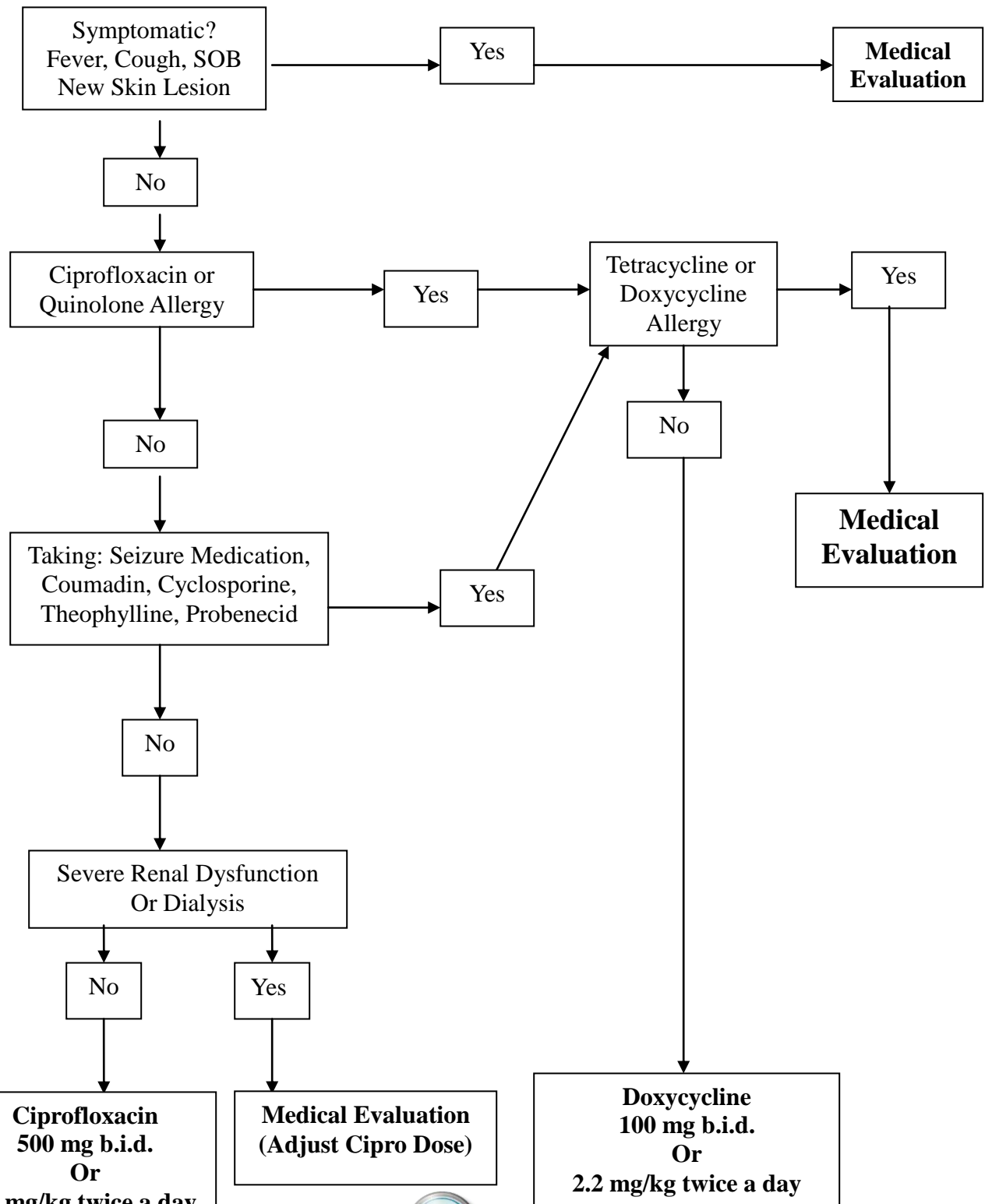
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### Post Exposure Prophylaxis Algorithm - Adult



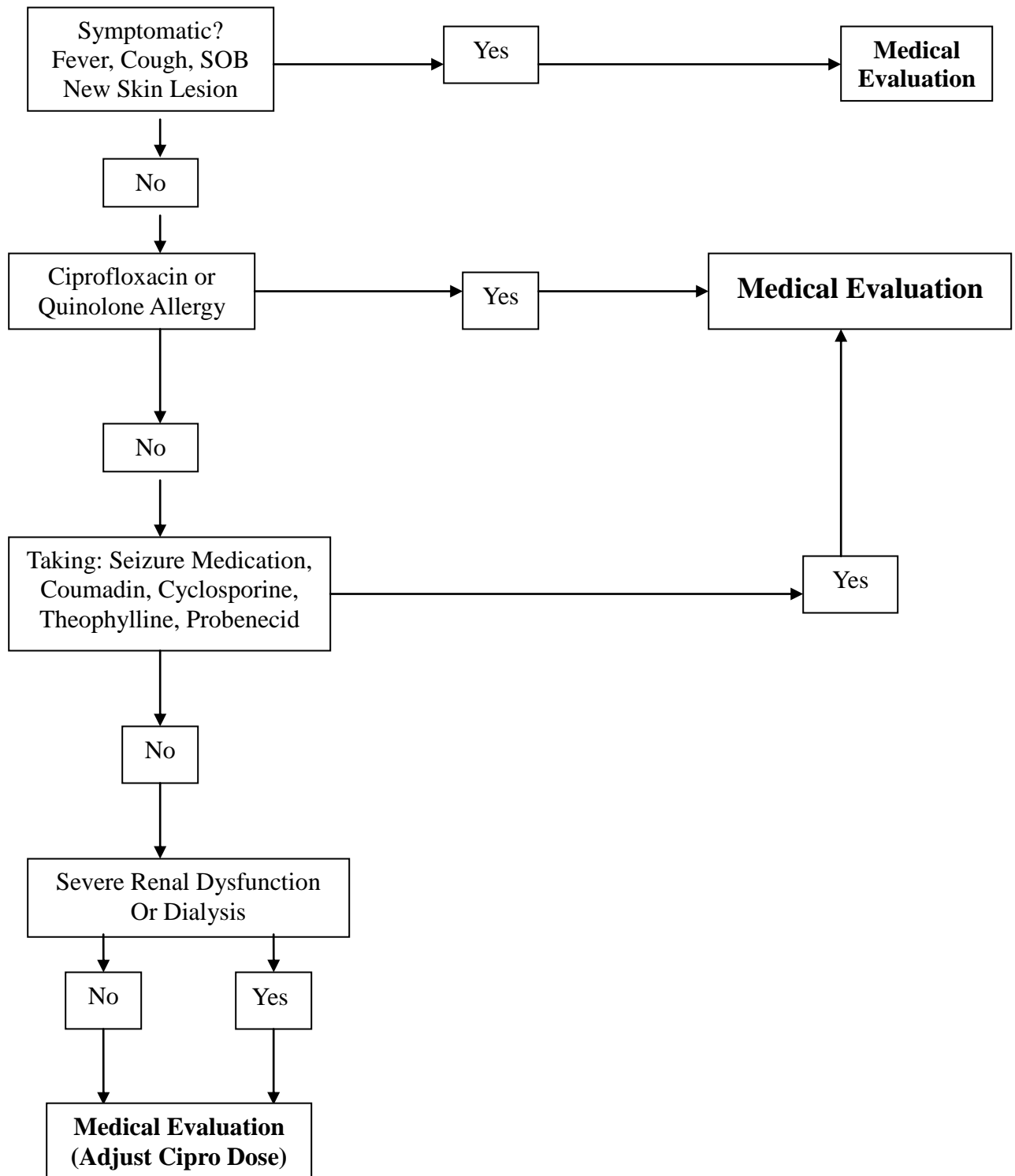
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## Post Exposure Prophylaxis Algorithm – Child



