St. Vincent Hospital
EMS Protocols
2010 Version

Detection  
Transfer to  
Definitive Care  
Response  
Care In Transit  
Reporting  
On-Scene Care
The following protocols have been developed to provide standardized guidelines for patient care in particular critical situations. In some instances it is necessary to abbreviate or shorten terms to provide the most concise set of guidelines possible. When "ALS" appears in this document, we refer to Paramedic (EMT-P) procedures, care, or transport as outlined by the Emergency Medical Services Branch, Fire and Building Safety Division of the Indiana Department of Homeland Security. When "BLS" appears in this document, we refer to Basic Emergency Medical Technician (EMT-B) procedures, care, or transport as defined by the Emergency Medical Services Branch, Fire and Building Safety Division of the Indiana Department of Homeland Security. Throughout this document the terms "guidelines", "protocols", and "directives" may be used interchangeably.

The following protocols are guidelines to be used in patient care management. These medical guidelines are not intended to be all-inclusive and may not necessarily have covered every situation which may be encountered by the Paramedic/EMT. These guidelines are not meant to serve as a teaching tool, but are written with the understanding that the EMT or Paramedic knows how to perform the procedures. If there are references to procedures, medications, or conditions to which the Paramedic/EMT is not familiar, it is his/her responsibility to attain the appropriate guidance and/or education prior to performing such procedures or using such medications.

The protocols are designed to guide the Paramedic/EMT through the continuity of care for the out-of-hospital patient. ALS procedures are contained within the same protocol as the BLS procedures. This is intended to allow both the EMT and Paramedic to understand where ALS intervention is involved as part of the team of out-of-hospital care providers and where ALS intervention may be necessary in the out-of-hospital care. Some protocols are specific to ALS care as the treatment provided to the patient evolves beyond the BLS level of care.

Written protocols are not a substitute for direct physician orders and will always be superseded by on-scene EMS Medical Directors/Fellows or on-line medical control. As with all aspects of health care, these patient care protocols should be considered dynamic and will thus be continually evolving.

These protocols are to be used by all affiliates. Except where indicated, affiliating agencies may not alter, add to or delete any portion of these protocols without written permission from their Medical Director.

The Operational Guidelines Section contains guidelines for all affiliates. Some guidelines have specific notations for Indianapolis Emergency Medical Services (IEMS) personnel. These IEMS guidelines are in addition to, NOT substitution for, other guidelines in this section.
The protocols are to provide guidelines in the treatment of patients of all ages. Where necessary, protocols unique for specific ages those ages are noted. For the purposes of these protocols, an adult is over the age of 8 years, a child is ages 1 to 8 years, an infant is 1 month to 1 year, and a newborn is from time of delivery up to 28 days (less than 1 month). When certain procedures are contrary to these ages, they are noted in the specific protocol.

These protocols are reviewed and affirmed or revised annually. New or substantially changed material for this year is underlined.

INDIANAPOLIS MEDICAL SOCIETY
EMS COMMITTEE

INDIANAPOLIS METROPOLITAN AREA EMS PROTOCOLS

PREPARED BY: OUT-OF-HOSPITAL CARE TASK FORCE
FEBRUARY 1, 2010
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section One - Operational Guidelines</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Guidelines</td>
<td>I.1.1 - I.1.2</td>
</tr>
<tr>
<td>Communications and Orders</td>
<td>I.2.1</td>
</tr>
<tr>
<td>Verification of Medical Personnel on the Scene</td>
<td>I.3.1</td>
</tr>
<tr>
<td><strong>Determining the Need for Resuscitation</strong></td>
<td>I.4.1 - I.4.2</td>
</tr>
<tr>
<td>Transportation</td>
<td>I.5.1</td>
</tr>
<tr>
<td>Non-transported Patient</td>
<td>I.6.1 - I.6.4</td>
</tr>
<tr>
<td>Non-transported minors</td>
<td>I.6.5</td>
</tr>
<tr>
<td>ALS Personnel Responding with BLS Personnel</td>
<td>I.7.1</td>
</tr>
<tr>
<td>Requesting ALS /ALS Transportation</td>
<td>I.8.1</td>
</tr>
<tr>
<td>START and Jump–START Triage</td>
<td>I.9.1 – I.9.2</td>
</tr>
<tr>
<td>Decontamination of Patients</td>
<td>I.10.1</td>
</tr>
<tr>
<td>Blood and Body Fluid Exposure of EMS Personnel</td>
<td>I.11.1 – I.11.4</td>
</tr>
<tr>
<td>Request for New or Changed Protocol / Medical Equipment</td>
<td>I.12.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section Two - Treatment Guidelines</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Medical Care</td>
<td>II.1.1</td>
</tr>
<tr>
<td>Adult Medical Alert Criteria</td>
<td>II.1.2</td>
</tr>
</tbody>
</table>

**Airway Protocols**
- Airway Management                     | II.2.1 - II.2.3 |
- Administration of Oxygen              | II.3.1     |
- Airway Obstruction                    | II.4.1 - II.4.2 |

**Medical Protocols**
- Difficulty Breathing                  | II.5.1     |
  - Pulmonary Edema                      | II.5.2     |
  - Croup                                | II.5.3     |
  - Smoke Inhalation                     | II.5.4     |
- Chest Pain – Adult                    | II.6.1 – II.6.2 |
- Dysrhythmias – Adult: ALS procedures. | II.7.1     |
  - Narrow QRS Complex Tachycardia       | II.7.1     |
  - Bradycardia                          | II.7.2     |
  - Sustained Ventricular Tachycardia (Wide QRS complex) | II.7.3 |
- Bradycardia – Pediatric               | II.8.1     |
- Suspected Shock / Hypotension          | II.9.1     |
  - Gastrointestinal Bleed – Adult      | II.9.1     |
  - Suspected Cardiogenic Shock – Adult | II.9.2     |
  - Hypotension – Pediatric             | II.9.3     |
<table>
<thead>
<tr>
<th>Topic</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Arrest – Adult</td>
<td>II.10.1 – II.10.2</td>
</tr>
<tr>
<td>Cardiac Arrest Dysrhythmias – Adult: ALS</td>
<td></td>
</tr>
<tr>
<td>Ventricular Fibrillation / Pulseless Ventricular Tachycardia</td>
<td>II.11.1</td>
</tr>
<tr>
<td>Pulseless Electrical Activity</td>
<td>II.11.2</td>
</tr>
<tr>
<td>Asystole</td>
<td>II.11.2</td>
</tr>
<tr>
<td>Post Cardiac Arrest Hypothermia</td>
<td>II.11.3</td>
</tr>
<tr>
<td>Cardiac Arrest – Pediatric/Infant/Newborn</td>
<td>II.12.1</td>
</tr>
<tr>
<td>Cardiac Arrest Dysrhythmias - Pediatric/Infant/Newborn: ALS</td>
<td></td>
</tr>
<tr>
<td>Pulseless Electrical Activity or Asystole</td>
<td>II.13.1</td>
</tr>
<tr>
<td>Ventricular Fibrillation / Pulseless Ventricular Tachycardia</td>
<td>II.13.2</td>
</tr>
<tr>
<td>Pediatric Defibrillation</td>
<td>II.13.3</td>
</tr>
<tr>
<td>Allergic Reaction</td>
<td>II.14.1</td>
</tr>
<tr>
<td>Altered Level of Consciousness – Adult</td>
<td>II.15.1</td>
</tr>
<tr>
<td>Suspected Stroke (Cerebral Vascular Accident) – Adult</td>
<td>II.16.1</td>
</tr>
<tr>
<td>Seizures - Adult</td>
<td>II.17.1</td>
</tr>
<tr>
<td>Seizures – Pediatric</td>
<td>II.17.2</td>
</tr>
<tr>
<td>Suspected Drug Overdose / Poisoning</td>
<td>II.18.1 – II.18.2</td>
</tr>
<tr>
<td>Care of the Dialysis Patient</td>
<td>II.19.1 – II.19.2</td>
</tr>
<tr>
<td>Behavioral Disorders</td>
<td>II.20.1</td>
</tr>
<tr>
<td>Patient Restraint</td>
<td>II.20.2 – II.20.4</td>
</tr>
<tr>
<td>Chemical Restraint</td>
<td>II.20.4</td>
</tr>
<tr>
<td>Hypothermia</td>
<td>II.21.1</td>
</tr>
<tr>
<td>Hyperthermia</td>
<td>II.22.1</td>
</tr>
<tr>
<td>Drowning / Near Drowning</td>
<td>II.23.1</td>
</tr>
<tr>
<td>Delivery of the Newborn</td>
<td>II.24.1 – II.24.2</td>
</tr>
<tr>
<td>Newborn Care</td>
<td>II.25.1</td>
</tr>
<tr>
<td>Obstetric Emergencies</td>
<td></td>
</tr>
<tr>
<td>Newborn Resuscitation</td>
<td>II.26.1</td>
</tr>
<tr>
<td>Meconium Staining</td>
<td>II.26.2</td>
</tr>
<tr>
<td>Eclampsia</td>
<td>II.26.3</td>
</tr>
<tr>
<td>Maternal Bleeding During Pregnancy</td>
<td>II.26.3</td>
</tr>
<tr>
<td>Prolapsed Umbilical Cord</td>
<td>II.26.4</td>
</tr>
<tr>
<td>Breech Presentation</td>
<td>II.26.4</td>
</tr>
<tr>
<td>Postpartum Hemorrhage</td>
<td>II.26.5</td>
</tr>
<tr>
<td>Pain Medication Administration</td>
<td>II.27.1</td>
</tr>
<tr>
<td>Nausea and Vomiting</td>
<td>II.28.1</td>
</tr>
</tbody>
</table>
### Section Two - Treatment Guidelines (cont.)

<table>
<thead>
<tr>
<th>Trauma Protocols</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Trauma Care</td>
<td>II.29.1 – II.29.3</td>
</tr>
<tr>
<td>Trauma Alert Criteria</td>
<td>II.29.4</td>
</tr>
<tr>
<td>Special Trauma Situations</td>
<td></td>
</tr>
<tr>
<td>Musculoskeletal Trauma</td>
<td>II.30.1</td>
</tr>
<tr>
<td>Burns</td>
<td>II.30.2 – II.30.3</td>
</tr>
<tr>
<td>Out-of-hospital spinal “clearing” – ALS Skill</td>
<td>II.30.4</td>
</tr>
<tr>
<td>Chest Injuries</td>
<td>II.30.5</td>
</tr>
<tr>
<td>Eye Injuries</td>
<td>II.30.6</td>
</tr>
<tr>
<td>Abdominal Trauma</td>
<td>II.30.7</td>
</tr>
<tr>
<td>Pregnant Trauma Patient</td>
<td>II.30.7</td>
</tr>
<tr>
<td>EMD Weapon (e.g., Taser) Injuries</td>
<td>II.30.8</td>
</tr>
</tbody>
</table>

### Section Three - Appendix

<table>
<thead>
<tr>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbreviation List</td>
</tr>
<tr>
<td>Glasgow Coma Scale / Pediatric Adaptation</td>
</tr>
<tr>
<td>APGAR</td>
</tr>
<tr>
<td>Burn Charts</td>
</tr>
<tr>
<td>Medications</td>
</tr>
<tr>
<td>Procedures</td>
</tr>
<tr>
<td>Pulse Oximetry - BLS Skill</td>
</tr>
<tr>
<td>Verification of Endotracheal Tube Placement - ALS Skill</td>
</tr>
<tr>
<td>Cricothyrotomy – Surgical – ALS skill</td>
</tr>
<tr>
<td>Cricothyrotomy – Needle – ALS Skill</td>
</tr>
<tr>
<td>Needle Chest Decompression – ALS Skill</td>
</tr>
<tr>
<td>Guidelines for IV Initiation – ALS Skill</td>
</tr>
<tr>
<td>Pediatric Intraosseous Infusion – ALS Skill</td>
</tr>
<tr>
<td>Adult Intraosseous Infusion – ALS Skill</td>
</tr>
<tr>
<td>Application of External Pacemaker – ALS Skill</td>
</tr>
<tr>
<td>Pre-Existing Vascular Access Device (PVAD) Use</td>
</tr>
<tr>
<td>Continuous Positive Airway Pressure (CPAP)</td>
</tr>
<tr>
<td>English/Spanish Translations</td>
</tr>
<tr>
<td>Indianapolis International Airport Staging Area Map</td>
</tr>
<tr>
<td>Hospital Access Routes</td>
</tr>
<tr>
<td>Treatment Guidelines for Blood-Borne Pathogen Exposure</td>
</tr>
<tr>
<td>HBIG Administration for Prophylactic Treatment of Hepatitis B</td>
</tr>
<tr>
<td>Provisional Public Health Service Recommendations for Chemoprophylaxis</td>
</tr>
<tr>
<td>After Occupational Exposure to HIV</td>
</tr>
<tr>
<td>Pain Assessment Scales</td>
</tr>
</tbody>
</table>
Section One

Operational Guidelines
A. A patient is anyone who has either requested EMS or has had EMS requested on his/her behalf.

B. Confidentiality of patient information is to be maintained.

C. Since medical history and examination cannot reliably identify all patients infected with blood-borne pathogens, blood and body fluid precautions shall be used for all patients. Personnel are to follow their provider policies concerning Blood and Body Fluid Precautions.

D. The highest medical authority (usually the Paramedic) is responsible for the initial assessment of all patients (except under extreme circumstances).

E. After making contact with the patient, s/he is your responsibility until a higher or equal medical authority releases you, the patient is deemed non-viable, or you receive a signed signature of release (SOR). *(See Non-Transported Patients Protocol or Determining the Need for Resuscitation Protocol)*

F. Upon arrival at the scene, the Paramedic/EMT must determine the history and prior treatment by other persons and/or agencies before changing treatment.

G. Paramedics and EMT's may only perform the skills and therapies as outlined in the patient care protocols. An on-scene EMS Medical Director/Fellow or on-line physician must order any other skills or therapies and the Paramedic/EMT must have been trained in the skill or therapy.

H. Stabilization before transport is preferred, but if it is being done unsuccessfully or it appears to be taking an unreasonable length of time to accomplish, transportation should be started.

I. Run forms are to be completed and processed according to current Indiana Emergency Medical Commission Rules and Regulations. Affiliates may have additional run form completion and processing guidelines than those described by the Rules and Regulations. A verbal report to a designated ED medical care provider (e.g., registered nurse) must be provided to effect transfer of care. A completed run form must be left at the bedside prior to the crew’s departure unless they are dispatched on another emergency run prior to its completion. If so, the completed run form will be made available as promptly as possible.

I.1.1
J. If you suspect child abuse or neglect, you are to report it to the receiving nurse and/or physician. You are encouraged to also contact Child Protective Services (CPS). Marion County CPS Hotline: 968-4379 (Fax: 233-5306).

K. If you suspect adult abuse or neglect you are to report it to the receiving nurse and/or physician. You are encouraged to also contact Adult Protective Services (APS) at 327-1403 (or (800) 992-6978). The Homeless Initiative Program (HIP) may also be of assistance: 931-3055.

L. In the event of the death of a child less than one year age, the Sudden Unexpected Infant Death (SUID) form will be filled out and faxed to the Coroner’s office at (317) 327-4563.
A. Establish communication with the intended receiving Emergency Department for any patient who is unstable, may require specialized care, or when requesting orders. If requesting orders, notify the receiving hospital prior to starting patient report.

B. Patient names are not to be given over the air – patient initials and/or last 4 digits of their social security number are permissible if required by the receiving facility.

C. State briefly and concisely (< 2 minutes) the pertinent aspects of the following:
   1. Reason for radio communication: requesting orders or pt. report only…
   2. Patient's age and sex.
   3. Basic problem or chief complaint.
   4. A brief summary of medical history including medications and allergies.
   5. Vital signs.
   6. Physical findings.
   7. Rhythm interpretation when appropriate.
   8. Treatment performed or in progress.
  10. Estimated time of arrival.

D. Request appropriate supporting orders.

E. Repeat the orders exactly as you receive them. Once confirmed, document and carry them out exactly as ordered.

F. If, in your opinion, the orders you receive are inappropriate and/or dangerous to the patient, question the physician three times and verbally refuse to act. Contact your sponsoring hospital for further instructions.

G. If you are unable to contact the receiving facility refer to the appropriate protocol for patient care.

H. If an order for a therapy which you consider to be life-saving is refused, verbally request the order three times. If you continue to be denied, contact your supervising hospital for further instructions. If they cannot be contacted, follow the appropriate protocols.

Any incident involving refusal of orders shall be brought to the immediate attention of the provider agency CQI manager/supervisory personnel and the medical director.
VERIFICATION OF MEDICAL PERSONNEL ON THE SCENE

A. The Paramedic/EMT operates under the supervision ("medical control") of the EMS Medical Director(s), EMS Fellow, or in his/her/their absence, the emergency department physician via direct communications.

B. In general, on scene physicians will be courteously dissuaded from participating in patient care.

1. This and sections C and D do not apply to the agency’s EMS Director(s) or the IUSM Out-of-Hospital Care (EMS) Fellow(s)

C. The Paramedic/EMT on the scene with the patient will have medical control of the patient except when a physician identifies him/herself as a physician and can produce a State of Indiana Health Professions Bureau License and is willing to assume, in advance, ALL medical and legal responsibilities for the patient. The physician:

1. Must make radio or telephone contact with the emergency department physician at the receiving facility and be willing to accompany the patient to the hospital in the ambulance, AND

2. Must be willing to sign the run sheet for all orders given, AND

3. Must be willing to sign any required provider specific forms.

D. If the physician requests an intervention that according to out-of-hospital standards of care is inappropriate or detrimental to the patient, the Paramedic/EMT will treat the patient as outlined by the **appropriate protocols**. The Paramedic / EMT will then refer the on scene physician to the physician at the receiving hospital.