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## Post Exposure Prophylaxis – Pregnant or Lactating Female





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**NOTIFICATION TO PRIMARY CARE PROVIDER (PCP) OF  
MEDICATIONS DISPENSED IN PUBLIC HEALTH EMERGENCY**

Dear Primary Care Provider

RE: Your client, name: \_\_\_\_\_ Date dispensed \_\_\_\_/\_\_\_\_/\_\_\_\_

After possible exposure to an infectious biological agent, your client was seen at a public health emergency site on the above date. Upon completion of a brief screen for exposure risk, health and medication contradictions, the following antibiotic was indicated and dispensed from the local pharmaceutical stockpile .

☐ Doxycycline 100 mg. tablet, BID X 10 days OR ☐ Ciprofloxacin 500 mg tablet, BID X 10 days.

To reduce the risk of dental staining and fluorosis, pregnant women will not receive Doxycycline. If it is determined that antibiotic use is required for longer than 10 days, staff will notify your client directly and provide a sufficient supply of medication for post-exposure protection, according to CDC recommendations and the ODH prophylaxis protocol.

Serum levels of certain maintenance medication may be altered by use of this antibiotic. If your client is taking drugs with known interactions, we suggest serum levels be checked within 3 to 5 days, with dose adjustment as needed. Known drug interactions and recommendations are listed below.

**Interactions with both Doxycycline and Fluoroquinolones**

- ☐ **Warfarin (Coumadin)** effect may be enhanced. Check Client interactions and decrease dose of Coumadin if needed.
- ☐ **Probenecid (Benemid)** will increase antibiotic serum levels; stop until antibiotic regimen is completed.
- ☐ **Digoxin** levels increase. Monitor/test Digoxin toxicity.

**Doxycycline Drug Interactions**

- ☐ **Isotretinoin (Accutane)** slight risk of pseudotumor cerebri, stop if headaches, blurred vision develop.
- ☐ **Insulin** requirements are decreasing while taking Doxycycline. Monitor blood sugar frequently.
- ☐ **Lithium** levels may change (increase or decrease) check serum lithium levels if signs of toxicity.
- ☐ **Methotrexate** serum levels can quickly increase to toxic. MTX users who get Doxycycline at the emergency clinic are advised to be in contact with their primary care MD before taking MTX and Doxycycline together. MTX dose may require adjustment or need to be temporarily discontinued during antibiotic treatment.
- ☐ **Barbiturates, phenytoin, carbamazepine** all will reduce half-life of Doxycycline by 8-9 hours. Doxycycline dose or frequency was increased as tolerated.
- ☐ **Rifampin** lowers the serum levels of Doxycycline in certain persons. If Rifampin and Doxycycline are used together, the client must be carefully monitored for signs and symptoms of BT (anthrax, plague or tularemia) infection.

**Fluoroquinolones (Ciprofloxacin) Drug Interactions**

- ☐ **Theophylline** levels increase. Serious and fatal reactions have been reported with concomitant use.
- ☐ **Ropinirole** (for Parkinson's) effects may be increasing, resulting in toxicity. Check level and adjust as needed.
- ☐ **Phenytoin (Dilantin)** levels may increase or decrease . Check level and adjust as needed.
- ☐ **Cyclosporine** plus Ciprofloxacin may result in an increase in serum creatinine. Check renal function.
- ☐ **Glyburide** plus Ciprofloxacin rarely results in severe hypoglycemia. Monitor blood sugar closely.



### Fluoroquinolones Dose Adjustment with reduced Kidney Function

#### MEASURED CREATININE CLEARANCE

- 50 mL/min or greater than 0.83 ml/sec
- 30 to 50 mL/min
- 5 to 29 mL/min
- On hemodialysis

#### RECOMMENDED DOSE OF CIPROFLOXACIN

- 500 mg PO q 12 hours
- 250 mg PO q 12 hours
- 250 mg PO q 18 hours
- 250 mg PO q 24 hours

### SIMPLIFIED PEDIATRIC DOSING BY WEIGHT

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<b>Doxycycline</b>				
Doxycycline Pediatric Dosing				
<b>Weight</b>	<b>Total Daily Dose</b>	<b>Dose form supplied in SNS (100mg)</b>	<b>Daily Frequency</b>	
less than 12.5 lbs. or less than 6kg.	25 mg.	¼ tablet or 5 ml. susp.	Once daily	<p>Persons weighing more than 99 lbs. (45 kg) or 8 years of age, use standard adult dosing of 100 mg. twice a day.</p> <p>Every attempt will be made to use suspension or other pediatric formulation; tablets will be used only when other is not available.</p>
12.5-25 lbs. or 6-12 kg.	50 mg. oral	½ tablet or 10 ml. susp.	Once daily	
25-50 lbs. or 12- 24 kg.	75 mg. oral	¾ tablet or 15 ml. susp.	Once daily	
50-75 lbs. or 24-36 kg.	100 mg. oral	½ tablet or 10 ml. susp.	Twice daily	
75-99 lbs. or 36-45 kg.	150 mg. oral	¾ tablet or 15 ml. susp.	Twice daily	

Contraindications to use of Doxycycline for prophylaxis are a previous allergic reaction to any tetracycline antibiotic. Use Doxycycline with precautions in women who are pregnant or currently breastfeeding, and in infants less than 6 months of age.

#### Instructions for Suspension Mixing:

Crush the appropriate amount of tablet using two spoons. Place the powder in orange juice, formula or water and mix thoroughly.



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## Ciprofloxacin

### Simplified Pediatric Dosing by Weight

**Ciprofloxacin dosage should not exceed 1 g/day in children (newborn to 80 lbs)**

Weight	Dose (mg)	250 mg/5ml suspension	500 mg tablet
7-12 lbs/3-5 kg	50 mg PO BID	1 ml	Use suspension
13-22 lbs/6-10 kg	100 mg PO BID	2 ml	Use suspension
22-28 lbs/8-13 kg	125 mg PO BID	2.5 ml	¼ tablet
29-33 lbs/10-15 kg	150 mg PO BID	3 ml	¼ tablet
34-44 lbs/13-20 kg	200 mg PO BID	4 ml	½ tablet
45-56 lbs/16-25 kg	250 mg PO BID	5 ml	½ tablet
57-72 lbs/25-37 kg	375 mg PO BID	7.5 ml	¾ tablet
greater than or equal to 73-80 lbs/greater	500 mg PO BID	10 ml	1 tablet

This chart purposefully reflects more than one dose for a particular weight to permit flexibility in dosing based on the products that are available at the time of dispensing.

These doses are within the recommended dosing range of Ciprofloxacin 10-15 mg/kg.

Contraindications to use of Ciprofloxacin for prophylaxis are a previous allergic reaction to any quinolone antibiotic. Use Ciprofloxacin with precautions in persons with chronic kidney disease (decreased renal clearance), a past history of seizures, or weighing less than 73 pounds.

See also the Ciprofloxacin Client Information Sheet concerning things to avoid, warnings, and side effects.



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### DRUG INTERACTION SHEET FOR ANTIBIOTICS COMMONLY USED FOR BIOTERRORISM PROPHYLAXIS

<b>HISTORY/DRUG</b>	<b>INTERACTION</b>	<b>RECOMMENDATION</b>
Pregnant or breastfeeding	Tetracyclines like Doxycycline permanently stain teeth if used in pregnancy	Administer Ciprofloxacin, advise pt. discuss Ciprofloxacin use with Primary Care Physician
Allergy to Doxycycline	Hypersensitivity reaction	Administer ciprofloxacin
Allergy to Doxycycline and Ciprofloxacin	Possible anaphylaxis	Use alternative antibiotic
Dilantin +Ciprofloxacin	May increase or less than phenytoin levels	Use doxycycline
Barbiturates, phenytoin, carbamazepine + doxycycline	Half life of antibiotic reduced from 16 to 7 hours	increase doxycycline dose (to 200 mg BID) OR frequency (to 100 mg TID) as tolerated.
Rifampin + doxycycline	less than doxycycline serum level when used concomitantly	Use Ciprofloxacin. If doxycycline must be used, follow patient. signs/symptoms of BT agent infection
History of renal insufficiency or currently on dialysis	increase serum levels of Ciprofloxacin	Reduce dose, refer to Primary Care Physician, adjust based primarily on creatinine clearance
History of diabetes	Doxycycline less than insulin requirements, possible hypoglycemia	Monitor blood sugar closely while taking doxycycline
Glyburide + Ciprofloxacin	Rarely results in severe hypoglycemia	Advise to monitor blood sugar closely
Coumadin + Ciprofloxacin Coumadin + doxycycline	May increase effects of Coumadin, and increase bleeding	Refer to provider in 3-5 days for PT/INR and adjust dose as needed
Probenecid + Ciprofloxacin Probenecid + doxycycline	increase levels of antibiotics	Stop Probenecid (for gout) if taking antibiotics
Digoxin + Ciprofloxacin Digoxin + doxycycline	increase levels serum Digoxin, possible Digoxin toxicity	Monitor for signs of digoxin toxicity
Accutane + doxycycline (isotretinoin)	Slight increased risk of pseudotumor cerebri	See Primary Care Physician if headaches, blurred vision develop
Methotrexate + doxycycline	increase serum methotrexate to toxic	Contact Primary Care Physician prior to concomitant use, MTX dose may require adj. or temporary stop during Doxycycline treatment
Lithium + doxycycline	Lithium levels may increase or less than	Caution to watch for lithium toxicity, see Primary Care Physician
Theophylline + Ciprofloxacin	Ciprofloxacin increase theophylline levels to toxic range	Reduce theophylline dose by ½. Refer to Primary Care Physician to check theophylline level in 3-5 days
Cyclosporine + Ciprofloxacin	May increase creatinine	Refer to Primary Care Physician in 3-5 days for serum creatinine and drug level
Ropinirole + Ciprofloxacin	Possible Ropinirole toxicity	Refer to Primary Care Physician in 3-5 days to check toxicity/adjust dose

Primary Care Physician=Primary care doctor Note: Ciprofloxacin is the fluoroquinolone packaged in the SNS.



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### **PATIENT INFORMATION: CIPROFLOXACIN 500 MG TABLET**

This drug belongs to a class of drugs called quinolone antibiotics. You have been given this drug for protection against possible exposure to infection-causing bacteria. This drug prevents: **Anthrax**

You have been provided a limited supply of medicine. Public health officials will inform you if you need more medicine after you finish this supply. If so, you will be told how to get more medicine. You will be told if no more medicine is needed. You may also be switched from this medicine to a different medicine based on laboratory tests. Since the disease associated with anthrax can develop quickly and be life threatening, it is very important that you complete the full course of therapy recommended by public health officials.