E. At no time should lifesaving medical care be delayed in order to establish identities or medical control. It is the responsibility of the Paramedic/EMT to institute appropriate medical care ASAP.
DETERMINING THE NEED FOR RESUSCITATION

A. In the absence of respirations, pulse and response to stimuli, resuscitation shall not be performed in the following situations:

1. Decomposition of the body.

2. Rigor Mortis – stiffness of the muscles, making the joints rigid. Progresses from the head down the body affecting the legs and feet last. Generally manifests in 1-6 hours.

3. Livor Mortis – venous pooling of the blood in dependent portions of the body causing purple discoloration, which blanches with pressure and remains blanched. Similar but milder changes occur in shock. Care must be taken to distinguish the two.

4. Traumatic injury, including but not limited to decapitation, transection at midline of the torso, charring of the body, crushing of torso or head, severe head injury with brain tissue exposed.

5. In all other circumstances, excluding DNR, begin resuscitative efforts according to these EMS protocols.

B. Do Not Resuscitate (DNR) orders:

1. If health care personnel or family members are present at the scene of a patient in cardiopulmonary arrest and request that resuscitative measures be withheld, request to see a DNR order that has been signed by the attending physician. If presented, resuscitative efforts should not be initiated or may be terminated.

2. In the event the family or health care personnel cannot produce this document immediately, begin resuscitative efforts in accordance with the appropriate protocol and transport.

3. If there is any question regarding the validity of the written order, resuscitative measures should be initiated. Contact the receiving facility for further orders.

These guidelines do not apply to a Living Will.
C. Termination of CPR:

1. For any patient meeting the criteria in section A, items 1-4, or for a patient having a valid DNR order, resuscitative efforts may be terminated without contacting the intended receiving facility.

2. Resuscitation may be terminated for a victim of an unwitnessed medical cardiac arrest who has no return of spontaneous circulation (ROSC) after thirty (30) minutes of advanced life support. This therapy should include, at a minimum, oxygenation and ventilation (via intubation, a non-visualized airway, or a bag-valve-mask), intravenous or intraosseous access, and administration of fluids and/or appropriate medications per protocol.
   a. This does NOT include patients under 18 years of age, pregnant women, or those in cardiac arrest from immersion or hypothermia.

3. For all other patients, the intended receiving facility must be contacted.
A. Patients from emergency EMS responses will be transported only to a hospital campus with EMS radio communications capabilities.

B. If the patient appears unstable, s/he will be transported to the closest appropriate ED. Patients in cardiac arrest will be transported to the closest open ED.

C. Patients will be transported to the hospital of his/her choice if the patient is stable and does not meet a special needs situation such as:

1. Patients with major multiple system trauma, or patients with penetrating trauma to the head, neck, chest, abdomen or back, should be transported to a facility designated as a trauma center.

2. Patients with serious burn injuries should be transported to a facility with a burn center (or, if the burn center is on diversion, to a trauma center)

3. Pregnant patients in 2nd or 3rd trimester should be transported to a hospital with obstetrical capabilities.

4. Patients with special medical needs (e.g., STEMI, acute stroke) should be transported to a facility with resources for that specialty care.

D. If, in the judgment of the Paramedic/EMT, there is a “time critical” threat to life or limb, use of red lights and sirens en route to the hospital is appropriate.

E. If there are multiple patients from the same family, do NOT split the families unless absolutely necessary.

F. If the BLS crew is able to deliver the patient to an emergency room within the same time it would take for the ALS crew to respond to the scene, the BLS crew should transport the patient.
All patients will be transported to a hospital emergency department unless the patient refuses transport or prior arrangements have been made.
The following guidelines are to be observed:

A. If a patient initially refuses necessary care, the Paramedic/EMT will enlist the aid of friends, family, co-workers, or significant others, as well as address any concerns the patient may have in order to convince him/her to agree to needed treatment and/or transportation.

B. Medical Control must be contacted for consultation before obtaining any Signature of Release (SOR) if the patient (or responsibly party, if the patient is a minor or declared legally incompetent):
   1. Appears to be under the influence of drugs or alcohol,
   2. Has an abnormal mental status, indicated by:
      a. Slurred or abnormal speech,
      b. Disorientation to person, place, or time,
      c. Inappropriate or irrational thinking,
   3. Is less than 1 year of age,
   4. Assessment reveals historical data, symptoms, or signs suggestive of a potentially life threatening illness or injury
   5. Does not have access to a phone or “significant others” to help her/him obtain further care if needed.

C. If Medical Control contact is required, communication will be established with the emergency department physician at the intended receiving facility or the supervising hospital. The physician will be apprised of the situation and asked for recommendations. The physician may ask to speak directly to the patient. The name of the physician, the hospital and recommendations will be recorded on the Refusal of Transportation form.
D. To accept the patient’s decision not to receive treatment and/or transportation, the following must be performed:

1. The patient (or the patient's guardian, if applicable) is advised that transport is indicated for further evaluation and care by an emergency department physician.

2. The patient (or guardian) is informed that he/she has not been evaluated by a physician. The patient (or guardian) is informed that significant medical problems may exist and that these potential problems cannot be fully described at this time, but may possibly lead to significant disability or even death.

3. The patient (or guardian) is instructed to seek follow-up medical care as soon as possible.

4. The patient (or guardian) is instructed that he/she may call 911 at any time should they change their mind and wish to be transported to a hospital emergency department.

5. The patient (or guardian) is asked if they understand the risks in refusing further medical care, and additional explanation is provided as needed.

6. The Paramedic/EMT completes the SOR form.

7. The patient (or guardian) reads (or has read to them) all statements on the SOR form and appears to have an understanding of them.

8. All appropriate signatures are obtained
   a. The patient will be encouraged to sign the Signature of Refusal form.

E. A run sheet with vital signs and pertinent medical information will be completed.

I.6.2
F. If a patient is less than 18 years old, only the parent, legal guardian, or adult sibling (in that order) may refuse care; exception is compelling evidence of emancipation.

1. Emancipation is defined under Indiana Code 16-36-1-3(a)(2)(A)-(E) is:
   a. At least fourteen (14) years of age; and
   b. Not dependent on a parent for support; and
   c. Living apart from the minor’s parents or from an individual in loco parentis; and
      i. Managing the minor’s own affairs; or
      ii. Is or has been married; or
      iii. Is in the military service of the United States; or
      iv. Is authorized to consent to the health care by any other statute.

G. In the event any of the following criteria are present, a BLS provider may not accept an SOR or disregard the ALS unit. In each of the following circumstances, the patient must be evaluated by an ALS provider. In all other circumstances, it is appropriate for the BLS provider to accept an SOR and disregard the ALS unit. If, in the judgment of the BLS provider, the patient has suffered/is suffering from a potentially life or limb-threatening event, it is appropriate that the patient be examined by an ALS provider.

1. Near drowning
2. Chest pain of any type
3. Respiratory distress
4. Cardiac irregularity (too fast, too slow, irregular, or weak pulse)
5. Serious blunt or any penetrating head, chest, back, or abdominal injury
6. Symptomatic hypotension (weak, rapid pulse, lightheadedness, altered level of consciousness)
7. Symptomatic hypertension (headache, vertigo, disequilibrium, visual problems, altered level of consciousness)
8. Diabetic-related emergencies
9. All facial burns, all electrical burns, and/or any 2nd or 3rd degree burns covering 10% or more of the body
10. Overdose or accidental poisoning
11. First time seizures, repetitive seizures, or failure to fully recover from the post-ictal state
12. Severe orthopedic injuries (e.g., multiple, proximal, or open fractures)
13. Head injury with history of loss of consciousness, alteration in level of consciousness from baseline, or CSF/blood from ears or nose
14. Signs or symptoms suggestive of a spinal injury (such as lateralizing numbness, tingling, or weakness)
15. History of loss of consciousness (syncope) from any cause
16. Level of consciousness altered from baseline
H. A person who was involved in a motor vehicle crash and meets all of the criteria listed below will be eligible for a Motor Vehicle Crash Card:

1. Person was involved in a motor vehicle crash.

2. Does not have any complaints

3. No visible signs of significant injury.

4. No behavior problems that places the person or others at risk.

5. Person is not less than 18 years of age.

   a. The person who is under 18 and meets all of these criteria may have a crash card signed for them by a legal guardian as defined in the protocols.

6. No signs of intoxication.

   ⚫ If the patient does not meet ALL the above listed criteria, a complete Signature of Refusal (SOR) form must be completed.
A. In the event a minor (anyone under the age of 18) is on the scene without a parent or guardian, the following steps should be taken to obtain consent for a refusal of transport.

1. Attempt to contact a parent or guardian to obtain refusal. This should not delay treatment or transport of other patients.
   a. The crew may wait for the parent or guardian if he/she will arrive at the scene in 15 minutes or less as long as the wait does not delay necessary treatment or the transport of other patients. The on-duty EMS duty officer/manager should be requested if the parent or guardian’s arrival will be delayed more than 15 minutes.

2. If unable to contact a parent or guardian, then follow this order for refusal:
   a. An individual in loco parentis (someone who assumes the duties and responsibilities in place of a parent, e.g., grandparent, aunt or uncle, babysitter, principal, police officer) if
      i) There is no guardian or parent;
      ii) The guardian or parent is not reasonably available or declines to act; or
      iii) The existence of the guardian or parent is unknown to the health care provider.
   b. Adult sibling of the minor if
      i) There is no parent, guardian, or individual in loco parentis;
      ii) A parent, guardian or an individual in loco parentis is not reasonably available or declines to act; or
      iii) The existence of the parent, guardian or an individual in loco parentis is unknown to the health care provider.

(ref. Indiana Code 16-36-1-5 Persons authorized to consent for incapable parties; minors)

3. If unable to make contact with any of the above, the patient must be transported to the closest most appropriate facility.

4. A run sheet with vital signs and pertinent medical information will be completed.
ALs Personnel Responding With BLS Personnel

A. Patient care may be delegated from the Paramedic to the EMT under the following conditions:

1. The patient must be stable and not meet any criteria for ALS transportation. *(See Requesting ALS/ALS Transportation Protocol)*

2. The EMT will be fully informed of the Paramedic's assessment and anticipated patient needs.

3. The EMT must feel comfortable accepting the patient for treatment/transport.

4. The patient has not received ALS treatment (i.e. IV therapy, intubation, ALS medications or any other invasive procedure).

B. The Paramedic will initiate a patient care form sheet with all appropriate data reflecting the Paramedic's assessment and care up until the time of release to the EMT. The EMT will complete their patient care form sheet as in any other patient care situation.

C. In the event the patient refuses transportation; the Paramedic should complete the Signature of Refusal and patient care form. *(See Non-Transported Patient Protocol)*

D. In the event the patient is deemed non-viable, the Paramedic is to determine the non-viability of the patient and complete the patient care form. *(See Determining the Need for Resuscitation Protocol)*
REQUESTING ALS / ALS TRANSPORTATION

ALS should be requested or ALS transport is indicated if the patient has one or more of the following conditions. If the BLS crew is able to deliver the patient to an emergency room within the same time it would take for the ALS crew to arrive at the scene, the BLS crew should transport the patient.

A. Chief complaint of shortness of breath or acute respiratory distress.
B. Chest pain (Refer to the Chest Pain protocol on II.6.1).
C. Recent onset of disorientation to person, place, time or time passage.
D. Uncontrollable bleeding.
E. Unconsciousness.
F. Status epilepticus.
G. An obstetrics patient >20 weeks gestation with or without trauma who is having contractions and has evidence of meconium staining or has significant vaginal bleeding.
H. Any birth occurring prior to 38 weeks gestation.
I. Any unstable patient with significant trauma.
J. Any patient who has had an episode of fainting or near fainting.
K. There is any uncertainty as to the patient’s status.
L. Abnormal vital signs and symptomatic.

I.8.1
Marion County EMS providers have adopted a simple system for triaging patients in a multiple-patient scenario or a mass casualty incident. *It is acknowledged that, under these circumstances, some patients that EMS could potentially save if encountered individually will not be given the benefit of all necessary resources.*

<table>
<thead>
<tr>
<th>START Triage</th>
<th>Tag:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Move the Walking Wounded</td>
<td>Minor</td>
</tr>
<tr>
<td>No Resp. after head tilt – jaw thrust</td>
<td>Dead / Dying</td>
</tr>
<tr>
<td>☐ Respirations: &gt; 30</td>
<td>Immediate</td>
</tr>
<tr>
<td>☐ Pulse: No radial pulse (least injured arm)</td>
<td>Immediate</td>
</tr>
<tr>
<td>☐ Mental status: Unable to follow simple commands</td>
<td>Immediate</td>
</tr>
<tr>
<td>Otherwise…</td>
<td>Delayed</td>
</tr>
</tbody>
</table>

Developed by the Newport Beach, CA Fire & Marine Dept., and the current DOT Standard for EMS providers.

**Jump-START** is a modification of the START triage guidelines for pediatric patients and takes into account the normal variation in respiratory rate on the basis of age, and the fact that primary respiratory failure can be corrected easily.

- An apneic child is more likely to have a primary respiratory problem than an adult. Perfusion may be maintained for a short time and the child may be salvageable.
- A respiratory rate of 30 may either over-triage or under-triage a child, depending on age.
- Capillary refill may not adequately reflect peripheral hemodynamic status in a cool environment.
- Obeying commands may not be an appropriate gauge of mental status for younger children.

I.9.1
## Jump-START Triage (ages 1-8)

<table>
<thead>
<tr>
<th>Tag:</th>
<th>Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Move the Walking Wounded</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Apneic or irregular respirations: Open airway</strong></td>
<td></td>
</tr>
<tr>
<td>Resume breathing?</td>
<td>Immediate</td>
</tr>
<tr>
<td>Still apneic and no peripheral pulse?</td>
<td>Dead / Dying</td>
</tr>
<tr>
<td>Still apneic but has a peripheral pulse:</td>
<td>Immediate</td>
</tr>
<tr>
<td><strong>Mouth-to-Mask for 15 seconds (4-5 breaths)</strong></td>
<td></td>
</tr>
<tr>
<td>Resume breathing?</td>
<td>Immediate</td>
</tr>
<tr>
<td>Still apneic?</td>
<td>Dead / Dying</td>
</tr>
</tbody>
</table>

- **Respirations: < 15 or > 45** | Immediate |
- **Pulse: No peripheral pulse (least injured extremity)** | Immediate |
- **Mental status: Unresponsive or responsive to pain only** | Immediate |

Otherwise… | Delayed |

**Age <1:**  
If all Jump-START “delayed” criteria are satisfied and there are no significant external injuries, the child may be classified as “ambulatory” and tagged | Minor |

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Developed by Lou Romig MD, FAAP, FACEP at Miami Children’s Hospital

I.9.2
DECONTAMINATION OF PATIENTS

To decrease potential exposure of emergency and health care personnel, patients exposed to hazardous materials should be decontaminated at the scene as indicated by the exposure, given resources and patient condition. This guideline is for the medical treatment and transportation aspects of these patients, and does not encompass the hazardous materials response or mitigation.

A. Ensure that each receiving hospital is notified as early as possible of
   1. suspected agent(s),
   2. route of exposure (e.g., skin vs. inhalation), and
   3. estimated number of patients.

B. Ensure that the Indiana Poison Center (IPC) is notified as early as possible of the suspected agent(s) and likely receiving hospital(s). Med-1 or the IHERN is preferred; the IPC is also available at 962-2323 or (800) 222-1222.

C. Perform decontamination as indicated by the exposure.
   1. Upon completion of decontamination and/or removal of contaminated clothing, patients should be covered (including feet).
   2. If the patient’s clothing is removed, it should remain at the scene; valuables may come with the patient sealed in a plastic bag.

D. Treat and transport patients per appropriate out-of-hospital care guidelines. Utilize appropriate personal protective devices to decrease likelihood of EMS personnel exposure.

E. For each patient transported, notify the receiving hospital en route of the patient’s medical and/or trauma issues, condition, and the type of decontamination performed.

F. Deliver patients to the appropriate area at the Emergency Department.
   1. If additional decontamination is needed, this will typically not be directly into the ED, but rather to the adjacent decontamination area.
   2. Unless otherwise directed, do not drive the ambulance into an enclosed area (e.g., garage)

G. At the conclusion of all out-of-hospital patient assessment and transport activities, ensure that each hospital contacted in #1 and the IPC is notified of
   1. The total number of patients transported (or if no patients are coming).
   2. The conclusion (“all clear”) of out-of-hospital EMS activity at the scene.

   I.10.1
Background:

The Ryan White Care Act of 1990 and amended in 1996 contains provisions for the notification of emergency response personnel exposed to infectious diseases while attending, treating, assisting, or transporting a victim. In Indiana, IC 16-41-10 provides for an emergency medical services provider (a firefighter, a law enforcement officer, a paramedic, an emergency medical technician, a physician or nurse licensed in Indiana, or other persons who provide emergency medical services in the course of their employment) who is exposed to potentially infectious blood or body fluids to get this notification in the following manner:

A. EMS Provider must notify provider’s employer within 24 hours of the exposure on a form designated by the EMS Commission and the State Health Department. A copy of the form goes to:

1. The Medical Director of the health care facility to which the patient was taken following the exposure OR in the health care facility where the patient was located at the time of exposure, AND
2. The EMS provider’s employer, AND
3. The State Health Department.