#### **DOSING INSTRUCTIONS: Take one tablet by mouth, two times a day unless otherwise prescribed.**

- You will be provided special dosing instructions for children.
- Keep taking your medicine, even if you feel okay, unless your doctor tells you to stop. If you stop taking this medicine too soon, you may become ill.
- You should take this medicine with a full glass of water. Drink several glasses of water each day while you are taking this medicine. It is best to take this medicine 2 hours after a meal. If it upsets your stomach, you may take it with food, but do not take it with dairy products such as milk, yogurt, or cheese.
- If you miss a dose, take the missed dose as soon as possible. If it is almost time for your next regular dose, wait until then to take your medicine, and skip the missed dose. Do not take two doses at the same time.
- This medication has been prescribed for your current condition only. Do not use it later for another infection or give it to someone else.

#### **WARNINGS:**

- Do not take this medicine if you have had an allergic reaction to ciprofloxacin or other quinolone medicines such as gatafloxacin (Tequin<sup>®</sup>), levofloxacin (Levaquin<sup>®</sup>), norfloxacin (Noroxin<sup>®</sup>), ofloxacin (Floxin<sup>®</sup>) or nalidixic acid (NegGram<sup>®</sup>).
- If you have epilepsy or kidney disease, or if you are pregnant, become pregnant, or are breastfeeding, notify emergency healthcare workers before you start taking this medicine.
- Until information is obtained about which drug is most effective against anthrax, medical experts from the Centers for Disease Control and Prevention and the American College of Obstetricians and Gynecologists, recommend children and pregnant and breast-feeding women receive ciprofloxacin to prevent the life-threatening complications of anthrax. If you are currently breast-feeding and have concerns about exposing your baby to ciprofloxacin, you may consider discarding the breast milk until you have finished the medication.
- This medicine may make you dizzy or lightheaded. Avoid driving or using machinery until you know how it will affect you.
- This medicine increases the chance of sunburn; avoid prolonged exposure to sunlight or tanning equipment. If you have to be in the sun, make sure to use sunscreen (SPF 15 or greater) to protect your skin
- **ADVERSE REACTIONS:** Stop taking ciprofloxacin and call your doctor or seek medical attention right away by visiting an emergency room if you are having any of these side effects: rash or hives; swelling of face, throat, or lips; shortness of breath or trouble breathing; seizures; or severe diarrhea.
- **SIDE EFFECTS:** Rare side effects may occur that usually do not need medical attention. These side effects may go away while your body adjusts to the medicine. These side effects include nausea, mild diarrhea, stomach pain, dizziness, and headache. If you experience diarrhea, consider adding yogurt or lactobacillus to your diet. A re-hydration solution such as Pedialyte<sup>®</sup> is helpful if you have severe diarrhea. Talk with your doctor if any of these side effects become bothersome.



- **FOOD INTERACTIONS:** Avoid drinking more than one or two caffeinated beverages (coffee, tea, soft drinks) per day.<sup>1,2</sup> Avoid taking this medicine within 2 hours of dairy products containing large amounts of calcium such as milk, yogurt, or cheese.<sup>1,2</sup>

References: DRUG-REAX Interactive Drug Interactions; MICROMEDEX Healthcare Series, 2002. Drug Interaction Facts; Facts and Comparisons, 2002. **PATIENT INFORMATION:**  
DOXYCYCLINE 100 MG TABLET

**DRUG INTERACTIONS:** Take the following drugs 2 hours after or 6 hours before ciprofloxacin:

Antacids (Maalox<sup>®</sup>, Mylanta<sup>®</sup>)<sup>1,2</sup>  
 Calcium supplements (Oscal<sup>®</sup>)<sup>1</sup>  
 Didanosine (Videx<sup>®</sup>)<sup>1,2</sup>  
 Iron supplements (Vitron-C<sup>®</sup>, Feosol<sup>®</sup>)<sup>1,2</sup>  
 Sucralfate (Carafate<sup>®</sup>)<sup>1,2</sup>  
 Vitamins with mineral supplements (Centrum<sup>®</sup>, Theragran-M<sup>®</sup>)  
 Zinc supplements<sup>1,2</sup>

Consult a health care professional within 3-5 days after starting ciprofloxacin for monitoring and possible dosage change if you are taking one of the following medications:

Cyclosporine (Neoral <sup>®</sup> ) <sup>2</sup>	Phenytoin (Dilantin <sup>®</sup> ) <sup>1,2</sup>
Probenecid (Benemid <sup>®</sup> ) <sup>1</sup>	Theophylline (Theo-Dur <sup>®</sup> ) <sup>1,2</sup>
Warfarin (Coumadin <sup>®</sup> ) <sup>1,2</sup>	Foscarnet (Foscavir <sup>®</sup> ) <sup>2</sup>
Fosphenytoin (Cerebyx <sup>®</sup> ) <sup>1,2</sup>	Mexiletine (Mexitil <sup>®</sup> ) <sup>2</sup>

You may experience more side effects from the following medications, when taken with ciprofloxacin. Please consult your health care professional.

Caffeine (Vivarin <sup>®</sup> ) <sup>1,2</sup>	Clozapine (Clozaril <sup>®</sup> ) <sup>2</sup>
Diazepam (Valium <sup>®</sup> ) <sup>2</sup>	Glyburide (Diabeta <sup>®</sup> ) <sup>1</sup>
Methadone (Dolophine <sup>®</sup> ) <sup>2</sup>	Metoprolol (Lopressor <sup>®</sup> ) <sup>1,2</sup>
Propranolol (Inderal <sup>®</sup> ) <sup>1</sup>	Olanzapine (Zyprexa <sup>®</sup> ) <sup>1,2</sup>
Ropinirole (Requip <sup>®</sup> ) <sup>1</sup>	

Oral corticosteroids such as cortisone, hydrocortisone, prednisolone, prednisone, methylprednisolone, triamcinolone, dexamethasone, betamethasone may increase your risk for tendon rupture. Use precaution when exercising and report any tendon pain or inflammation.<sup>1</sup>

Consult your doctor if you are taking any other antibiotic.

**HERBAL INTERACTIONS:** Do not take fennel or dandelion within 2 hours of taking ciprofloxacin. You may take them 2 hours after or 6 hours before ciprofloxacin.<sup>1</sup>

#### **STORAGE:**

- Keep this medicine out of the reach of children.
- Store away from heat and direct light.
- Ciprofloxacin oral suspension may be refrigerated. However, keep this medicine from freezing.
- Do not store this medicine in the bathroom, near the kitchen sink, or in other damp places. Heat or moisture may cause this medicine to not work.
- Keep this medicine from freezing.

This drug belongs to a class of drugs called tetracycline antibiotics. You have been given this drug for protection against possible exposure to infection-causing bacteria. This drug prevents: **Anthrax**



You have been provided a limited supply of medicine. Public health officials will inform you if you need more medicine after you finish this supply. If so, upon your follow-up visit, you will be told how to get more medicine. You will be told if no more medicine is needed. You may also be switched from this medicine to a different medicine based on laboratory tests. Since the disease associated with anthrax can develop quickly and be life threatening, it is very important that you complete the full course of therapy recommended by public health officials.

**DOSING INSTRUCTIONS:** Take one tablet by mouth, two times a day unless otherwise prescribed.

- Keep taking your medicine, even if you feel okay, unless your healthcare provider tells you to stop. If you stop taking this medicine too soon, you may become ill.
- You may take your medicine with or without food or milk, but food or milk may help you avoid stomach upset.
- If you miss a dose, take the missed dose as soon as possible. If it is almost time for your next regular dose, wait until then to take your medicine, and skip the missed dose. Do not take two doses at the same time.
- This medication has been prescribed for your current condition only. Do not use it later for another infection or give it to someone else.

**WARNINGS:**

- Do not take this medicine if you have had an allergic reaction to any tetracycline antibiotics such as demeclocycline, doxycycline, minocycline, or oxytetracycline.
- If you have liver disease, or if you are or might be pregnant, or if you are breastfeeding, tell emergency healthcare workers before you start taking this medicine.
- This medicine increases the chance of sunburn; avoid prolonged exposure to sunlight or tanning equipment. If you have to be in the sun, make sure to use sunscreen (SPF 15 or greater) to protect your skin.
- Women may have vaginal yeast infections from taking this medicine. An over-the-counter vaginal, antifungal product will help this problem.

**ADVERSE REACTIONS:** Stop taking doxycycline and call your doctor or seek medical attention right away by visiting an emergency room if you are having any of these side effects: skin rash, hives, or itching; wheezing or trouble breathing; swelling of the face, lips, or throat.

**SIDE EFFECTS:** Rare side effects may occur that usually do not need medical attention. These side effects may go away while your body adjusts to the medicine. These side effects include diarrhea, upset stomach, nausea, sore mouth or throat, sensitivity to sunlight, or itching of the mouth or vagina lasting more than 2 days. If you experience diarrhea, consider adding yogurt or lactobacillus to your diet. A re-hydration solution such as Pedialyte<sup>®</sup> is helpful if you have severe diarrhea. Talk with your doctor if any of these side effects become bothersome.

**DRUG INTERACTIONS:**

The following medications and over-the-counter products should be taken three hours before or two hours after taking doxycycline:

Antacids (Maalox<sup>®</sup>, Mylanta<sup>®</sup>)<sup>1,2</sup>

Bismuth subsalicylate (Pepto-Bismol<sup>®</sup>)<sup>1,2</sup>

Calcium supplements (Oscal<sup>®</sup>)<sup>1</sup>

Choline and magnesium salicyclates combination (Trilisate<sup>®</sup>)

Cholestyramine (Questran<sup>®</sup>)

Colestipol (Colestid<sup>®</sup>)<sup>2</sup>

Iron supplements (Vitron-C<sup>®</sup>, Feosol<sup>®</sup>)<sup>1,2</sup>

Potassium Citrate (Urocit-K<sup>®</sup>)<sup>2</sup>

Magnesium-containing products (Mag-Ox<sup>®</sup>, Milk of Magnesia)<sup>1,2</sup>

Sodium bicarbonate (baking soda)<sup>2</sup>

Vitamin preparations that contain minerals (Centrum<sup>®</sup>, Theragran-M<sup>®</sup>)



Doxycycline may affect the following medications. Consult your doctor within 3-5 days if you are currently taking any of the following medications:

Digoxin (Lanoxin<sup>®</sup>)<sup>2</sup>  
Dicumarol<sup>1</sup>  
Insulin (Humulin<sup>®</sup>, Novolin<sup>®</sup>)<sup>2</sup>  
Isotretinoin (Accutane<sup>®</sup>)<sup>1</sup>  
Methoxyflurane (Penthrane<sup>®</sup>)<sup>2</sup>  
Methotrexate<sup>1,2</sup>  
Theophylline (Theo-Dur<sup>®</sup>)<sup>2</sup>  
Warfarin (Coumadin<sup>®</sup>)<sup>1,2</sup>

Oral contraceptives (birth control pills) containing estrogen may not work properly if you take them while you are taking this medicine. Unplanned pregnancies may occur. You should use a different or additional means of birth control while you are taking this medication. If you have questions about this, consult your doctor or pharmacist.<sup>1,2</sup>

The following medications may decrease the amount of doxycycline in your body. Consult your doctor whether you need to receive a higher dose of doxycycline:

Carbamazepine (Tegretol<sup>®</sup>)<sup>1,2</sup>  
Fosphenytoin (Cerebyx<sup>®</sup>)<sup>1</sup>  
Phenobarbital<sup>1,2</sup>  
Phenytoin (Dilantin<sup>®</sup>)<sup>1,2</sup>  
Rifabutin (Mycobutin<sup>®</sup>)<sup>2</sup>  
Rifampin (Rifadin<sup>®</sup>)<sup>1</sup>

Consult your doctor if you are taking any other antibiotic.

**HERBAL INTERACTIONS:** The herbal supplements, St John's wort and Dong quai, should be avoided when taking doxycycline.

**STORAGE:**

- Keep this medicine out of the reach of children.
- Store away from heat and direct light.
- Do not store this medicine in the bathroom, near the kitchen sink, or in other damp places.
- Heat or moisture may cause this medicine to not work.
- Keep this medicine from freezing.