B. A patient (including those unable to consent due to physical or mental incapacity) to whose blood or body fluids the EMS provider is exposed is considered to have consented to:

1. Testing for the presence of dangerous communicable diseases. These diseases are only those which are life-threatening by carrying a substantial risk of death if acquired by a healthy, susceptible host, and the disease can be transmitted from person to person. The diseases are:

   a. Infectious pulmonary tuberculosis
   b. Hepatitis B, C
   c. HIV
   d. Diphtheria
   e. Hemorrhagic fevers
   f. Meningococcal disease
   g. Plague
   h. Rabies

2. Release of the testing results to the Medical director of the health care facility (or other designated physician).
3. However, a medical facility may not restrain a patient in order to test the patient for
dangerous communicable diseases, and nothing in the law prohibits a patient from
being discharged from the medical facility before such testing is performed or the
results of the tests are released.

4. A provider or a facility that tests patient for the presence of a dangerous communicable
disease under this law is immune from liability for the performance of the test over the
patient’s objections or without the patient’s consent.

C. Within 72 hours of being notified of the exposure, the Medical director of the health care
facility (or other designated physician) must notify the Medical Director of the EMS
provider’s employer (or other physician designated in writing by the EMS provider) of the
results of the test(s).

D. Within 48 hours of being notified of the results of the test(s), the Medical Director of the
EMS provider’s employer (or other physician designated by the EMS provider) will

1. Explain, without disclosing information about the patient, the presence or absence of
dangerous communicable disease(s) to which the provider was suspected to have been
exposed, if any.

2. Provide any medically necessary treatment and/or counseling to the EMS provider.
Expenses of testing, treating, or counseling the EMS provider are the responsibility of
the EMS provider or the provider’s employer.
A. All body fluids from all patients will be considered potentially to be infectious. All emergency response employees are to use the personal protective equipment (PPE) made available by their employer. It is the employee's responsibility to wear the appropriate PPE in order to have maximum protection against infectious disease.

B. **Handwashing is the most important infection control procedure!** Emergency response employees will wash hands:
   1. after removing PPE
   2. after each patient contact
   3. after handling potentially infectious materials
   4. after cleaning or decontaminating equipment
   5. after using the bathroom
   6. before eating
   7. before and after handling or preparing food

C. Handwashing will be performed for at least 10-15 seconds, utilizing soap and water or an alcohol-based solution.

D. Eating, drinking, smoking, handling contact lenses, or applying cosmetics or lip balm is prohibited at the scene of EMS operations.

E. Disposable resuscitation equipment and supplies will be used whenever possible. For CPR, the order of preference is:
   1. Disposable bag-valve mask
   2. Disposable pocket mask with one-way valve
   3. Mouth-to-mouth resuscitation

F. After use, all PPE and contaminated disposable patient care materials will be placed in leak proof bags, color coded and marked as a biohazard for disposal as soon as possible.

G. Contaminated work clothes will be removed and exchanged for clean clothes as soon as possible. The crew member will shower if body fluids were in substantial contact with skin under work clothes.
A. Any employee exposed to potentially infectious material will immediately wash the exposed area with soap and water or an alcohol-based solution (saline wash if the eyes are involved.)

B. Any employee having an occupational communicable disease exposure will immediately report the exposure to his/her supervisor. Needle stick injuries will be reported to the designated officer immediately.

C. The emergency response employee will fill out the appropriate exposure report forms at the soonest possible time after any exposure occurs.

D. All exposures to infectious or potentially infectious materials should be medically evaluated within the first hour after exposure as some prophylactic treatments are only effective if initiated within that time period.

   1. The following events will be considered potentially high risk exposures:
      a. Hollow needle stick injuries.
      b. Breaks in the skin caused by potentially contaminated objects.
      c. Splash of blood or other potentially infectious material onto eyes, mucous membranes, or non-intact skin.

   2. All potentially high risk exposures will immediately be evaluated by a qualified medical care provider and a plan for prophylactic treatment will be initiated if deemed appropriate:
      a. Blood (and urine sample for UPT, if applicable) may be obtained to establish a baseline.
      b. The decision to initiate anti-retroviral therapy is made without waiting for lab test results.
      c. See Appendix III.X.3 for current treatment guidelines.
      d. The patient will be referred to Occupational Health, Infectious Disease, and/or their private physician as appropriate.

E. Whenever possible, the source patient will be traced to the receiving facility by the designated officer. The designated officer will notify the receiving facility that a communicable disease exposure has taken place, and request an infectious disease determination as provided for in IC 16-41-10.

I.11.4
A. Documentation of the following information should be submitted to the agency’s EMS Medical Director for review:

1. Executive Summary (one-paragraph summary of everything below…)

2. Define the problem:
   a. How commonly is the problem encountered (e.g., cases per week, month, or year)
   b. This should be data-based – either retrospectively (looking at patient care records) or prospectively (using a survey after calls)

3. What is the proposed solution?
   a. Provide a copy of the new protocol (in the usual format) and/or
   b. Identify all protocols that will require a change…

4. What are the benefits? (e.g., reduced morbidity/mortality, increased patient comfort, increased patient care efficiency or effectiveness)

5. What are the risks (e.g., side effects, complications)?

6. What is the cost?
   a. Direct costs (e.g., to supply all vehicles/kits plus spare supplies at station(s), how soon will it expire/become obsolete?
   b. Is special storage necessary (e.g., refrigeration)
   c. Indirect costs (e.g., education)

7. What alternatives were considered? Why is the proposed solution the best choice?

B. Include a list of the keywords used for the medical literature search, and a copy of the salient literature.
Section Two

Treatment Guidelines
INITIAL MEDICAL CARE

To be performed on all patients suspected of having or presenting with a medical emergency.

A. Use Body Substance Isolation Precautions.

B. Open and maintain a patent airway. *(See Airway Management Protocol)*

C. Administer oxygen as the situation warrants. *(See Administration of Oxygen Protocol)*

D. Loosen tight clothing and reassure the patient.

E. Place the patient in the position of comfort unless contraindicated by injuries and/or symptoms.

F. Completely assess the patient, including vital signs.

G. Determine previous medical and medication history.

H. Refer to *appropriate protocol* according to patient condition.

I. Reassess patient and record vital signs every 5-10 minutes as condition warrants. Transported patients must have at least two sets of vital signs documented. At least one out-of-hospital blood pressure must be auscultated (determining a diastolic pressure). Weight should be recorded in kilograms for all pediatric patients, all overdose/poisoning patients, and any adult receiving medication(s).

J. Patient's body temperature should be preserved, especially infants, children, and the elderly.

K. The receiving hospital is to be notified of all patients being transported to the ED that meet Medical or Trauma Alert Criteria.
MEDICAL ALERT CRITERIA

- A suspected acute MI
- Acute neurological deficits of < 3 hours duration (e.g., paresis, aphasia, new numbness, dysarthria, or visual loss)
- Inspiratory stridor
- Physiologic signs:
  - Systolic BP < 90 mm Hg (adults)
  - Glasgow Coma Scale (GCS) < 13
  - Respiratory rate < 10 or > 30 (adults), < 15 or > 45 (children)
  - Heart rate < 40 or > 180
  - Temp < 92°F (33.3°C) or > 105°F (40.6°C)
    - usually determined in the transferring ED
  - O₂ saturation < 88%
- EMT/Paramedic judgement
AIRWAY MANAGEMENT

A. Open the airway by use of a chin-lift or jaw thrust without head tilt. Remember to protect the cervical spine at all times when the potential for cervical spine injury exists.

B. Suction is indicated in any patient whose airway is obstructed by liquid or solid material which may result in aspiration or interfere with respiration.

C. Use an oropharyngeal or nasopharyngeal airway device as needed to maintain a patent airway.

D. Assist ventilations as needed using a bag-valve device (BVM) and 100% oxygen. 
   \( \text{Pediatric rate - 20 / min., newborns – 40 - 60 / min.} \)

BLS

1. If the patient is in cardiac or respiratory arrest and has no gag reflex, insert an appropriately-sized non-visualized airway, if available.

ALS

If the above measures prove to be inadequate or there is risk of aspiration or vomiting in the unconscious patient, intubate adults with an endotracheal tube or non-visualized airway. The guidelines for intubation are as follows:

1. Endotracheal intubation is the preferred advanced airway maneuver for adults. 
   \( \text{(See Verification of Endotracheal Tube (ETT) Placement – Procedure)} \)

   a. The use of the non-visualized airway should be reserved for those adults in whom an endotracheal tube cannot be placed.

   b. If unable to place an endotracheal tube after two attempts, place a non-visualized airway, if available.

   c. If the above are unsuccessful, maintain an airway via basic skills utilizing modified jaw thrust, OP airways, BVM, etc.
2. Bag-valve-mask ventilation is the preferred method of oxygenating and ventilating pediatric patients. Endotracheal intubation should not be attempted if the patient can be adequately oxygenated and ventilated with a BVM.

3. Criteria for performance of cricothyrotomy are as follows:
   a. If basic airway management, non-visualized airways, and intubation are inadequate to sustain life, perform a cricothyrotomy.
   b. Surgical cricothyrotomy is to be performed on the patient 8 years and older. Needle cricothyrotomy is to be performed on the patient under the age of 8 years. *(See Procedures Surgical Cricothyrotomy / Needle Cricothyrotomy)*

If a cricothyrotomy is attempted, a copy of the run record must be made available to the Medical Director through the CQI Coordinator within 24 hours of the run.
ADMINISTRATION OF OXYGEN

A. Any patient who has difficulty breathing should be given oxygen.

1. Patients with mild respiratory distress (respiratory rate <25, no cyanosis, and no use of accessory muscles) may be given oxygen by nasal cannula at 4-6 LPM.

2. Patients with moderate respiratory distress (with or without cyanosis and/or using accessory muscles while breathing) should be given oxygen by a non-rebreather mask at 10-15 LPM. Liter flow should be enough to maintain inflation of the reservoir with oxygen.

   * Infants and newborns should have oxygen administered by the blow-by method.

3. Patients with severe respiratory distress should be assisted with ventilations by use of a bag-valve-mask with reservoir and supplemental oxygen (an oropharyngeal or nasopharyngeal airway should be inserted if tolerated). Oxygen should be set to 15 LPM.

4. Normal oxygen saturation (SaO₂) values are never used to withhold oxygen therapy. Do not withhold oxygen while determining the SaO₂ reading. Pediatric patients with a SaO₂ ≤ 93% have significant hypoxemia and oxygen must be provided.
AIRWAY OBSTRUCTION

Child or Adult – Conscious

A. Determine complete airway obstruction.

B. Deliver abdominal thrusts until the obstruction is relieved or the patient becomes unconscious.

C. If patient becomes unconscious, see below.

Child or Adult – Unconscious

A. Stabilize cervical spine if potential for injury exists.

B. Open the airway and attempt to ventilate.

C. If unable to ventilate, reposition the head and reattempt to ventilate.

D. If unable to ventilate, begin CPR.

E. Prior to giving respirations check for an obstructing object. If an object is visualized, remove it.

ALS - Use of the McGill forceps may be necessary to dislodge objects.

F. Attempt to ventilate.

G. If unable to ventilate, repeat above steps until material is dislodged. Suction the patient as needed.

H. If patient remains unconscious, transportation by ALS is preferred.

I. If the object is dislodged, assess airway, breathing, and circulation. Proceed with appropriate protocol.
Infant – Conscious

A. Determine complete airway obstruction.
B. Deliver five back blows.
C. Deliver five chest thrusts.
D. Visualize for obstruction to be dislodged.
E. Repeat steps until obstruction is expelled or patient becomes unconscious.

Infant – Unconscious

A. Stabilize cervical spine if potential for injury exists.
B. Open the airway and attempt to ventilate.
C. If unable to ventilate, reposition the head and reattempt to ventilate.
D. If unable to ventilate, begin CPR.
E. Prior to giving respirations check for an obstructing object. If an object visualized, remove it.

ALS – Use of the McGill forceps may be necessary to dislodge objects.
F. Attempt to ventilate.
G. If unable to ventilate, repeat above steps until material is dislodged. Suction the patient as needed.
H. If patient remains unconscious, transportation by ALS is preferred.
I. If the object is dislodged, assess airway, breathing, and circulation. Proceed with appropriate protocol.

II.4.2
DIFFICULTY BREATHING

A. Administer oxygen as indicated – *(See Oxygen Administration Protocol)*

### BLS

1. If the patient is so short of breath that he/she cannot complete sentences, determine if patient has physician-prescribed hand-held inhaler. If so, assist patient with one dose (2-4 puffs) of albuterol (with or without ipratropium bromide) – use with spacer if possible.

2. Reassess patient. Anticipate need for assisting ventilations with BVM and high flow O₂.

3. Request ALS if not already en route. If the BLS crew is able to deliver the patient to an emergency room within the same time it would take for the ALS crew to respond to the scene, the BLS crew should transport the patient.

### ALS

**Reactive airway disease (asthma) or obstructive airway disease**

If difficulty breathing is suspected from reactive airway disease or obstructive airway disease and there is no improvement from prescribed inhaler or if no inhaler was administered:

1. Administer albuterol, 2.5 mg nebulized with 5-6 lpm of oxygen (Albuterol dose should be increased to 5 mg if the patient uses an albuterol nebulizer regularly).

2. Apply the cardiac monitor.

3. If the patient is still markedly short of breath and hypoxemic (oxygen saturation <92% on 100% oxygen) after the initial albuterol is administered, CPAP may be initiated (see specific protocol) and the nebulizer treatment repeated every 10 minutes as needed.

4. Initiate transport.

5. If the patient becomes unresponsive or is markedly short of breath, albuterol may be administered via the BVM (intubate as necessary) and high flow oxygen.

6. Contact the receiving facility for further instructions.

II.5.1
DIFFICULTY BREATHING

ALS (cont.)

PULMONARY EDEMA

A. If difficulty breathing is suspected from pulmonary edema:

1. If SBP is 90 mm Hg or greater, administer three (3) 0.4 mg doses of nitroglycerin sublingually (SL) and repeat three 0.4 mg SL doses every 3 minutes until the patient’s respiratory distress is relieved or the SBP is < 90 mm Hg.

*See note below – Nitroglycerin and Viagra, etc.

2. If the patient is still markedly short of breath and hypoxemic (oxygen saturation <92% on 100% oxygen) after the second round of nitroglycerin dosing, CPAP may be initiated (see specific protocol).

3. Three 0.4 mg SL doses of nitroglycerin should be administered every 3 minutes as long as the patient continues to be dyspneic and systolic BP remains at or above 90 mm Hg.

4. Apply the cardiac monitor.

5. Initiate an IV.

The combination of nitroglycerin and Viagra®, Revatio® (sildenafil), Levitra® (vardenafil), or Cialis® (tadalafil) have been found to cause precipitous and irreversible hypotension.

* Ask every chest pain patient whether or not he/she has been on Viagra, etc. and, if so, when was the last dose? Document this on every run sheet involving the cardiac chest pain patient (even those who deny using Viagra or similar medications).

** DO NOT automatically administer nitroglycerin to any patient who has had Viagra, etc. within the past week. Consult with the receiving physician for appropriateness.

** Monitor blood pressure very closely on any patient receiving nitroglycerin. If hypotension occurs, refer to the Suspected Cardiogenic Shock Protocol.

II.5.2
CROUP

A. If the patient with difficulty breathing is at least 1 year of age and the cause is suspected to be croup (e.g., the patient has stridor at rest with retractions and/or accessory muscle use):

1. Administer 5 ml of 1:1,000 epinephrine (5 mg) nebulized with 5-6 lpm oxygen.

2. Apply the cardiac monitor.

3. If the patient becomes unresponsive or is markedly short of breath, epinephrine may be nebulized with the BVM and high-flow oxygen.
DIFFICULTY BREATHING

SMOKE INHALATION

A. Assess for and manage trauma or burns per the appropriate protocol.

B. Carbon monoxide and cyanide toxicity should be considered for any patient who experiences smoke inhalation in an enclosed space.

C. Pulse oximetry monitors may give false readings in patients exposed to cyanide and/or carbon monoxide.

D. Categorize the patient:

<table>
<thead>
<tr>
<th>BLS</th>
<th>Unresponsive patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provide high flow O2</td>
<td>1. Establish an airway with OP, NP or non-visualized airway</td>
</tr>
<tr>
<td>2. Request ALS if not already en route</td>
<td>2. Provide high flow O2 by NRB mask or BVM</td>
</tr>
<tr>
<td>3. Request ALS if not already en route</td>
<td>3. If BLS can transport the patient before ALS can arrive at the scene, do so.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ALS</th>
<th>Unresponsive patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Provide high flow O2 by NRB mask</td>
<td>1. Establish an airway and provide high flow O2</td>
</tr>
<tr>
<td>2. For wheezing or stridor, treat with 2.5-5 mg nebulized albuterol as needed.</td>
<td>2. For wheezing or stridor, treat with 2.5-5 mg nebulized albuterol as needed.</td>
</tr>
<tr>
<td>3. Establish an IV</td>
<td>3. If patient is in cardiac arrest, establish 2 IVs</td>
</tr>
<tr>
<td>4. Draw blood samples</td>
<td>4. Draw blood samples</td>
</tr>
<tr>
<td>5. Adult: If available, mix both Cyanokit® 2.5 g vials, each with 100 cc of 0.9%NaCl, and administer all of the fluid over 15 minutes (~15 ml/minute). Pediatrics: If available, mix one or both Cyanokit® 2.5 g vials, each with 100 cc of 0.9%NaCl and administer 70 mg/Kg over 15 minutes.</td>
<td>5. Adult: If available, mix both Cyanokit® 2.5 g vials, each with 100 cc of 0.9%NaCl, and administer all of the fluid over 15 minutes (~15 ml/minute). Pediatrics: If available, mix one or both Cyanokit® 2.5 g vials, each with 100 cc of 0.9%NaCl, and administer 70 mg/Kg over 15 minutes.</td>
</tr>
<tr>
<td>6. If hypotensive, consider fluid challenge(s)</td>
<td>6. If hypotensive, consider fluid challenge(s)</td>
</tr>
<tr>
<td>7. Transport emergently to closest appropriate hospital</td>
<td>7. Transport emergently to closest appropriate hospital</td>
</tr>
</tbody>
</table>
CHEST PAIN – Adult

All patients complaining of chest pain should be treated as having a myocardial infarction, unless other signs indicate pain is obviously from another origin.