**REFERENCES:**

1. DRUG-REAX Interactive Drug Interactions; *MICROMEDEX Healthcare Series*, 2002.
2. Drug Interaction Facts; *Facts and Comparisons*, 2002





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### **“COMMON” TETRACYCLINE NAMES**

#### **DOXYCYCLINE:**

Adoxa  
Ak-Ramycin  
AK-Ratabs  
Apo-Doxycycline  
Bio-Tab  
Doxycycline-Cap\*\*  
Monodox\*\*  
Periostat\*\*  
Vibramycin\*\*  
Vibratab\*\*

#### **DEMECLOCYCLINE:**

Declomycin\*\*  
Ledermycin\*\*

#### **MINOCYCLINE:**

Arestin  
Dynacin\*\*  
Monocin\*\*  
Minotab\*\*  
Vectrin

#### **OXYTETRACYCLINE:**

Ep-Mycin  
Oxy-Kesso-Tetra  
Terak  
Terra-Cortril  
Terramycin\*\*  
Terrastatin  
Uri-Tet  
Urobiotic

#### **TETRACYCLINE:**

Achromycin\*\*  
Bristacycline  
Centet-250  
Cyclinex  
Cyclopar  
Lemtrex\*\*  
Martet  
Nor-Tet  
Panmycin  
Retet  
Rexamycin  
Robitet  
Sumycin  
Teline  
Tetrachel  
Tetracyn  
Tetralan  
Tetram  
Tetrex  
Topicycline

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**\*\*Trade names listed on the POD clinic registration form (NAPH) form.**



<b>App-J</b>	<b>Appendix J: Dispensing Prophylactic Antibiotics--Addendum 10</b>
<b>1/1/2014</b>	<b>Academy of Medicine of Cincinnati - Protocols for SW Ohio</b>

### **“Common” Quinolone Names**

#### **CIPROFLOXACIN:**

Aeroseb-Dex  
Ciloxan\*\*  
Ciprofloxacin\*\*  
Ciprofloxacin Cystitis Pack  
Ciprofloxacin HC  
Ciprofloxacin XR

#### **CINOXACIN:**

Cinobac\*\*

#### **ENOXACIN:**

Penetrex

#### **GATIFLOXACIN:**

Tequin\*\*  
Zymar\*\*

#### **GREPAFLOXACIN:**

Raxar\*\*

#### **LEVOFLOXACIN:**

Levaquin\*\*  
Quixin\*\*

#### **LOMEFLOXACIN:**

Maxaquin\*\*

#### **MOXIFLOXACIN:**

Acuatim  
Avelox\*\*  
Vigamox\*\*

#### **NADIFLOXACIN:**

#### **NALIDIXIC ACID:**

NegGram

#### **NORFLOXACIN:**

Chibroxin\*\*  
Noroxin\*\*

#### **OFLOXACIN:**

Floxin\*\*  
Ocuflox\*\*

#### **OXOLINIC:**

Utibid

#### **PERFLOXACIN:**

Perflacine  
Uroquina

#### **ROSOXACIN:**

Eradacil\*\*

#### **RUFLOXACIN:**

Ruflox

#### **SPARFLOXACIN:**

Zagam\*\*

#### **TEMAFLOXACIN:**

Omniflox\*\*

#### **TROVAFLOXACIN:**

Trovan

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**\*\*Trade names of quinolone antibiotics commonly prescribed**



<b>App-K</b>	Appendix K: Department Site Visit Report the Compliance & Inspection Committee
<b>1/1/2014</b>	<b>Academy of Medicine of Cincinnati - Protocols for SW Ohio</b>

The site visit form has been changed so that it can be filled out on line.

Please obtain the site visit form from the Protocol website through [www.academyofmedicine.org](http://www.academyofmedicine.org)

Once obtained, please fill it out online and e-mail or snail mail it back to Nancy Coomer at the Academy of Medicine.



App L 2014	Appendix L: Blood Collection by EMS Providers Academy of Medicine of Cincinnati - Protocols for SW Ohio	App L 2014
<b>MEDIC</b>	<p>A. On September 17<sup>th</sup>, 2010 Senate Bill 58 went into effect, which allows, but does not require, EMS to collect blood samples for evidence collection. Currently the state is creating rules for EMS to follow in this endeavor. The Protocol Committee and the Academy of Medicine is hesitant to write protocols for legislation and rules that are currently under development. Nor do we wish to be an impediment to departments that wish to assist law enforcement in collecting blood samples. To this end the following recommendations are provided, adapted from the sources delineated in the notes section below.</p> <p>B. It is strongly recommended that the service Medical Director in conjunction with EMS leadership and the local Police Department develop the appropriate standard operating guidelines and protocols for withdrawing blood if desired by their service.</p> <p>C. Select Ohio Law(s) referenced to Blood Collection for EMTs:</p> <ul style="list-style-type: none"> <li>a. Section 4765.39(D) In addition to, and in the course of, providing emergency medical treatment, emergency medical technician-paramedic may withdraw blood as provided under sections 1547.11, 4506.17, and 4511.19 of the Revised Code. An emergency medical technician-paramedic shall withdraw blood in accordance with this chapter and any rules adopted under it by the state board of emergency medical, fire and transportation services.</li> <li>b. Section 4511.19(C) excerpt: "A person authorized to withdraw blood under this division may refuse to withdraw blood under this division, if in that person's opinion, the physical welfare of the person would be endangered by the withdrawing of blood."</li> </ul> <p>D. A MEDIC shall not attempt to withdraw blood if:</p> <ul style="list-style-type: none"> <li>a. In the opinion of the EMT-paramedic, the physical welfare of the patient, the EMT, or any other person would be endangered by the withdrawing of blood</li> <li>b. In the opinion of the EMT-paramedic, the withdrawing of blood would cause an unreasonable delay in the treatment or transport of the patient or any other person</li> <li>c. Consent of the patient is not obtained. Any person who is unconscious, or who otherwise is in a condition rendering the person incapable of refusal, shall be deemed to have consented</li> <li>d. Blood would be withdrawn from a pre-existing central venous access device</li> <li>e. The withdrawing of blood would result in a violation of any rule in this chapter</li> <li>f. Deceased patients cannot be included as they will no longer benefit from EMS Care.</li> </ul> <p>E. The law states "in the course of, providing emergency medical treatment" and as such all persons from whom blood is drawn should have required care/assessment.</p> <ul style="list-style-type: none"> <li>a. <u>A MEDIC should not be dispatched for the sole purpose of withdrawing blood for evidence collection.</u></li> </ul> <p>F. All persons from whom blood is drawn must have a Patient Care Report completed. If they refuse medical treatment or transport then the appropriate refusal forms should be filled out.</p> <p>G. Clear written protocols developed in conjunction with Law Enforcement.</p> <ul style="list-style-type: none"> <li>a. Blood should be drawn in the presence of the Law Enforcement Officer who will take possession of the sample.</li> <li>b. Document the name of the Law Enforcement Officer the sample was given to and the time the sample was acquired</li> <li>c. Law enforcement will provide the blood collection kit</li> <li>d. Law enforcement agencies independently contract with a variety of forensic laboratories to process their respective collected evidence. The content and design of blood collection kits are similar, but vary depending upon the type of kit the forensic laboratory vendor has elected to use and to provide to its clients, including law enforcement agencies. EMS agencies are encouraged to contact their local law enforcement agencies about the specific kits used in their area and availability for use in training</li> </ul> <p>H. Training</p> <ul style="list-style-type: none"> <li>a. Paramedics should be trained on the kit to be used.</li> </ul>	



App L 2014	Appendix L: Blood Collection by EMS Providers Academy of Medicine of Cincinnati - Protocols for SW Ohio	App L 2014
	<p><b>NOTES</b></p> <p>This protocol references the information available at the time publication. Refer to the Ohio DPS, Division of EMS for up-to-date rules and information pertinent to the topic.  <a href="http://www.ems.ohio.gov/ems_laws.stm">http://www.ems.ohio.gov/ems_laws.stm</a></p> <p>This protocol references the open letter <u>Senate Bill 58 and The Impact on EMS</u> (August 23, 2010) by Carol A. Cunningham, M.D., State Medical Director, Ohio Department of Public Safety, Division of EMS  State's rough draft of their rules 4765-6-06</p>	



App M 2014	Appendix M Immunization Academy of Medicine of Cincinnati - Protocols for SW Ohio	App M 2014
<b>Medic</b>	<ol style="list-style-type: none"> <li>I. The medical director for each emergency medical service may authorize one or more paramedic (s) within the organization to administer immunizations for influenza to either of the following: (1) a full-time paid firefighter, part-time paid firefighter, or volunteer firefighter; or (2) an emergency medical technician-basic, emergency medical technician-intermediate, or paramedic. ORC Section 4765.391 requires reporting for each immunization administered under this section. The paramedic administering the immunization shall, not later than thirty days after the immunization is administered, do either of the following: <ol style="list-style-type: none"> <li>a. Provide notice of the immunization administration to the board of health of the city or general health district in which the individual receiving the immunization resides or, if there is no board of health for that district, the authority having the duties of a board of health under section 3709.05 of the Revised Code;</li> <li>b. Submit the immunization administration information to the state immunization registry maintained by the department of health.</li> </ol> </li> <li>II. Procedure: <ol style="list-style-type: none"> <li>a. Identify adults with no history of influenza vaccination for the current influenza season.</li> <li>b. Screen all patients for contraindications and precautions to influenza vaccine: <ol style="list-style-type: none"> <li>i. Contraindications: <ol style="list-style-type: none"> <li>1. Serious systemic or anaphylactic reaction to a prior dose of the vaccine or to any of its components.</li> <li>2. For a list of vaccine components, go to <a href="http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf">http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf</a></li> <li>3. Reference website for Information Statements and Manuals (Source of above file) <ol style="list-style-type: none"> <li>a. <a href="http://www.cdc.gov/vaccines/pubs/default.htm#vis">http://www.cdc.gov/vaccines/pubs/default.htm#vis</a></li> </ol> </li> <li>4. Do not give live attenuated influenza vaccine (LAIV; nasal spray) to a person who has a history of either an anaphylactic or non-anaphylactic hypersensitivity to eggs, ; who is pregnant, is age 50 years or older, or who has chronic pulmonary (including asthma), cardiovascular (excluding hypertension), renal, hepatic, neurologic/ neuromuscular, hematologic, or metabolic (including diabetes) disorders; immunosuppression, including that caused by medications or HIV.</li> </ol> </li> <li>ii. Precautions: <ol style="list-style-type: none"> <li>1. Moderate or severe acute illness with or without fever</li> <li>2. History of Guillain Barré syndrome within 6 weeks of a previous influenza vaccination</li> <li>3. For live attenuated influenza vaccine (LAIV) only, close contact with an immunosuppressed person when the person requires protective isolation</li> </ol> </li> </ol> </li> </ol> </li> </ol>	



App M 2014	Appendix M Immunization Academy of Medicine of Cincinnati - Protocols for SW Ohio	App M 2014
	<ol style="list-style-type: none"> <li>4. Receipt of influenza antivirals (e.g., amantadine, rimantadine, zanamivir, or oseltamivir) within the previous 48 hours or possibility of use within 14 days after vaccination.</li> </ol> <p>iii. Other considerations:</p> <ol style="list-style-type: none"> <li>1. Onset of hives only after ingesting eggs: healthcare providers familiar with the potential manifestations of egg allergy should administer inactivated vaccine and observe patient for 30 minutes after receipt of the vaccine for signs of a reaction.</li> <li>2. The former abbreviation TIV (Trivalent Inactivated Influenza Vaccine, previously used for inactivated influenza vaccines) has been replaced with the new abbreviation IIV (Inactivated Influenza Vaccine). For the 2013–14 season, IIVs as a class will include: egg-based and cell culture-based trivalent inactivated influenza vaccines (IIV3), and egg-based quadrivalent inactivated influenza vaccine (IIV4).</li> </ol> <p>c. Provide all patients with a copy of the most current federal Vaccine Information Statement (VIS). Documentation must include the publication date of the VIS and the date it was given to the patient. Non-English speaking patients must be provided with a copy of the VIS in their native language, if available and preferred; these can be found at <a href="http://www.immunize.org/vis">www.immunize.org/vis</a>.</p> <p>d. Administer influenza vaccine using the appropriate procedure per the manufacturer based on the vaccine supplied: (below are 2 examples)</p> <ol style="list-style-type: none"> <li>i. Injectable trivalent inactivated influenza vaccine (TIV-IM) <ol style="list-style-type: none"> <li>1. For adults of all ages, give 0.5 mL of intramuscularly (22–25g, 1–1½" needle) in the deltoid muscle. (Note: A 5/8" needle may be used for adults weighing less than 130 lbs. [&lt;60 kg] for injection in the deltoid muscle only if the subcutaneous tissue is not bunched and the injection is made at a 90 degree angle.</li> </ol> </li> <li>ii. Intranasal LAIV <ol style="list-style-type: none"> <li>1. For healthy adults younger than age 50 years, 0.1 mL is sprayed into each nostril while the patient is in an upright position. (Total dose of 0.2 ml)</li> </ol> </li> </ol> <p>e. Document each patient's vaccine administration information and follow up in the following places:</p> <ol style="list-style-type: none"> <li>i. Record the date the vaccine was administered, the manufacturer and lot number, the vaccination site and route, and the name and title of the person administering the vaccine. If vaccine was not given, record the reasons(s) for non-receipt of the vaccine (e.g., medical contraindication, patient refusal).</li> <li>ii. Personal immunization record card: Record the date of vaccination and the name/location of the administering facility.</li> </ol> <p>f. Patients should be observed for ten minutes after immunization for any allergic reaction.</p> <ol style="list-style-type: none"> <li>i. Report all adverse reactions to influenza vaccine to the federal Vaccine Adverse Event Reporting System (VAERS) at <a href="http://www.vaers.hhs.gov">www.vaers.hhs.gov</a> or (800) 822-7967. VAERS report</li> </ol>	