A. Administer high flow oxygen. *(See Administration of Oxygen Protocol)*

B. If pain is suspected to be cardiac in origin and if no significant allergy to aspirin exists, administer 324 mg aspirin PO and have the patient chew them.

### BLS

1. Request ALS if not already en route. If the BLS crew is able to deliver the patient to an emergency room within the same time it would take for the ALS crew to respond to the scene, the BLS crew should transport the patient.

2. If systolic BP is at or above 90 mm Hg and the patient has their own nitroglycerin prescription, assist the patient with taking one dose of his/her nitroglycerin. Nitroglycerin may be administered up to 3 times (every 3-5 minutes) as long as pain is not completely resolved and systolic BP remains above 90 mm Hg.
   *See Note on II.5.2 – Nitroglycerin and Viagra, etc.*
   
   a. Additional nitroglycerin may be given (beyond the 3 doses) with on-line approval from the receiving facility.

3. Contact receiving facility for further consultation if ALS is not on the scene. Initiate transport.

### ALS

1. Apply the cardiac monitor. If dysrhythmias are present, refer to the *appropriate protocol*. Obtain a 12-lead EKG as soon as possible and with any significant change in patient condition.

2. If systolic BP is at or above 90 mm Hg, administer a 0.4 mg dose of nitroglycerin sublingually. Nitroglycerin may be administered every 3 – 5 minutes as long as pain is not completely resolved and systolic BP remains at or above 90.
   *See Note on II.5.2 – Nitroglycerin and Viagra*
3. Initiate an IV.

4. Scene time should be kept to a minimum, as this is a time-critical condition. Contact the intended receiving facility and alert them of a potential myocardial infarction (Medical Alert).

5. Patients with a STEMI or patients with chest pain thought to be due to myocardial ischemia and a left bundle branch block (LBBB) will be transported to a receiving facility with cardiac catheterization laboratory (cath lab) availability. Call the intended receiving facility as early as possible to activate the cath lab process.
   
   a. Patients who are hemodynamically stable will be transported to a hospital within the hospital system of their choice.
   
   b. Patients who are hypotensive (systolic BP < 90 mm Hg) despite fluids or who have persistent life-threatening dysrhythmias will be transported to the closest hospital with cath lab availability.
   
   c. Current cath lab availability will be displayed on EMResource:

   http://emresource.emsystem.com

   User name: indyview
   Password: viewer1
DYSRHYTHMIAS - Adult: ALS Procedures

Narrow QRS Complex Tachycardia

A. Administer high flow oxygen. *(See Administration of Oxygen Protocol)*

B. Apply the cardiac monitor.

C. Rule out any underlying causes of tachycardia.

D. Categorize patient as below:

<table>
<thead>
<tr>
<th>Asymptomatic: No treatment is required.</th>
<th>Urgent: <strong>CRITERIA:</strong> anginal chest pain, hypotension, and/or CHF</th>
<th>Emergent: Unconscious or no obtainable BP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Initiate an IV.</td>
<td>2. Have the patient perform Valsalva maneuver.</td>
<td>Perform synchronous cardioversion in an escalating fashion at dosages recommended by the manufacturer.</td>
</tr>
<tr>
<td>3. If the rhythm has not converted to a sinus rhythm, and in your judgment, the rhythm is believed to be SVT, administer 6 mg of adenosine rapid IV bolus push.</td>
<td>a. Immediately follow with a ten (10) mL fluid flush.</td>
<td></td>
</tr>
<tr>
<td>b. Observe and anticipate AV block(s) and/or transient asystole.</td>
<td>c. If, after 1-2 minutes, the rhythm does not convert or no AV block or transient asystole has occurred, repeat adenosine at 12 mg IVP.</td>
<td></td>
</tr>
<tr>
<td>4. If unable to rapidly establish IV access, or there is no response to the adenosine, or a rhythm other than SVT is observed, transport.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II.7.1
Bradycardia (heart rate < 60/minute)

A. Administer high flow oxygen. *(See Administration of Oxygen Protocol)*

B. Apply the cardiac monitor.

C. Categorize patient as below:

<table>
<thead>
<tr>
<th>Asymptomatic:</th>
<th>Symptomatic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No treatment is necessary.</td>
<td>1. Establish an IV.</td>
</tr>
<tr>
<td></td>
<td>2. Administer atropine 0.5 mg every 2 minutes until pulse rate is greater than 60 beats per minute or a total dose of 3 mg is given.</td>
</tr>
<tr>
<td></td>
<td>3. If patient condition remains unchanged, implement pacing procedures.</td>
</tr>
<tr>
<td></td>
<td>a. Set heart rate @ 70 bpm.</td>
</tr>
<tr>
<td></td>
<td>b. Start milliamp setting @ 10 mA and gradually adjust the setting until the point of electrical capture.</td>
</tr>
<tr>
<td></td>
<td>c. Verify mechanical capture.</td>
</tr>
</tbody>
</table>
A. Administer high flow oxygen. *(See Administration of Oxygen Protocol)*

B. Apply the cardiac monitor.

C. Categorize patient as below:

<table>
<thead>
<tr>
<th>Asymptomatic:</th>
<th>Mild Symptoms: (i.e. chest pain, dyspnea, or decreased LOC)</th>
<th>Serious Symptoms: (i.e. pulmonary edema, SBP &lt; 90, or unconscious)</th>
<th>Unconscious Without Pulses:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate an IV.</td>
<td>1. Initiate an IV</td>
<td>1. Perform synchronous cardioversion in an escalating fashion at dosages recommended by the manufacturer.</td>
<td>Treat as Ventricular Fibrillation.</td>
</tr>
<tr>
<td></td>
<td>2. Administer 150 mg amiodarone IV over 10 minutes.</td>
<td>2. Initiate an IV.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. If VT does not resolve, begin emergent transport.</td>
<td>3. Administer amiodarone 150 mg IV over 10 minutes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. En route, an additional 150 mg IV dose of amiodarone may be administered over 10 minutes.</td>
<td>4. If VT persists, cardiovert with maximum electrical output.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. If VT persists, contact medical control regarding additional amiodarone doses.</td>
<td>5. If VT recurs, administer additional amiodarone 150 mg IV over 10 minutes and cardiovert at the energy level that was successful previously</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. If VT persists, contact medical control regarding additional amiodarone doses.</td>
<td></td>
</tr>
</tbody>
</table>
BRADYCARDIA WITH A PULSE – Pediatric

Definition: If, after ventilation, oxygenation and stimulation, the pulse is under:

- **80** in infants
- **60** in children aged 1 to 8 years

Bradycardia with hemodynamic compromise is an ominous sign of impending cardiac arrest in infants and children.

A. Administer high flow oxygen. *(See Administration of Oxygen Protocol and Airway Management Protocol)* and stimulate the child to cry.

B. Assess vital signs and capillary refill.

**BLS**

1. Request ALS if not already en route. If the BLS crew is able to deliver the patient to an emergency room within the same time it would take for the ALS crew to respond to the scene, the BLS crew should transport the patient.

**ALS**

1. Apply the cardiac monitor.

2. If the heart rate remains bradycardic with signs of poor perfusion, hypotension, and/or respiratory difficulty:
   a. Perform CPR if HR < 60
   b. Intubate the patient only if BVM ventilation/oxygenation is inadequate
   c. Establish an IV (or an IO line if IV access is not available)
   d. Administer epinephrine 0.01 mg/kg (1:10,000, 0.1 ml/kg) IV or IO every 3-5 minutes
   e. Administer atropine 0.02 mg/kg *(minimum dose 0.1 mg, maximum single dose 0.5 mg)* IV or IO; may be repeated once 3-5 minutes after initial dose.
   f. Continue monitoring for possible reversible causes of hypoxia.

II.8.1
SUSPECTED SHOCK/ HYPOTENSION

A patient is considered in shock if he/she has a low systolic blood pressure. This must be associated with clinical signs and symptoms of shock:

- Cool clammy skin
- Pallor
- Decreased level of consciousness
- Weak rapid pulse
- Prolonged capillary refill (greater then 2 seconds)
- If shock is due to trauma – see Initial Trauma Care

Suspected Gastrointestinal Bleeding

A. Administer high flow oxygen. *(See Administration of Oxygen Protocol)*

BLS

1. Request ALS if not already en route. If the BLS crew is able to deliver the patient to an emergency room within the same time it would take for the ALS crew to respond to the scene, the BLS crew should transport the patient.

ALS

1. Apply the cardiac monitor.

2. Initiate two large bore IVs (or an IO line if IV access is not available) of normal saline and titrate to a systolic BP of 90 mm Hg.
Suspected Cardiogenic Shock - Adult

Patient is symptomatic and hypotensive due to a suspected cardiac event, and has a heart rate of between 60 and 150 per minute.

A. Administer high flow oxygen. *(See Administration of Oxygen Protocol)*

BLS

1. Request ALS if not already en route. If the BLS crew is able to deliver the patient to an emergency room within the same time it would take for the ALS crew to respond to the scene, the BLS crew should transport the patient.

ALS

1. Apply the cardiac monitor.

2. Initiate IV (or an IO line if IV access is not available).

3. If the patient has no signs or symptoms of pulmonary edema, administer a 250 ml bolus of normal saline.

4. Contact the emergency department physician at the intended receiving facility to discuss additional fluid boluses and/or a dopamine infusion (typically beginning at 5 mcg/kg/min, and titrated to a systolic BP of 90 mm Hg.)
SUSPECTED SHOCK/ HYPOTENSION (cont.)

Hypotension - Pediatric

If evidence of trauma or hemorrhage are present – see Initial Trauma Care Protocol

A. Administer high flow oxygen. (See Administration of Oxygen Protocol)

BLS

1. Request ALS if not already en route. If the BLS crew is able to deliver the patient to an emergency room within the same time it would take for the ALS crew to respond to the scene, the BLS crew should transport the patient.

ALS

If the patient has no signs or symptoms of fluid overload:

1. Administer 20 mL/kg IV or IO of normal saline solution as rapidly as possible.

2. Reassess vital signs and peripheral perfusion; reassess for signs of pulmonary edema.

3. If no improvement in vital signs or peripheral perfusion is noted, and no indication of pulmonary edema is present, repeat saline bolus of 20 mL/kg.

4. In cases of hypotension involving infants, perform glucose analysis. If blood glucose suggests hypoglycemia, administer 4 mL/Kg of D$_{25}$
**CARDIAC ARREST - Adult**

**This cardiac arrest algorithm applies to patients over the age of 8 and greater than 25 kg (~55 pounds)**

**BLS**

A. Call for ALS if not already en route.

<table>
<thead>
<tr>
<th>Cardiac arrest witnessed by EMS personnel</th>
<th>All other cardiac arrests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perform 30:2 CPR until AED is attached</td>
<td>1. Perform 30:2 CPR for a full 2 minutes.</td>
</tr>
<tr>
<td></td>
<td>2. During this 2-minute period:</td>
</tr>
<tr>
<td></td>
<td>a. Insert an oral or non-visualized airway</td>
</tr>
<tr>
<td></td>
<td>b. Connect BVM to oxygen</td>
</tr>
<tr>
<td></td>
<td>c. Attached pads to the AED</td>
</tr>
</tbody>
</table>

B. Press Analyze on AED.
C. Defibrillate if indicated
D. Resume CPR for 2 minutes
E. Check pulse:

<table>
<thead>
<tr>
<th>Pulse present</th>
<th>No Pulse Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assess vital signs.</td>
<td>1. Insert non-visualized airway.</td>
</tr>
<tr>
<td>2. Support airway/breathing.</td>
<td>2. Press Analyze.</td>
</tr>
<tr>
<td>3. Insert non-visualized airway and ventilate patient if patient not breathing or breathing inadequately.</td>
<td>3. Defibrillate if indicated</td>
</tr>
<tr>
<td>4. Continue until ALS arrives or the patient is transported to an emergency department.</td>
<td>4. Resume CPR and continue until ALS arrives or the patient is transported to an emergency department.</td>
</tr>
</tbody>
</table>

✱ Defibrillation is the treatment priority when advised by the AED. Bare and dry chest, remove any medication patch. Place patient on hard surface.

✱ Defibrillator settings are at the recommendation of the manufacturer.

✱ Try to minimize interruptions in chest compressions

✱ Respiratory rate of 6-8/minute is adequate for patients in cardiac arrest – do not hyperventilate.

✱ If "no shock advised," perform CPR for 2 minutes, then check pulse. Re-analyze rhythm if no pulse is found.

II.10.1
Start an IV (or an IO line if IV access is not available)

Refer to appropriate Cardiac Arrest Dysrhythmia Protocol.

Do NOT remove AED if in place and analyzing rhythm or delivering a shock. Allow AED to complete sequence prior to removal.
A. Perform CPR until defibrillator is attached.

B. Defibrillate if indicated. Basic Advanced EMTs may perform manual defibrillation. Defibrillation settings are at the recommendation of the manufacturer.

C. Perform CPR for 2 minutes. If organized rhythm present check pulse, and refer to appropriate algorithm:

<table>
<thead>
<tr>
<th>Pulse present</th>
<th>Persistent or recurrent VF/VT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assess vital signs.</td>
<td>1. Defibrillate, immediately resume CPR for 2 minutes. Intubate, and establish IV.</td>
</tr>
<tr>
<td>2. Support airway/breathing.</td>
<td>2. Administer 1 mg epinephrine 1:10,000 IV or IO push and repeat every 3-5 min.</td>
</tr>
<tr>
<td>3. Refer to appropriate protocol for support of blood pressure, heart rate and rhythm.</td>
<td>3. Check for organized rhythm @ 2 minute intervals. Shock if indicated. Immediately resume CPR.</td>
</tr>
<tr>
<td></td>
<td>4. Administer 300 mg amiodarone IV or IO. May repeat one time at half dose (150 mg).</td>
</tr>
<tr>
<td></td>
<td>5. Resuscitation efforts should rotate on 2 minute cycles. Pattern should be shock, CPR, drug.</td>
</tr>
<tr>
<td></td>
<td>6. If no response to amiodarone, consider 2 grams magnesium sulfate IV or IO. May repeat one time in 3-5 mins.</td>
</tr>
</tbody>
</table>

D. Once VF/VT has resolved:

1. Administer amiodarone via a drip:
   a. Add 150 mg amiodarone to a 50 mL 5% dextrose IV bag
   b. Infuse over 10 minutes (80 drops/min using the 15 drip set).

2. Begin a magnesium IV infusion at 33 mg/min (2 g/h) if the 2 g magnesium bolus was used
   a. Add 2 g magnesium sulfate to a 50 mL 0.9% saline or 5% dextrose IV bag
   b. Infuse at 55 drops/min using a 60 gtt/mL drip set.
Pulseless Electrical Activity (PEA)

Consider possible reversible causes of PEA such as hypovolemia, hypoxia, tension pneumothorax, cardiac tamponade, hypothermia, acidosis, drug overdose, hyperkalemia, massive acute MI, or pulmonary embolism.

A. Intubate patient and establish IV (or an IO line, if IV access is not available)
B. Administer 1 mg epinephrine 1:10,000 IV or IO push and repeat every 3-5 min.
C. If bradycardic, administer 1 mg atropine, IV or IO push and repeat every 2 minutes to a maximum dose 3 mg or a heart rate of greater than 60 BPM.
D. Contact the receiving facility for further consultation.

Asystole

Consider possible reversible causes of Asystole such as hypoxia, preexisting acidosis, drug overdose, or hypothermia.

A. If rhythm is unclear and possibly ventricular fibrillation, defibrillate as for VF.
B. Intubate patient and establish IV (or an IO line, if IV access is not available)
C. Administer 1 mg epinephrine 1:10,000 IV or IO push and repeat every 3-5 min.
D. Administer 1 mg atropine, IV or IO push. This dose may be repeated in 2 minutes to a maximum of 3 mg.
E. If a patient remains asystolic, contact the receiving facility for possible termination of resuscitation.

II.11.2
A. For return of spontaneous circulation (ROSC), continue supportive care and transport promptly.

B. If possible, infuse iced 0.9% saline through an 18 ga (or larger) IV into patients who remain comatose.

1. Infuse up to 2,000 ml using a pressure bag inflated to 300 mmHg.

2. Avoid in patients in whom cardiac arrest is thought to be due to hypothermia or trauma, and in women who are obviously pregnant.
Oxygenation and ventilation is of utmost importance in the pediatric and infant cardiac arrest.