forms are available at [www.vaers.hhs.gov](http://www.vaers.hhs.gov) or  
<http://vaers.hhs.gov/resources/vaersmaterialspublications>

## VACCINE ADMINISTRATION FORM

## Client Information

Last Name	First Name	M.I.	Date of Birth	Age	Sex <input type="checkbox"/> Male <input type="checkbox"/> Female
Address	City/Township	State	Zip	County	
Phone (if age under 18, phone of parent/guardian)	Parent/Guardian Name (only if client is under age 18)	Race (for statistical use only) <input type="checkbox"/> Asian Pacific <input type="checkbox"/> White <input type="checkbox"/> Black <input type="checkbox"/> Native American		<input type="checkbox"/> Other	Hispanic? <input type="checkbox"/> Yes

## Answer a few short questions so we can make sure that the vaccine can be given today

<input type="checkbox"/> Yes	<input type="checkbox"/> No	Is the client is sick today?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Is the client allergic to latex, medications, food, or any vaccines?
IF YES, list the allergies: _____		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Does the client have a history of Guillain-Barre syndrome?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Is the person receiving the flu vaccine 8 years old or under?
IF YES, how many doses did the child receive the FIRST year they received flu vaccine? <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> Not sure		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Has the client had other vaccines or anti-virals in the last 30 days?
IF YES, list the vaccines: _____		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Does the client have history of wheezing and/or asthma?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Is the client pregnant or could possibly find out that she is pregnant in the next month?
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Does the client have a weak immune system (ie, HIV, cancer, steroids) or have a chronic illness (ie, diabetes)?
IF YES, list conditions: _____		
<input type="checkbox"/> Yes	<input type="checkbox"/> No	Is the client taking long-term aspirin therapy or aspirin-containing therapy?
<input type="checkbox"/> Enrolled in Medicaid <input type="checkbox"/> No health insurance <input type="checkbox"/> Other private insurance <input type="checkbox"/> Under-insured (vaccinations not covered)		

## Client Consent (or Parent/Guardian Consent for clients age 17 &amp; under) - read and sign/date below.

I was given an explanation about the diseases and vaccines. I had the opportunity to ask questions that were answered to my satisfaction and/or received a Vaccine Information Sheet. I understand the benefits and risks of the vaccine(s) and ask that the vaccine(s) be given to me or the person named above for whom I am authorized to make this request. I hereby consent that the Local Health Department (LHD), or designee, from whom I received the vaccination can bill my insurance, if applicable. I understand I am financially responsible for any fees not covered by my insurance company. I authorize the release of this record to the Ohio Department of Health Immunization Program. I hereby acknowledge receipt of the LHD Notice of Health Information Privacy Practice and give permission to release my immunization record to my doctor or agency/school. If indicated on this form, I authorize the LHD or designee to charge my account. For clients age 17 and under, parent and/or guardian consents to allow client to receive vaccine without parent and/or guardian present.

SIGN Name: X Date: \_\_\_\_\_

## Payment Information (complete insurance OR self-pay area below)

INSURANCE — (complete insurance info below AND in box to the left write 1 or 2 to indicate primary/secondary)		SELF-PAY
<input type="checkbox"/> Medicare (Traditional Part B) ID# _____		<input type="checkbox"/> Cash
<input type="checkbox"/> Medicare HMO (ie, Anthem Medicare Advantage, SecureHorizons Medicare Advantage) Name of Plan: _____ ID# _____		<input type="checkbox"/> Check # _____
<input type="checkbox"/> Medicaid (ie, Traditional Medicaid, CareSource, Molina, Amerigroup) Name of Plan: _____ ID# _____		<input type="checkbox"/> Credit Card Type _____ Acct# _____ Exp. Date _____
<input type="checkbox"/> Private Insurance Company Name: _____ Member ID: _____ Group: _____ Plan: _____ Policy Holder Name & Date of Birth: _____ / ____ / ____ Relationship to Policy Holder: _____		Amount: _____ Receipt # _____ Received By: _____
<input type="checkbox"/> Other (ie, company voucher, etc) ID# _____		

## Office Use Only

Vaccine Administered Information				SC = subcutaneous ID = intradermal		IM = intramuscular IN = intranasal		Dose (check box)				Vaccinator Initials	
Date	Vaccine Name	Vaccine Lot #	Mfg	RA	LA	RT	LT	Nose	0.5 ml	0.25 ml	0.2 ml	0.1 ml	
Clinic site: _____				VIS: <input type="checkbox"/> Flu 07/02/2012 <input type="checkbox"/> Flu Mist 07/02/2012 <input type="checkbox"/> PPSV23 10/06/09									

Regional Form Revised: 7/11/2011