A. Begin CPR.

B. Support Airway and Breathing. *(See Airway Management and Administration of Oxygen Protocols)*

**BLS**

1. Request ALS if not already en route and initiate transport. Contact receiving facility for further consultation if ALS is not on the scene.

**ALS**

1. Refer to *appropriate cardiac arrest dysrhythmia protocol*.

2. Use the Broselow® tape (or appropriate equivalent) to assess and determine correct dosing regimen.
Pulseless Electrical Activity or Asystole

Consider possible reversible causes of PEA such as hypovolemia, tension pneumothorax, cardiac tamponade, hypoxemia, acidemia, calcium channel blocker overdose, or pulmonary embolism.

A. If the rhythm is unclear and possibly ventricular fibrillation, defibrillate as for VF.

B. Resume CPR immediately and begin BVM ventilation and oxygenation. Intubate the patient only if BVM ventilation/oxygenation is inadequate.

C. Establish IV (or an IO line, if IV access is not available).

D. Administer 0.01 mg/kg epinephrine: (1:10,000, 0.1 mL/Kg) IV or IO every 3-5 minutes.

E. If patient remains asystolic, contact the receiving facility for possible terminate of resuscitation.
A. Perform CPR for at least 2 minutes and until defibrillator is attached.

B. Defibrillate once at 2J/kg. Subsequent shocks at 4J/kg. Basic Advanced EMTs may perform manual defibrillation. The use of pediatric defibrillation pads is preferred. If adult pads are used, they should be placed in an anterior-posterior configuration.

C. Resume CPR immediately for 2 minutes.

D. If organized rhythm present check pulse, refer to appropriate algorithm:

<table>
<thead>
<tr>
<th>Pulse present</th>
<th>Persistent or recurrent VF/VT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assess vital signs.</td>
<td>1. Defibrillate, immediately resume CPR for 2 minutes.</td>
</tr>
<tr>
<td>2. Support airway/breathing.</td>
<td>2. Administer 0.01 mg/Kg (0.1 mL/Kg) 1:10,000 epinephrine IV or IO every 3-5 minutes</td>
</tr>
<tr>
<td>3. Refer to appropriate protocol for support of blood pressure, heart rate and rhythm.</td>
<td>3. Check for organized rhythm @ 2 minute intervals. Shock if indicated. Immediately resume CPR</td>
</tr>
<tr>
<td></td>
<td>4. Administer amiodarone 5 mg/Kg IV or IO.</td>
</tr>
<tr>
<td></td>
<td>5. Resuscitation efforts should rotate on 2 minute cycles. Pattern should be shock, CPR, drug.</td>
</tr>
</tbody>
</table>
**PEDIATRIC CARDIAC ARREST - Using Semi Automatic Defibrillator [SAED]**

- Defibrillation should only be used on children ages 1-8.
- "Large" children may be defibrillated using adult techniques.
- If in doubt if the child is at least 1 year of age, err on the side of defibrillation.

A. Determine unresponsiveness, apnea and pulselessness.
B. Perform CPR for at least 2 minutes and until defibrillator is attached
C. Call for ALS [do not delay defibrillation to call for ALS].
D. Apply pediatric defib pads (or adult pads in the anterior-posterior position)
E. Allow SAED to analyze rhythm
F. Defibrillate if indicated by the SAED.
G. Immediately resume CPR for 2 minutes
H. Check pulse:

<table>
<thead>
<tr>
<th>Pulse present</th>
<th>Pulse absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assess vital signs.</td>
<td>1. Continue CPR.</td>
</tr>
<tr>
<td>2. Support airway/breathing.</td>
<td>2. Utilize BLS airway maneuvers using 100% oxygen.</td>
</tr>
<tr>
<td>3. Refer to appropriate protocol for support of blood pressure, heart rate and rhythm.</td>
<td>3. Perform CPR for two minutes</td>
</tr>
<tr>
<td></td>
<td>4. Re-analyze rhythm</td>
</tr>
<tr>
<td></td>
<td>5. Perform defibrillation if indicated by the SAED</td>
</tr>
<tr>
<td></td>
<td>6. Return to G. and continue efforts until ALS arrives or until the patient is released to the receiving facility.</td>
</tr>
</tbody>
</table>

I. Contact the receiving facility as soon as time permits.

- Defibrillation is the treatment priority when advised by the SAED. Bare and dry chest, remove any nitroglycerin patch. Place patient on hard surface.

- **DO NOT** remove SAED if in place and analyzing rhythm or delivering shock. Allow SAED to complete sequence prior to removal.

II.13.3
A. Administer high flow oxygen. *(See Administration of Oxygen Protocol)*

B. Categorize patient as below:

<table>
<thead>
<tr>
<th>Urticaria (itchy rash) only</th>
<th>Wheezing</th>
<th>Stridor and/or hypotension (SBP &lt; 90)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BLS</strong></td>
<td><strong>BLS</strong></td>
<td><strong>BLS</strong></td>
</tr>
<tr>
<td>1. Request ALS if not already en route. Contact receiving facility for further orders if ALS is not on scene.</td>
<td>1. Request ALS if not already en route. Contact receiving facility for further orders if ALS is not on scene.</td>
<td>2. Determine if patient has previous history of similar allergy. Assist patient with or administer one dose of patient's prescribed epinephrine auto-injector.</td>
</tr>
<tr>
<td><strong>ALS</strong></td>
<td><strong>ALS</strong></td>
<td><strong>ALS</strong></td>
</tr>
</tbody>
</table>
| 1. Administer 25-50 mg diphenhydramine IV push, (or deep IM if no IV). Pediatric dose is 0.5 mg/Kg up to a maximum of 50 mg. | 1. Administer albuterol, 2.5 mg nebulized at a flow sufficient to produce a mist.  
   a. Instruct patient to take slow, deep breaths.  
   b. Observe patient and monitor respirations.  
   c. Make sure the treatment is completely nebulized.  
   2. Apply the cardiac monitor.  
   3. Establish an IV.  
   4. Administer 25-50 mg diphenhydramine IV push, (or deep IM if no IV). Pediatric dose is 0.5 mg/Kg up to maximum of 50 mg.  
   5. If condition remains unchanged or worsens, administer 0.01 mg/Kg 1:1,000 epinephrine IM (up to a maximum of 0.3 mg).  
   7. If the condition worsens, contact Medical Control. You may be asked to administer 10 mL epinephrine 1:100,000 slow IV push and repeat every 5 minutes so long as the patient remains hypotensive.  |
| 1. Determine if patient has previous history of similar allergy. Assist patient with or administer one dose of patient's prescribed epinephrine auto-injector.  
   2. Apply the cardiac monitor.  
   3. Establish an IV.  
   4. Administer 0.01 mg/Kg 1:1,000 epinephrine IM (up to a maximum of 0.3 mg).  
   5. Administer albuterol as noted in “Wheezing” section.  
   6. Administer 25-50 mg diphenhydramine IV push (or deep IM if no IV). Pediatric dose is 0.5 mg/Kg up to maximum of 50 mg.  
   7. If the condition worsens, contact Medical Control. You may be asked to administer 10 mL epinephrine 1:100,000 slow IV push and repeat every 5 minutes so long as the patient remains hypotensive.  |

II.14.1
ALtered Level of Consciousness

A. Protect the patient’s airway. (See Airway Management) and administer high flow oxygen. (See Administration of Oxygen Protocol)

B. Check the patient for a medic alert tag, mechanism of injury, past medical history, and look for empty medicine containers.

C. Categorize the patient as below:

<table>
<thead>
<tr>
<th>Awake But Confused</th>
<th>Responsive Only to Verbal, Painful, or No Stimuli</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BLS</strong></td>
<td><strong>BLS</strong></td>
</tr>
<tr>
<td>1. Initiate transport.</td>
<td>1. Do not administer oral glucose.</td>
</tr>
<tr>
<td>2. Perform blood glucose analysis. If blood glucose suggests hypoglycemia, administer oral glucose via tablets or paste/gel.</td>
<td>2. Request ALS if not already en route, or transport if waiting for ALS would be longer than the transport time.</td>
</tr>
<tr>
<td><strong>ALS</strong></td>
<td><strong>ALS</strong></td>
</tr>
<tr>
<td>1. Apply the cardiac monitor</td>
<td>1. Apply the cardiac monitor.</td>
</tr>
<tr>
<td>2. Perform blood glucose analysis. If blood glucose suggests hypoglycemia, administer 25 g of 50% dextrose IV push.</td>
<td>2. Perform blood glucose analysis. If blood glucose suggests hypoglycemia, administer 0.4 mg of naloxone IV push or intra-nasal</td>
</tr>
<tr>
<td></td>
<td>a. If unable to establish an IV after 2 attempts, administer glucagon 1 mg IM or intra-nasal.</td>
</tr>
<tr>
<td>3. If patient has respiratory depression and a history suggestive of opiate overdose, administer 0.4 mg of naloxone IV push or intra-nasal</td>
<td>3. If respiratory depression persists after 5 minutes, repeat IV or intra-nasal via alternating nostrils until respirations are adequate or a total of 2 mg of naloxone has been given</td>
</tr>
</tbody>
</table>

II.15.1
# PEDIATRIC PATIENTS

<table>
<thead>
<tr>
<th></th>
<th>Awake But Confused</th>
<th>Responsive Only to Verbal, Painful, or No Stimuli</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BLS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Initiate transport</td>
<td></td>
<td>1. Do not administer oral glucose.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Request ALS if not already en route, or transport if waiting for ALS would be longer than the transport time.</td>
</tr>
<tr>
<td><strong>ALS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Apply the cardiac monitor.</td>
<td></td>
<td>1. Apply the cardiac monitor.</td>
</tr>
<tr>
<td>2. Perform blood glucose analysis. If blood glucose suggests hypoglycemia, administer oral glucose via tablets or paste/gel.</td>
<td>2. Perform blood glucose analysis. If blood glucose suggests hypoglycemia, administer 4 mL/Kg of 25% dextrose IV push for infants (&lt;10 Kg) or 2 mL/Kg of 50% dextrose (or 4 mL/Kg of 25% dextrose) for older/heavier children.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>a. If unable to establish IV after 2 attempts, administer glucagon 0.5 mg IM or intra-nasal for children &lt; 20 Kg, 1 mg IM or intra-nasal for children ≥ 20 Kg.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. If patient has respiratory depression and a history suggestive of opiate ingestion/overdose, administer 0.01 mg/Kg (up to 0.4 mg) of naloxone IV push or intra-nasal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If respiratory depression persists after 5 minutes, repeat IV, IM, or intra-nasal via alternating nostrils until respirations are adequate or a total of 2 mg of naloxone has been given.</td>
</tr>
</tbody>
</table>
SUSPECTED STROKE (CEREBRAL VASCULAR ACCIDENT) - Adult

This protocol is intended to reduce the time to thrombolysis in the acute stroke patient. Patient with symptoms of less than 3 hours duration are considered “time-critical.” Patients may present as having fallen, unable to walk, or with altered level of consciousness.

A. Administer oxygen as indicated. *(See Administration of Oxygen Protocol)*

B. Evaluate patient using the Cincinnati Prehospital Stroke Scale *(see below)*

C. Contact the emergency department at the intended receiving facility and include the following information: time of onset of signs/symptoms and Cincinnati Prehospital Stroke Scale results. *(ALS --include blood glucose results.)* Record results on run sheet.

### BLS

1. If level of consciousness is decreased or vital signs abnormal, transportation by advanced life support is preferred.

### ALS

1. Perform blood glucose analysis. If blood glucose suggests hypoglycemia, administer 25 g 50% dextrose IV push. If unable to establish IV after 2 attempts, administer glucagon 1 mg IM or intra-nasal.

2. Do not treat hypertension.

### Cincinnati Prehospital Stroke Scale

**Facial Droop** (have patient show teeth or smile):

- Normal – both sides of face move equally well
- Abnormal – one side of face does not move as well as the other side

**Arm Drift** (have patient close eyes and hold both arms out, palms up):

- Normal – both arms move the same or both arms do not move at all
- Abnormal – one arm does not move or one arm drifts down compared with the other

**Speech** (have the patient say “you can’t teach an old dog new tricks”):

- Normal – patient uses correct words with no slurring
- Abnormal – patient slurs words, uses inappropriate words, or is unable to speak
A. Administer high flow oxygen. *(See Administration of Oxygen Protocol)*

B. Protect patient from injury while patient is seizing. **DO NOT RESTRAIN PATIENT. DO NOT FORCE A BITE STICK INTO THE PATIENT'S MOUTH.** Determine the duration of the seizure. Observe the type of seizure activity and what part(s) of the body it affects.

C. Categorize patient as below:

---

**ADULT SEIZURES**

<table>
<thead>
<tr>
<th>Not in status seizures</th>
<th>Status seizures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criteria:</strong> Continuous seizure activity for longer than 3 minutes or two or more consecutive seizures without regaining consciousness</td>
<td></td>
</tr>
<tr>
<td><strong>BLS</strong></td>
<td></td>
</tr>
<tr>
<td>1. Initiate transport.</td>
<td></td>
</tr>
<tr>
<td>a. Adult patients who are no longer post-ictal may request not to be transported. You should consult with the hospital for authorization not to transport. <em>(See Non - Transported Patient Protocol)</em></td>
<td></td>
</tr>
<tr>
<td><strong>ALS</strong></td>
<td></td>
</tr>
<tr>
<td>1. Apply the cardiac monitor and pulse oximeter.</td>
<td></td>
</tr>
<tr>
<td>2. Administer midazolam IV, IM, or intra-nasal:</td>
<td></td>
</tr>
<tr>
<td>a. If patient ≥ 50 kg, administer 5 mg</td>
<td></td>
</tr>
<tr>
<td>b. If patient &lt; 50 kg, administer 2.5 mg</td>
<td></td>
</tr>
<tr>
<td>c. The dose may be repeated in 5 minutes if needed; use other nare if administered intra-nasal.</td>
<td></td>
</tr>
<tr>
<td>3. Perform blood glucose analysis. If blood glucose suggests hypoglycemia, administer 25 g 50% dextrose IV push</td>
<td></td>
</tr>
<tr>
<td>a. If unable to establish IV after 2 attempts, administer glucagon 0.5 mg IM or intra-nasal for children &lt; 20 Kg, 1 mg IM or intra-nasal for children ≥ 20Kg.</td>
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</tr>
<tr>
<td>4. If the patient is pregnant in the 3rd trimester, administer 2 grams magnesium IVP over 2 minutes.</td>
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</tbody>
</table>

II.17.1
## PEDiATRIC SEIZURES

<table>
<thead>
<tr>
<th>Not in status seizures</th>
<th>Status seizures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criteria:</strong> Continuous seizure activity for longer than 3 minutes or two or more consecutive seizures without regaining consciousness</td>
<td><strong>BLS - Pediatric</strong></td>
</tr>
<tr>
<td>1. Initiate transport.</td>
<td>1. Assist ventilations. <em>(See Airway Management Protocol)</em></td>
</tr>
<tr>
<td></td>
<td>2. Contact receiving facility for further orders if ALS is not on scene. Request advanced life support.</td>
</tr>
<tr>
<td><strong>ALS</strong></td>
<td></td>
</tr>
<tr>
<td>3. Perform blood glucose analysis. If blood glucose suggests hypoglycemia, administer 4 mL/Kg 25% dextrose IV push to infants or 2 mL/Kg of 50% dextrose for older children (not to exceed 50 mL).</td>
<td></td>
</tr>
<tr>
<td>a. If unable to establish IV after 2 attempts, administer glucagon 0.5 mg IM or intra-nasal for children &lt; 20 Kg, 1 mg IM or intra-nasal for children ≥ 20 Kg.</td>
<td></td>
</tr>
<tr>
<td>4. Apply the cardiac monitor and pulse oximeter</td>
<td></td>
</tr>
<tr>
<td>5. Administer midazolam IV, IM, or intra-nasal</td>
<td></td>
</tr>
<tr>
<td>a. 0.1mg/kg of midazolam (up to a maximum of 2.5 mg)</td>
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<tr>
<td>b. If intra-nasal, divide the dose so that each nares receives half</td>
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</tr>
<tr>
<td>c. The dose may be repeated in 5 minutes if needed.</td>
<td></td>
</tr>
<tr>
<td>6. Contact the receiving facility for further instructions.</td>
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</tr>
</tbody>
</table>

II.17.2
A. Protect yourself from exposure to poisons.

B. Obtain the following information:
   1. Type of poison/medication.
   2. Type of exposure - ingestion, injection, absorption, inhalation.
   3. Time of exposure.
   4. Amount of poison exposure (quantity, strength of agent(s)).
   5. Time exposure took place.
   6. If an ingestion, poison/medication taken with water/alcohol/etc.?
   7. Time of last food and alcohol intake.
   8. Weight of patient (in Kg).

C. Remove the patient from the source of contamination, if necessary, without endangering responders. In the event of topical poisons, decontaminate the patient with copious amounts of water. Brush away powdered substances prior to irrigation.

D. Categorize type of poison
   1. Injected poisons - (e.g., bites, stings, or open wounds caused by an object contaminated with a poisonous substance) – apply a venous constricting band above the site of injection on an extremity, immobilize the extremity and keep it below the level of the heart. For stings, scrape stinger away, do not squeeze stinger.
   2. Suspected allergic reactions *(See Allergic Reaction Protocol)*
   3. Inhaled poisons - Administer high flow oxygen to all patients with poisoning by inhalation or who meet criteria for oxygen administration or airway management procedures. *(See Administration of Oxygen Protocol and/or Airway Management Protocol)*

II.18.1
E. If level of consciousness is decreased or vital signs abnormal, transportation by advanced life support is preferred. *(See Altered Level of Consciousness Protocol)*

F. Gather containers or remaining medications that can be taken to the hospital safely.

G. Consider contacting the Indiana Poison Center (IPC) on Med-1 or the IHERN for information on expected toxicity. The Poison Center may be used as a resource for information, **NOT** for orders for patient care. The IPC is also available at 962-2323, (800) 222-1222, on via the IHERN (EMS-M1).

### ALS

1. Sodium bicarbonate 1 mEq/Kg IVP may be indicated for the treatment of cyclic antidepressant overdose with wide QRS complex (≥ 120 msec), hypotension (SBP < 90 mm Hg), or seizures.

2. Calcium chloride 1 gram slow IVP, may be indicated for the treatment of calcium channel blocker overdose with bradycardia (heart rate < 60) and hypotension (SBP < 90 mm Hg).

3. Glucagon 3 mg IVP over 3 minutes may be indicated for the treatment of beta-blocker overdose with hypotension (SBP < 90 mm Hg).
The use of Body Substance Isolation Procedures is especially important because of the possibility of exposure to blood and body fluids and the probability of dialysis patients being carriers of the hepatitis B virus. Treat any presenting problems according to the appropriate protocol and note the following modifications:

A. Do not take vital signs in an extremity containing a graft or fistula.

B. If the patient is on the hemodialysis machine, have the dialysis technician disconnect the patient from the machine. If the dialysis technician is not present, or is unable to disconnect the patient, turn off the machine.

1. Clamp off the access device and disconnect the patient from the machine.

2. Remove or have technician remove the needles. Apply pressure as the needle is removed so as to avoid cutting the access device.

C. If the patient is on continuous ambulatory peritoneal dialysis (CAPD), unclamp drainage tube and allow fluid in the peritoneal cavity to drain back into the bag.

D. Be alert for pathological fractures or fractures that might occur.

E. If a venous or arterial air embolus is suspected, immediately place the patient in Trendelenberg position on the left side.

F. If the site is persistently bleeding, apply direct pressure and elevate the limb. Do NOT apply a tourniquet device.

ALS

1. Initiate an IV in an extremity containing a shunt or fistula only if an immediate life-threatening situation exists and there is no other IV site. NOTE: This does not mean that inserting an IV into the shunt or fistula is allowed – only that another IV site in that same arm is allowed.
2. For wide complex rhythms associated with hypotension or refractory ventricular fibrillation, give the following medications:

   a. Calcium chloride 1 g SLOW IV push

   b. Albuterol 5 mg nebs back-to-back/continuously for the spontaneously breathing patient, and

   c. Sodium Bicarbonate, 100 mEq IV push if lung sounds are clear.
A. Any time a patient exhibits behavior which may cause harm to himself/herself, others, or EMS personnel, the following precautions need to be taken:

1. Assess the safety of the situation. Approach only if safe to do so.

2. Request law enforcement assistance if the situation warrants.

B. Perform assessment and initial medical care and obtain the medical history if the patient allows.

C. Do not leave the patient alone unless there is risk of harm to out-of-hospital personnel or others.

D. If patient restraint is necessary to prevent harm to the patient and/or others, request law enforcement assistance. (See Patient Restraint Protocol)

E. Maintain professionalism in conduct and interaction with the patient.
A. Safety of responding personnel, the community, and the patient is of paramount importance.

B. Restraints should only be utilized when necessary, in situations in which the patient is exhibiting behavior that presents a danger to themselves or others. This may include, but is not limited to, assaultive behavior or behavior which jeopardizes airway, breathing, or circulatory resuscitative measures. Patient dignity should be maintained during restraint, and the method of restraint should be individualized to use the least restrictive method of restraint that protects the patient and EMS personnel from harm.

C. Restraint types:
   1. Padded leather or soft restraints (e.g., Posey®, Velcro®-type, or roller bandages (e.g., Kling®/Kerlix®)) may be utilized for patient restraint during transport. The EMS provider shall have a method immediately available to release any restraint used.
   2. Metal handcuffs for initial restraint may only be applied by law enforcement personnel. Metal handcuffs may be replaced with another method of restraint (e.g., those listed above or hard plastic flex-cuffs) prior to transport. Metal handcuffs may only be used for restraint during transport when law enforcement personnel accompany the patient in the ambulance. Only law enforcement personnel may remove metal handcuffs.

D. Law enforcement responsibilities:
   1. Law enforcement personnel are responsible for the capture and/or restraint of potentially violent patients. EMS personnel should obtain assistance from law enforcement to prepare patients for transport.
   2. Law enforcement agencies retain primary responsibility for safe transport of patients under arrest or involuntary detention.
   3. Patients under arrest or involuntary detention shall be searched thoroughly by law enforcement personnel prior to being placed in the ambulance.
   4. Patients under arrest must always be accompanied by law enforcement personnel.
   5. EMS and law enforcement personnel should mutually agree on need for law enforcement assistance during transport of involuntary detention patients.

E. A competent patient may not be transported against his or her will unless under arrest or involuntary detention. Patients with medical conditions that appear to compromise their ability to consent for care may be restrained (when indicated) and transported without law enforcement authority in situations in which a life-threatening emergency exists or potentially exists.
PATIENT RESTRAINT

PROCEDURE

A. General approach

1. Violent behavior may be a manifestation of a medical condition such as head injury, drug or alcohol intoxication, metabolic disorders, hypoxia, stroke, or post-ictal state. Field personnel should consider these medical conditions first, then consider psychiatric disorders in the approach to violent patients. Field personnel should obtain a detailed history from family members, bystanders, and law enforcement personnel, and make particular note of patient surroundings for clues to the cause of the behavior (e.g., drug paraphernalia, medication bottles).

2. EMS personnel shall attempt to de-escalate verbally aggressive behavior with a calm and reassuring approach and manner.

B. Physical Restraint Issues

1. Restrained patients shall be placed in a supine position, Fowler’s or semi-Fowler’s position. Patients shall not be transported in a prone position or “hog-tied.” Patients shall not be “sandwiched” between scoop stretchers, backboards, and/or mattresses during transport.

2. Four-point restraint is preferred; additional tethering of the thorax may be necessary. A surgical mask may be placed on the patient to prevent spitting.

3. The method of restraint must allow for adequate monitoring of pulse and respirations, and should not restrict the patient or rescuer’s ability to protect the airway should vomiting occur. EMS personnel must provide sufficient slack in the restraint device(s) to allow the patient to straighten the abdomen and chest and to take full tidal-volume breaths. The neck may not be compromised.

4. Once the patient has been restrained, he/she should never be left alone.

5. Restrained extremities should be monitored for circulation, motor function, and sensory function every 10 minutes and upon arrival at the hospital. It is recognized that the evaluation of motor and sensory status requires patient cooperation, and thus may be difficult or impossible to achieve.

6. Out-of-hospital documentation should include behavior, reason for restraint, that the restraints were “applied for the patient’s safety”, identification of personnel/agency applying restraint, other pertinent clinical information, vital signs, and documentation of monitoring of restrained extremities.

7. Unless mandated for emergency care, restraints are to be left in place until the patient is turned over to hospital ED staff and preparations are made for a smooth and safe transfer.

II.20.3
C. Transport Issues

1. If an unrestrained patient becomes violent during transport, EMS personnel shall request law enforcement assistance and make reasonable efforts to calm and reassure the patient.

2. If the crew believes that their personal safety is at risk, they should not inhibit a patient's attempt to leave the ambulance. Every effort should be made to release the patient into a safe environment. EMS personnel are to remain on scene until law enforcement arrives to take control of the situation.

CHEMICAL RESTRAINT

Chemical restraint is to be used only where the patient can be adequately and repeatedly monitored by EMT-P providers. It is to be reserved for patients who cannot otherwise be restrained or restrained only at the risk of significant harm to the patient, law enforcement, and EMS providers.

1. Consider other causes of combative or irrational behavior, including but not limited to hypoxia and hypoglycemia.

2. Administer midazolam IV, IM, or via intra-nasal spray
   a. If patient > 50 kg, administer 10 mg (5 mg in each nostril)
   b. If patient < 50 kg, administer 5 mg

3. Patient should be isolated and placed in an ALS ambulance as soon as possible.

4. Airway, mental status, and vital signs (including pulse oximetry and heart rhythm) must be examined and documented every 5 minutes.

5. All patients will be transported to the closest most appropriate facility for further evaluation, and released to law enforcement thereafter.

If chemical restraint is used, a copy of the run record must be made available to the Medical Director through the CQI Coordinator within 24 hours
HYPOTHERMIA

Any patient with a suspected core body temperature of 96°F or less. Hypothermic patients are considered viable until rewarmed and pronounced dead by a physician.

A. Administer oxygen at 10-15 LPM per non-rebreather *(See Administration of Oxygen Protocol)*
   1. If you need to assist ventilations with BVM, do not induce a gag reflex, do not hyperventilate, and do not insert a non-visualized airway or OP airway.

B. On all patient procedures, handle gently. Do not let the patient walk.

C. Remove wet clothing. Cover patient with dry blankets. Do not rub patient's extremities.

D. Assess vital signs (You must check for a pulse for one full minute).

<table>
<thead>
<tr>
<th>Pulse present</th>
<th>Pulse absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLS/ALS</td>
<td>BLS</td>
</tr>
<tr>
<td><strong>1. If patient presents with altered level of consciousness, <em>(See Altered Level of Consciousness Protocol).</em></strong></td>
<td>1. Initiate CPR and request ALS if not already en route.</td>
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</table>

ALS

1. If monitor shows an organized rhythm, do not initiate CPR.

2. Initiate CPR if the patient is found to be in asystole or ventricular fibrillation.

3. Intubate if there are no spontaneous respirations. Do not hyperventilate (rapid correction of acidosis may induce ventricular fibrillation).
A. Administer high flow oxygen. *(See Administration of Oxygen Protocol)*

B. Move patient to cool environment.

C. Remove clothing. Cool patient with cold packs around the abdominal, axillary, neck, and groin areas.

D. Do not allow patient to shiver during cooling. If shivering occurs, remove cold packs.

E. If patient presents with altered level of consciousness, *(See Altered Level of Consciousness protocol).*

If patient appears unstable:

**BLS**

1. Request ALS if not already en route and initiate transport. Contact receiving facility for further orders if ALS is not on scene.

**ALS**

1. Apply the cardiac monitor.

2. Initiate an IV and titrate flow to a systolic BP of 90 mm Hg.
A. **PROTECT YOURSELF!** Do not enter a body of water unless you are certified in water rescue and have the appropriate equipment.

B. Administer high flow oxygen. *See Administration of Oxygen Protocol*

C. Immobilize cervical spine if potential exists for cervical injury.

D. Treat patient for problems as indicated by *appropriate protocol*.

E. If a cold water drowning exists, consider hypothermia.

F. Transportation by ALS is preferred.

G. All near drowning patients should be transported to a hospital -- complications such as pulmonary edema may be delayed.
If delivery is determined to be imminent, follow the guidelines below. Delivery may be imminent even though the bag of waters has not broken. If the mother is not at full term, or if signs of meconium stain are present, call for ALS.

A. Obtain the following information:
   1. Due date.
   2. Frequency of contractions.
   3. Number of pregnancies (gravid), number of children born (para)
   4. History of pre-term or post-term deliveries.
   5. Sensation of the need to move bowels (delivery is imminent).
   6. Presence of crowning (delivery is imminent).

B. If no crowning is present, begin transportation in the left lateral recumbent position. If crowning is present, prepare to deliver the infant.

C. Administer high flow oxygen to the mother. (See Administration of Oxygen Protocol)

D. Assist with the delivery. (See Obstetric Emergencies - Newborn Care Protocol)
   1. Guide and control but do not try to stop the delivery.
   2. Don't pull on infant or put traction on cord.
   3. If cord is around the neck of the infant, slip it over the head. If unable to slip the cord over the head, immediately clamp the cord in two places and cut between the clamps. Continue with delivery.
   4. Look for presence of meconium staining. (See Obstetric Emergencies Protocol- Meconium Staining)
   5. After the head is delivered, gently suction the mouth then nose of the infant. Keep the nose and mouth clear of mucus.

II.24.1
E. Provide post-partum care to the mother. After the placenta is delivered (or 5 minutes after
the baby is born, whichever comes first), initiate patient transportation. Massage the fundus
of the uterus after delivery of the placenta. Wrap up the delivered placenta and take it to
the hospital.

F. Contact the receiving facility for early notification.
A. Stimulate the infant to cry by rubbing the back. Keep infant warm and dry – cover the body and head.

B. Keep baby at the same level of the perineum until the cord stops pulsating. Clamp and cut the cord. Place one clamp six inches from the infant, the second clamp three inches distal from the first clamp. Cut the cord between the clamps. If cord continues to bleed, apply additional clamps.

C. Record the time of birth. Determine APGAR scores at one and five minutes after birth.

D. Normal respiratory rate is 40-60 minute and pulse is 120-160 minute.

E. Contact the receiving facility for early notification.

<table>
<thead>
<tr>
<th>SIGN</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTIVITY</td>
<td>Limp</td>
<td>Some extremity flexion</td>
<td>Good extremity flexion</td>
</tr>
<tr>
<td>PULSE</td>
<td>Absent</td>
<td>&lt;100</td>
<td>≥100</td>
</tr>
<tr>
<td>GRIMACE</td>
<td>Absent</td>
<td>Some facial grimace</td>
<td>Strong grimace</td>
</tr>
<tr>
<td>APPEARANCE</td>
<td>Blue</td>
<td>Blue extremities, pink torso</td>
<td>All pink</td>
</tr>
<tr>
<td>RESPIRATORY EFFORT</td>
<td>Absent</td>
<td>Weak cry</td>
<td>Strong cry</td>
</tr>
</tbody>
</table>
**OBSTETRIC EMERGENCIES**

**Newborn Resuscitation (at time of delivery)**

If any of the following are present:

- respiratory rate < 30
- heart rate < 100
- presence of central cyanosis

Perform the following procedures in a stepwise fashion as indicated. Reassess after each step before proceeding to the next.

A. Perform tactile stimulation: drying, warming, positioning, and suctioning.

B. Administer blow-by oxygen at 5-6 lpm.

C. Ventilate using bag-valve-mask at a rate of 40-60/minute.

D. If the HR < 60, perform chest compressions at a rate of 120/minute and a 3:1 ratio of compressions to breaths (in one minute, 90 compressions and 30 breaths).
   
   1. Continue until heart rate is $\geq 60$ bpm

**BLS**

1. Request ALS if not already en route and initiate transport. Contact receiving facility for further orders if ALS is not on scene.

**ALS**

1. Intubate the patient only if BVM ventilation/oxygenation is inadequate.

II.26.1
MECONIUM STAINING: Presence of green amniotic fluid or green/black particulate material on face or in upper airway.

A. Using a catheter or bulb syringe, suction mouth and then nose of newborn. During delivery, suction as soon as head is delivered and continue until chest is delivered.

B. Wipe away any collection of meconium in the upper airway with gauze-wrapped finger.

**BLS**

1. Request ALS if not already en route and initiate transport. Avoid stimulating infant. Contact receiving facility for further orders if ALS is not on scene.

**ALS**

1. Insert endotracheal tube and suction.
Pre-Eclampsia / Eclampsia

Any pregnant or recently delivered (within 4 weeks) woman with the presence of hypertension (BP >140/90) and marked edema of the face, hands, and/or feet.

A. Administer high flow oxygen to mother. (See Administration of Oxygen Protocol, II.3.1)

B. Transport non-emergently (without lights or siren) in a darkened ambulance.

C. If patient begins to have seizures, see Seizures Protocol (II.17.1) – Note that midazolam is still given before the magnesium.

Maternal Bleeding During Pregnancy

A. Have patient estimate number of pads soaked in 1 hour. How long has it been occurring? Assess vital signs every 5 minutes.

B. Administer high flow oxygen to mother. (See Administration of Oxygen Protocol, II.3.1)

C. Prepare to treat for shock. (See Shock Protocol, II.9.1)

D. Transport emergent in left lateral recumbent position if >20 weeks gestation or if uncontrollable bleeding present.

BLS

1. Request ALS if not already en route and initiate transport.

2. Contact receiving facility for further orders if ALS is not on scene.

ALS

1. Insert 2 large bore IV's with normal saline and run wide open to maintain a SBP of 90 mm Hg.

2. Contact the receiving facility for further orders.
OBSTETRIC EMERGENCIES (cont.)

Prolapsed Umbilical Cord

A. Administer high flow oxygen to the mother. *(See Administration of Oxygen Protocol)*
B. Place patient in left lateral recumbent position.
D. Elevate presenting part off of the umbilical cord by using a gloved hand in vagina. Keep elevated until relieved at hospital.
D. Contact receiving facility as early as possible

BLS

1. Request ALS if not already en route and initiate transport.

Breech Presentation

A. Administer high flow oxygen to the mother. *(See Administration of Oxygen Protocol)*
B. Place patient in left lateral recumbent position.
C. Check for prolapsed cord.
D. Contact receiving facility as early as possible

BLS

1. Request ALS if not already en route and initiate transport.
Postpartum Hemorrhage: any patient who has an estimated blood loss exceeding 500 ml following childbirth.

A. Administer high flow oxygen to mother. *(See Administration of Oxygen Protocol)*

B. Massage the fundus of the uterus after delivery of the placenta until firm. Check fundus every 5 minutes for firmness and repeat massage as necessary.

**BLS**

1. Request ALS if not already en route and initiate transport.

2. Contact receiving facility for further orders if ALS is not on scene.

**ALS**

1. Insert 2 large bore IV's with normal saline and run wide open to maintain a SBP of 90mm Hg.
PAIN MANAGEMENT PROTOCOL

ALS

A. Paramedics should consider offering patients describing moderate to severe pain (greater than 3/10) fentanyl for pain management.

1. Unless the patient has:
   a. An allergy to fentanyl;
   b. A significantly altered level of consciousness (GCS < 14 or below baseline); OR
   c. SBP < 90 mm Hg

B. Fentanyl is administered in the following doses:

1. Adults (> 8 years old and ≥ 50 Kg): Up to 100 mcg slow IV push or intra-nasal. Up to an additional 50 mcg may be administered every 5 minutes up to a maximum of 300 mcg prn pain > 3/10

2. Pediatrics or patients < 50 Kg: Up to 1mcg/Kg slow IVP or 1-2 mcg/kg intra-nasal every 5 minutes up to a maximum of 3mcg/kg prn evidence of significant discomfort.

3. Additional doses may be administered with approval of Medical Control

C. Patient's BP, HR, RR, GCS, and pain scale must be monitored regularly (at least prior to each dose of medication) and documented on the patient care record.

   1. Sample pain assessment scales are provided in III.X.4.1

D. Naloxone must be immediately available.
BLS

Assess for potential life-threatening causes of nausea and vomiting (such as myocardial infarction or shock) and initiate appropriate protocols.

ALS

If nausea or vomiting persists after initiating other indicated treatment protocols, and if no contraindication is present, you may administer ondansetron.

A. Administer ondansetron:

1. Adults 50 Kg and over: 4-8 mg IV push or via oral-dissolving (ODT) tablet.

2. Less than 50 kg: 0.1 mg/Kg IV push or via an appropriate portion of an oral-dissolving (ODT) tablet (e.g., one-quarter or one-half...).
INITIAL TRAUMA CARE

To be performed on all patients, following a traumatic or suspected traumatic incident.

A. Perform a scene survey, assess for mechanism of injury.

B. Check and record the level of consciousness using the AVPU method:
   
   A = alert
   V = responds to verbal stimuli only
   P = responds to painful stimuli only
   U = unresponsive to any stimuli

C. Obtain an initial Glasgow Coma Score.

D. Airway. Assess, secure and maintain an adequate airway with c-spine immobilization. (See Airway Management Protocol)

E. Breathing: Quickly look, listen, and feel for breathing.
   
   1. Visually check the chest.
   2. Check for presence and equality of breath sounds.
   3. If patient is breathing, administer oxygen. (See Administration of Oxygen Protocol)
   4. Do not attempt to intubate patients with a patent airway and spontaneous respirations. If apneic or inadequate airway/ventilations, secure airway and begin ventilations (See Airway Management Protocol).
   5. Auscultate breath sounds.

ALS

If tension pneumothorax is suspected, perform needle decompression. (See Procedure Needle Chest Decompression)

II.29.1
BLS

F. Circulation:
   1. Assess carotid and peripheral pulses for presence and quality.
   2. Check capillary refill.
   3. Control all massive or life-threatening bleeding with direct pressure.
      a. In extremity injuries, utilize a pressure dressing.
      b. If unable to control bleeding in an extremity with a pressure dressing and elevation, consider use of a tourniquet.

G. Assess baseline vital signs. Check and record vital signs every five minutes.
   If SBP < 90:

BLS

   1. Request ALS if not already en route and initiate transport.
   2. Contact receiving facility for further orders if ALS is not on scene.

ALS

   1. Initiate two large bore IVs of an isotonic saline and titrate to maintain a SBP > 90 mm Hg. Out-of-hospital times should never be extended solely for the establishment of IVs.

H. Rapidly extricate and transport the patient. Keep on-the-scene times to 10 minutes or less when possible. If scene time exceeds 10 minutes, document the reason for the delay.
I. The focused history and physical examination should be conducted en route to the receiving facility. Expose the patient for complete assessment.

1. Reassess mental status.

2. Inspect and palpate looking for injuries / signs of injuries using DCAP-BTLS:

   - Deformities
   - Burns
   - Contusions
   - Tenderness
   - Abrasions
   - Lacerations
   - Punctures
   - Swelling

3. Assess the head including scalp, face, ears, and eyes. Check and record pupil size, quality, and reaction to light.


5. Assess chest.

6. Assess abdomen and pelvis.

7. Assess all four extremities.

8. Roll patient with spinal precautions and assess posterior body.

9. Assess SAMPLE history:

   - Signs / symptoms of present illness or injury
   - Allergies
   - Medications
   - Pertinent past history
   - Last oral intake
   - Events leading to injury or illness

J. Maintain body temperature.

K. Patients with major multiple system trauma, penetrating trauma to the head, neck, chest or abdomen, should be transported by ALS to a Trauma Center. Patients with serious burn injuries should be transported to a burn center. If the patient can be transported by BLS to a Trauma Center in less time than it would take for ALS to arrive, then transport by BLS. *(See Requesting ALS/ALS Transportation protocol)*

L. Contact the receiving facility for early notification of patients meeting any of the trauma alert criteria.

II.29.3
TRAUMA ALERT CRITERIA

- **Anatomic**
  - Penetrating trauma to head, neck, chest, abdomen, or back
  - Burns > 15% TBSA
  - Neuro deficits or extremity paralysis

- **Physiologic signs:**
  - Systolic BP < 90 mm Hg
  - Glasgow Coma Scale (GCS) < 13
  - Respiratory rate < 10 or > 30

- **Mechanism of Injury**
  - Ejection from vehicle
  - Vehicle roll-over
  - Prolonged extrication from vehicle
  - Pedestrian struck by vehicle at speed > 20 MPH
  - Falls > 20 feet (adults) or > 3x the child’s height

- **EMT/Paramedic judgement**
A. Assess distal circulation, movement, and sensation before moving the injured extremity.

B. Cover open wounds with a sterile dressing. If bone is exposed, use a moist, sterile saline dressing.

C. Splint the injured extremity.

D. Do not attempt to straighten the extremity unless pulses are absent. Never attempt to straighten an injury involving a joint. If resistance is met while straightening a limb, splint the injury as it is.

E. Reassess distal circulation, movement and sensation.

F. Elevate the extremity in a supported position and apply cold packs.

G. When in doubt, splint.

H. If the patient is in more pain after splinting of the injured part, reassess and re-splint.

I. Care of amputated parts:
   1. Rinse away gross contamination with sterile saline.
   2. Cover the injured site on the amputated part with a moist, sterile saline dressing and bulky bandage.
   3. Place the amputated part in a plastic bag. If ice is immediately available, place the plastic bag on ice. Do not delay transport to obtain ice.
   4. Do not clamp bleeders. Apply a compression dressing.
SPECIAL TRAUMA SITUATIONS (cont.)

Burns

A. Protect yourself!
B. Remove the patient from the source, put out fire on the patient and remove burned clothing.
C. Address the more life-threatening injuries first, and then treat burns.
D. Maintain sterility when treating burns.
E. Estimate the percentage and degree of burns using the rule of nines, or as an alternative for burns less than 10 percent, the palm of the patient’s hand is equivalent to ~1% BSA
F. Categorize type of burn and provide appropriate treatment:

  Thermal burns –
  1. Suspect inhalation injury in any patient with facial burns or involvement in any fire in an enclosed space.
  2. For first and second degree thermal burns involving < 10% body surface, soak area with sterile water for 10-15 minutes until temperature is the same as the normal skin, then cover. Do not apply cold packs to burned areas.
  3. For all other thermal burns, cover with dry, sterile dressings or burn sheets (If in doubt whether to soak burns, leave dry.)
  4. Leave unbroken blisters intact.

  Chemical burns –
  1. Brush off excess dry agent
  2. Copious irrigation with saline or water for at least 20-30 minutes.
  3. Transport in dry sterile sheets.
  4. Keep warm – protect from hypothermia associated with wet skin.

  Electrical burns –
  1. Turn off the source.
  2. Be aware of musculoskeletal injuries and an irregular pulse.
  3. Look for entrance and exit wounds.

II.30.2
SPECIAL TRAUMA SITUATIONS (cont.)

G. Place the patient on high flow oxygen with a non-rebreather at 10 – 15 LPM.

H. ALS is preferred for:
   1. Any burns complicated by fractures
   2. All electrical burns
   3. Any burns complicated by smoke inhalation, damage to the airway or confinement in an enclosed space.
   4. Pediatric patients
   5. Partial or full-thickness burns of > 10% BSA.
   6. Burns involving hands, feet, face, genitalia or joints
   7. Patients meeting medical alert criteria
   8. Patients meeting trauma criteria

ALS

1. Intubate the patient if indicated. Strongly consider oral intubation if LOC is decreasing and one or more of the following signs are present:
   a. Obvious oral inhalation injury (e.g., increasing hoarseness, stridor)
   b. Soot in the airway or nasal hair burned
2. Apply the cardiac monitor to non-burned skin.
3. Initiate an IV with normal saline for partial or full thickness burns > 20% BSA, other associated trauma, significant dysrhythmias, or need for intubation.
   a. Insert IV catheter preferentially through non-burned skin.
   b. Run wide open until arrival at hospital or 1000 mL infused.
   c. Document total IV fluids given in the field and advise receiving facility upon arrival.
4. Administer fentanyl as appropriate *(See Pain Management protocol)*

II.30.3
SPECIAL TRAUMA SITUATIONS (cont.)

Out-of-Hospital Spinal “Clearing”

A. Full spinal immobilization is to be provided to patients with any evidence of spinal injury and considered for patients meeting trauma alert criteria or with a suggestive mechanism of injury.

B. The examination must be completed by the paramedic.

ALS

1. Patients who have no clinical evidence of spine injury may have out-of-hospital spinal immobilization deferred if they meet all of the following requirements:
   a. Able to understand and participate fully in the Out-of-hospital examination for spinal injury. The patient must:
      1. be awake, alert, and oriented;
      2. not be clinically under the influence of drugs or alcohol; and
      3. Understand the paramedic well enough to comprehend the instructions and questions (age 5 or greater).
   b. No neck pain;
   c. No tenderness on palpation of the posterior midline elements of the neck;
   d. No peripheral neurological deficits at the time of examination or at any time since the injury; and
   e. No significant distracting (painful) injury.

2. Full spinal immobilization is always appropriate if the ALS provider has concerns regarding possible injury to the spine, even if the patient meets the criteria listed above.

3. Spinal immobilization devices may not be removed. If spinal immobilization has already been initiated (other than manual in-line immobilization), it is to be completed and the patient transferred to definitive care for further evaluation.

4. Patients may be transported by BLS personnel following paramedic clearance of the cervical spine.

5. Appropriate documentation of the above listed examination must be made by the paramedic on the patient medical record regarding the out-of-hospital spinal clearance.

II.30.4
Chest Injuries

A. Assess for flail segments or rib fractures. If present, use a bulky dressing or blanket to stabilize. Do not use sandbags.

B. Cover open chest wounds with an occlusive dressing. Apply on exhalation. Watch for signs of increased respiratory distress and decreasing blood pressure. If this occurs, lift one edge of the dressing long enough to allow air to escape.

ALS

1. If tension pneumothorax is suspected, perform needle decompression. (See Needle Chest Decompression)

C. Stabilize impaled objects. Secure occlusive (e.g., Vaseline®) gauze at base of impaled objects.

D. Assess breath sounds every 5 minutes.

E. If level of consciousness is decreased or vital signs abnormal; transportation by advanced life support is preferred.
SPECIAL TRAUMA SITUATIONS (cont.)

Eye Injuries

A. Assess for the following:
   1. Intact globe (do not touch the globe).
   2. Hemorrhage, lacerations, contusions.
   3. Ability of both eyes to move together.
   4. Fluid from the globe.
   5. Decreased visual acuity (unable to see light, hand motion, or count fingers)
   6. Visible foreign bodies.

B. Cover both eyes when bandaging, but avoid pressure on the eyes.

C. Do not remove impaled objects – stabilize.

D. Cover avulsed eye with paper cup if available.

E. For chemical burns, irrigate the eye with normal saline or water for 20 minutes and then bandage both eyes. If initiating transport will not interrupt eye irrigation, continue irrigation en route to the hospital.
Abdominal Trauma

A. If an evisceration is present, keep it covered with moist sterile, non-adherent dressings. Use normal saline. Do not attempt to replace organs. Do not use Vaseline dressing.

B. Transportation by ALS is preferred.

Pregnant Trauma Patient

A. During the third trimester, transport the patient in the left lateral recumbent position (tilted 20-30 degrees to the left by securing the patient to the backboard and tilting the backboard with pillow or blankets).

B. If the patient is hypotensive, transport the patient in the left lateral recumbent position (tilted 20-30 degrees to the left) and re-check the vital signs.
This protocol is intended to provide guidelines for care of patients following the use of EMD weapons (e.g., the X26 TASER®). For situations involving altered level of consciousness, significant secondary trauma, or other medical problems, follow the applicable protocol(s).

A. Assure the scene is secure. Use of this type of weapon to subdue a violent person implies he/she was a risk to him/herself or others.

B. Evaluate and treat for secondary injuries/ altered level of consciousness as indicated.

C. Stabilize dart(s) in place and transport patient to ED if the dart(s) is/are embedded in the eyelid/globe of eye, genitalia, or face/neck.

D. Darts in other locations may be carefully removed by gently pulling backwards in the same plane as they entered the body. Assure the dart is intact and no portion of the dart remains inside the patient’s skin.

E. Provide the darts to law enforcement officers.

F. Control minor bleeding and clean the wound area(s) with alcohol and/or povidone-iodine solution. Cover with an adhesive bandage.

G. If all darts are out, any minor bleeding is controlled, and no other injuries or symptoms exist, EMS transport is not indicated and an SOR may be obtained.
Section Three

APPENDICES
The following is a list of acceptable abbreviations to be used when completing patient care records. This list is not all inclusive but to be used as a quick reference of more commonly used abbreviations. If other abbreviations are used, be sure they are proper and widely understood.

A&O           alert and oriented
ab             abortion
abd            abdomen
ACLS           Advanced Cardiac Life Support
AED            automatic external defibrillator
adm            administered
Af or afib     atrial fibrillation
AF             atrial flutter
AIDS           Acquired Immune Deficiency Syndrome
AKA            above the knee (amputation)
AMI            acute myocardial infarction
amt.           amount
ant.           anterior
AP             anteroposterior
AT             atrial tachycardia
AVPU           alert, responsive to verbal stimuli, painful stimuli, or unresponsive
BBB            bundle branch block
BBS            bilateral breaths sounds
BKA            below the knee (amputation)
Bld.           blood
BOW            bag of waters
BS             blood sugar, breath sounds, or bowel sounds
Brady          bradycardia
BSA            body surface area
BVM            bag valve mask
BW             body weight
C-c            cervical collar
C-spine        cervical spine
C1, C2 … C7   1st cervical vertebrae, etc.
CA or ca       carcinoma, cancer
CAD            coronary artery disease
CC             chief complaint
c/e or c&e  clear and equal
CHF  congested heart failure
CHI  closed head injury
CHD  coronary heart disease
CNS  central nervous system
C/O  complains of
CO  carbon monoxide
CO₂  carbon dioxide
COPD  chronic obstructive pulmonary disease
CP  chest pain
CSF  cerebral spinal fluid

D₅W  dextrose 5% in water
d/c  discontinue
DCAP-BTLS  Deformities, Contusions, Abrasions, Punctures, Burns, Tenderness, Lacerations, Swelling
dc’d  discontinued
DEX or DS  dextrostick
disp  disposition
DKA  diabetic ketoacidosis
DM  diabetes
DNR  Do Not Resuscitate
DOA  dead on arrival
DOB  date of birth
DOE  dyspnea on exertion
DSD  dry sterile dressing
DT's  delirium tremens
Dx  diagnosis

ECG or EKG  electrocardiogram
EMT  Emergency Medical Technician
EMT-P  Paramedic
ETOH or EtOH  alcohol/ethanol
ER (ED)  emergency room (emergency department)
ETT  endotracheal tube
Ext  extremities

FB  foreign body
Fib  fibrillation
FH or FHx  family history

II.A.1.2
ABBREVIATION LIST (cont.)

FROM   full range of motion
FSP   Full spinal precautions (c-collar and long back board)
Ft    foot
F/U   follow-up
Fx    fracture

GCS    Glasgow coma scale
G-1, 2… primigravidia, second pregnancy…
GSW   gun shot wound
gtt(s) drop(s)

H/A    headache
HBP   high blood pressure (HTN)
HEENT head, eyes, ears, nose, throat
Hep. A hepatitis A
Hep. B hepatitis B
HIV    Human Immune Virus
H/O    history of
HPI    history of present illness
HR     heart rate
HTN    hypertension
Hx     history

IDDM   insulin dependent diabetes
i.e.,   that is
IM     intramuscular
imp    impression
inf.   inferior
Inj    injection
Insp   inspiration
ICS    intercostal space
IV     intravenous
IVF    IV fluids
IVP    IV push
IVPB   intravenous piggyback

Jt     joint
JVD    jugular venous distention

III.A.1.3
ABBREVIATION LIST (cont.)

l  liter
lpm  liters per minute
L1, L2-L5  1st lumbar vertebrae, etc.
L-spine  lumber spine
lac  laceration
lat  lateral
LBP  lower back pain or low blood pressure
LE  lower extremity
Lg  large
LLE  left lower extremity
LLL  left lower lobe (lung exam)
LLQ  left lower quadrant (abdomen)
LMP  last menstrual period
LOC  loss of consciousness, level of consciousness
LUE  left upper extremity
LUL  left upper lobe (lung exam)
LUQ  left upper quadrant (abdomen)

mA  milliamps (pacing current)
MAE  moves all extremities
mcg  micrograms
MCL  midclavicular line
mec  meconium
med  medial
mEq  milliequivalents
meds  medications
mg  milligram
MI  myocardial infarction
min.  minute
mL  milliliter
m/o  month old
mod  moderate
mvmt  movement
MVC  motor vehicle crash

III.A.1.4
N or NL  normal
NA or N/A  not applicable, not available
NB  newborn
nc  nasal cannula
neg  negative
NKA  no known allergies
NKDA  no known drug allergies
NS  normal saline
NSR  normal sinus rhythm
NT tube  nasal tracheal tube
NTG  nitroglycerin
n/v  nausea and vomiting

Ox1  oriented to person
Ox2  oriented to person and place
Ox3  oriented to person, place and time
O2  oxygen
O2 sat.  oxygen saturation
O/A  on arrival
Ob  obstetrics
obs  observation
Occ  occasional
OD  overdose
opp  opposite

p  pulse
P0, P1…  nulliparous, 1 child born…
PAT  paroxysmal atrial tachycardia
PCN  penicillin
PE  physical exam
PEA  pulseless electrical activity
Ped.  pediatric
PERL  pupils equal/react to light
PERLA  pupils equal/reactive to light and accommodation
PERRLA  pupils equal, round, reactive to light and accommodation
P/W/D  pink, warm, and dry
PIV peripheral IV
PMH or PMHx past medical history
pn pain (described as n/10)
PO by mouth
post posterior
PSVT paroxysmal supraventricular tachycardia
Pt patient
PVC premature ventricular tachycardia
rec'd received
Resp respirations
ROM range of motion
RR respiratory rate
RSR regular sinus rhythm
RUE right upper extremity
RUL right upper lobe (lung exam)
RUQ right upper quadrant (abdomen)
Rx treatment
SAED semiautomatic external defibrillator
SCA sickle cell anemia
SCC sickle cell crisis
SCD sickle cell disease
Sev Severe
SIDS sudden infant death syndrome
SL sublingual
SOB short of breath
Sol. or sol. solution
SOR signature of release
SQ or subq. subcutaneous
S/S signs and symptoms
STD sexually transmitted diseases
SVT supraventricular tachycardia
Sx symptoms
Sz. or sz. seizure
### ABBREVIATION LIST (cont.)

- **T1, T2-T12**  
  - 1st thoracic vertebrae, etc.
- **T-spine**  
  - thoracic vertebrae
- **tach.**  
  - tachycardia
- **TB**  
  - tuberculosis
- **TCA**  
  - tricyclic antidepressant
- **TIA**  
  - transient ischemic attack
- **TKO**  
  - to keep open
- **trach.**  
  - tracheostomy
- **Tx**  
  - treatment
- **UE**  
  - upper extremity
- **Unk**  
  - unknown
- **UTI**  
  - urinary tract infection
- **v-fib or VF**  
  - ventricular fibrillation
- **vol.**  
  - volume
- **VS**  
  - vital signs
- **VSS**  
  - vital signs stable
- **V-Tach or VT**  
  - ventricular tachycardia
- **WC or W/C**  
  - wheelchair
- **W/D or WD**  
  - warm and dry
- **wt**  
  - weight
- **wk**  
  - week
- **wks.**  
  - weeks (gestational age)
- **WNL**  
  - within normal limits
- **x**  
  - times
- **YOF or Y/F**  
  - year old female
- **YOM or Y/M**  
  - year old male

### Race/Origin/Heritage

- **A**  
  - Asian
- **B**  
  - Black
- **H**  
  - Hispanic
- **W**  
  - White
- **O**  
  - Other

III.A.1.7
### Legend of Symbols

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<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
<th>Example</th>
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<tbody>
<tr>
<td>≈ or ~</td>
<td>approximately</td>
<td>female</td>
</tr>
<tr>
<td>Δ</td>
<td>change</td>
<td>male</td>
</tr>
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<td>↓</td>
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<tr>
<td>m</td>
<td>murmur (circle around like @)</td>
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III.A.1.8
# GLASGOW COMA SCALE

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<td><strong>Total</strong></td>
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# PEDIATRIC ADAPTATION OF GLASGOW COMA SCALE
**(FOR USE WITH CHILDREN LESS THAN SCHOOL AGE)**

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<td>To Painful Stimuli</td>
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<td></td>
<td>Persistently Irritable</td>
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| **Total**           |                                   | 3 - 15 |

## APGAR SCALE

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<td>ABSENT</td>
<td>WEAK CRY</td>
<td>GOOD CRY</td>
</tr>
</tbody>
</table>

III.A.2.2
BURN SEVERITY

III.A.3.1

Any partial or full thickness burn involving hands, feet, face genitalia, or joints
RULE OF NINES


III.A.3.2
<table>
<thead>
<tr>
<th>MEDICATION</th>
<th>INDICATION</th>
<th>SIDE EFFECTS</th>
<th>CONSIDERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>adenosine</td>
<td>PSVT</td>
<td>Dyspnea, chest pain, atrial tachy - dysrhythmias, nausea, throat tightness, AV block, asystole.</td>
<td>Adult dosage only DO NOT GIVE: in any degree of AV block, sick sinus syndrome, atrial flutter, atrial fib, VT.</td>
</tr>
<tr>
<td>albuterol</td>
<td>Asthma</td>
<td>Tremors, anxiety. Rare: tachycardia, hypertension, dysrhythmias.</td>
<td>USE WITH CAUTION: cardiac disorder, hyperthyroidism, hypertension.</td>
</tr>
<tr>
<td>amiodarone</td>
<td>Tachy-dysrhythmias (especially VT or VF)</td>
<td>Hypotension, bradycardia</td>
<td>In the non-arrest situation, must be administered slowly over 10 minutes.</td>
</tr>
<tr>
<td>aspirin</td>
<td>Chest pain/discomfort suspected to be of cardiac origin</td>
<td>Tinnitus, nausea / vomiting. GI bleeding</td>
<td>Adult dosage only DO NOT GIVE: If known hypersensitivity to aspirin</td>
</tr>
<tr>
<td>atropine</td>
<td>Brady-dysrhythmias, asystole, organo-phosphate poisoning.</td>
<td>Dilated pupils, headache, Dry mouth, tachycardia, PVC's.</td>
<td>DO NOT GIVE: with tachy-dysrhythmias; USE WITH CAUTION: pregnancy, CHF, hyperthyroidism, COPD, hepatic disease.</td>
</tr>
<tr>
<td>calcium chloride</td>
<td>Hypocalcaemia, calcium channel blocker overdose, hyperkalemia associated ventricular arrhythmias</td>
<td>Possible heart block, VF.</td>
<td>USE WITH CAUTION: Pt. on digitalis, renal failure, DO NOT MIX WITH: sodium bicarbonate.</td>
</tr>
<tr>
<td>MEDICATION</td>
<td>INDICATION</td>
<td>SIDE EFFECTS</td>
<td>CONSIDERATIONS</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Dextrose 25%</td>
<td>Hypoglycemia</td>
<td>Impaired neurologic recovery following stroke or cardiac arrest</td>
<td>Infants only Tissue necrosis if infiltrates. Should not be used in cardiac arrest or in ischemic CVA unless documented hypoglycemia.</td>
</tr>
<tr>
<td>Dextrose 50%</td>
<td>Hypoglycemia</td>
<td>Impaired neurologic recovery following stroke or cardiac arrest</td>
<td>Tissue necrosis if infiltrates. Should not be used in cardiac arrest or in ischemic CVA unless documented hypoglycemia.</td>
</tr>
<tr>
<td>diphenhydramine</td>
<td>Allergic reaction.</td>
<td>Dizziness, drowsiness, hypotension, dry mouth, tachycardia, dilated pupils, blurred vision.</td>
<td>DO NOT USE: in acute asthma USE WITH CAUTION: renal disease, cardiac disease, hypertension, asthma, seizure.</td>
</tr>
<tr>
<td>(Benadryl®)</td>
<td></td>
<td></td>
<td>DO NOT USE: in uncorrected hypovolemic shock, pheochromocytoma or VF. Tissue necrosis if infiltrates. Monitor VS q 2 to 3 minutes.</td>
</tr>
<tr>
<td>dopamine</td>
<td>Shock NOT of hypovolemic origin.</td>
<td>Ectopic beats, headache, tachycardia, vomiting, dyspnea.</td>
<td>DO NOT USE: in uncorrected hypovolemic shock, pheochromocytoma or VF. Tissue necrosis if infiltrates. Monitor VS q 2 to 3 minutes.</td>
</tr>
<tr>
<td>epinephrine</td>
<td>Cardiac arrest, anaphylaxis, asthma.</td>
<td>Tremors, tachycardia, dysrhythmias, hypertension.</td>
<td>USE WITH CAUTION: angina, hypertension, hyperthyroidism, NO CONTRA-INDICATIONS IN CARDIAC ARREST</td>
</tr>
<tr>
<td>MEDICATION</td>
<td>INDICATION</td>
<td>SIDE EFFECTS</td>
<td>CONSIDERATIONS</td>
</tr>
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<td>---------------------</td>
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<td>------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>fentanyl</td>
<td>Pain</td>
<td>Hypotension, sedation, vomiting, bradycardia, respiratory depression.</td>
<td><strong>USE caution</strong> if hypotensive, significant head injury, or other depressants (e.g., EtOH) taken.</td>
</tr>
<tr>
<td>glucagon</td>
<td>Hypoglycemia</td>
<td>Nausea, vomiting, hypersensitivity.</td>
<td>Pts need additional carbohydrates after awakening.</td>
</tr>
<tr>
<td>glucose (oral)</td>
<td>Hypoglycemia</td>
<td>Nausea, vomiting, hypersensitivity.</td>
<td>Pts need additional carbohydrates after awakening.</td>
</tr>
<tr>
<td>lidocaine</td>
<td>Pain from IO infusion</td>
<td>Drowsiness, confusion, seizures, hypotension, heart blocks</td>
<td><strong>DO NOT USE:</strong> if heart rate &lt; 60, heart block <strong>USE WITH CAUTION:</strong> renal or liver disease, CHF, pts &gt; 60 years old</td>
</tr>
<tr>
<td>magnesium sulfate</td>
<td>Pregnant pts. experiencing severe pre-eclampsia or eclampsia; Alcoholic patient with prolonged seizures</td>
<td>Decreased muscle strength which may lead to hypoventilation, esp. if patient is also taking depressant medications.</td>
<td>May occasionally lead to A-V block &amp;/or respiratory arrest. Calcium chloride may reverse these effects. <strong>NOT INDICATED</strong> in patients with heart block or significant heart disease.</td>
</tr>
<tr>
<td>MEDICATION</td>
<td>INDICATION</td>
<td>SIDE EFFECTS</td>
<td>CONSIDERATIONS</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------</td>
<td>----------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>midazolam (Versed®)</td>
<td>Seizures and chemical restraint</td>
<td>Respiratory depression and respiratory arrest</td>
<td>Hypersensitivity, acute narrow angle glaucoma, shock, hypotension, head injury, and drug or alcohol use.</td>
</tr>
<tr>
<td>naloxone (Narcan®)</td>
<td>Narcotic overdose</td>
<td>Vomiting, acute withdrawal, ventricular dysrhythmias</td>
<td>Titrate to improve respirations <strong>only</strong>. Do not fully arouse addicted patient.</td>
</tr>
</tbody>
</table>
| nitroglycerin    | Angina, chest pain of suspected cardiac origin, pulmonary edema. | Hypotension, headache, dizziness, flushing. | **Adult dosage only**
|                  |                                                 |                                              | **DO NOT USE:** if systolic BP<110, increased ICP. **USE WITH CAUTION:** acute MI. |
| ondansetron (Zofran®) | Vomiting                                      | Constipation, headache, lightheadedness      | **Not indicated for nausea only.** |
| sodium bicarbonate | Metabolic Acidosis in cardiac arrest, ventricular arrhythmias secondary to tricyclic OD | Alkalosis, hypervolemia, hypokalemia, tetany. | **DO NOT USE** during first 10 minutes of cardiac arrest. **USE WITH CAUTION:** CHF, renal disease, toxemia, cirrhosis. **DO NOT MIX** with epinephrine or calcium. Hyperventilate patient after administration. |
A. Apply the oximeter.

   1. Attach finger sensor.

   2. Turn on oximeter.

   3. Verify operation.

      a. Observe green blinking light for 10 continuous seconds.

      b. If light red or yellow reposition finger sensor.

   4. After 8 green flashes, a stable reading will be available.

B. Pediatric patients with an $\text{SaO}_2 \leq 93\%$ have significant hypoxemia and oxygen must be provided.

C. Record the data as a vital sign.

D. Remember to interpret this as any other vital sign and **TREAT THE PATIENT NOT JUST THE NUMBER.**
A. **ALL** ETT tubes are to be secured prior to moving the patient. Any time the intubated patient has been moved (i.e. from the scene to the vehicle, in the vehicle, from the vehicle to the ED) the ETT placement is to be verified.

B. The Esophageal Detector Device (EDD) may be used to verify initial tube placement:

1. Intubate the patient
2. Inflate the cuff
3. Apply the EDD
   a. Pull back on plunger
   b. Measure ease of filling of EDD*

<table>
<thead>
<tr>
<th><strong>Correct Placement</strong></th>
<th><strong>Incorrect Placement</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy filling / plunger moves easily to 40 ml.</td>
<td>Poor filling / plunger resistant at 10 ml</td>
</tr>
<tr>
<td></td>
<td>Reassess tube and return to step 1 (one).</td>
</tr>
</tbody>
</table>

* False negatives may include obesity, blood in the airway, pulmonary edema, pneumothorax, deep mainstem intubation. False positives may be seen with excessive gastric insufflation prior to intubation.

4. Auscultate for positive breath sounds and negative epigastrium sounds.

5. Secure the tube.

C. The colorimetric carbon dioxide detector may be used to verify initial tube placement in patients who have a palpable pulse:

1. Place colorimetric carbon dioxide detector and ventilate patient 6 times.
   a. Observe for color changes to “C”/yellow range – this is suggestive of appropriate tube placement.
   b. Observe for no change (remains in “A”/purple range) or minimal change (goes to “B”/tan range). Critically evaluate tube placement and rule out low cardiac output.

III.P.1.1
D. Documentation on the run sheet is to include:

1. Breath sounds, epigastric sounds
2. Method of securing the ETT
3. Use of EDD including ease of filling and/or colorimetric CO₂ detector including color change.

The Colorimetric CO₂ Detector and Esophageal Detector Device are adjuncts to assessment of the ETT placement. They are not substitutes for other methods of evaluation (e.g., auscultation of breath and epigastric sounds).
Cricothyrotomy – ALS Skill

SURGICAL

A. Position adult patient (age greater than 8 years) by hyperextending the neck unless c-spine concerns mandate neutral positioning.

B. Locate the cricothyroid membrane.

C. Clean the incision site, if possible.

D. Incise the skin vertically over the membrane.

E. Bluntly dissect down to the cricothyroid membrane.

F. Incise the lower portion of the membrane horizontally with scalpel and rotate the blade 90°.

G. Enlarge and maintain the opening with hemostats or the end of the scalpel.

H. Insert cuffed endotracheal tube and inflate cuff.

I. Confirm correct placement by use of the Esophageal Detector Device or colorimetric ETCO₂ detector and auscultating for breath sounds over both lungs and stomach.

J. Cover wound with occlusive dressings and secure the tube.

K. Reassess breath sounds.
COMPLICATIONS

1. Hypoxemia
2. Hypercarbia (CO₂ toxicity)
3. Perforation of the esophagus
4. Hemorrhage
5. Injury to the thyroid or parathyroid glands
6. Damage to the tracheal cartilage involving disruption of the vocal cords
7. Infection
8. Subcutaneous and mediastinal emphysema

If cricothyrotomy is attempted, a copy of the run record must be made available to the Medical Director through the CQI Coordinator within 24 hours of the run.
A. Position pediatric patient (age 8 years or less) by hyperextending the neck unless c-spine concerns mandate neutral positioning.

B. Locate the cricothyroid membrane.

C. Clean the puncture site, if possible.

D. Connect a syringe to the end of the catheter/needle.

E. Insert the catheter/needle into the cricothyroid space at less than 90 degrees to the longitudinal axis of the neck and caudally. Maintain suction with the syringe until air freely flows into the syringe or until bubbles are noted (if the syringe is partially filled with saline)

F. Advance the catheter over the needle, and then remove the needle.

G. Reconfirm placement with free-flow aspiration or the syringe bubble technique.

H. Attach a mechanism to provide high flow oxygen through the catheter (e.g., a 3.0 ET tube adapter plus BVM or an oxygen supply tubing, 3-way stopcock, and extension set) and begin oxygenation.

I. Watch for prompt chest inflation and auscultate for breath sounds over both lungs and stomach

J. Secure the catheter carefully; avoiding kinking the cannula.

K. Reassess breath sounds.
COMPLICATIONS

1. Hypoxemia
2. Hypercarbia (CO₂ toxicity)
3. Perforation of the esophagus
4. Hemorrhage.
5. Injury to the thyroid or parathyroid glands
6. Damage to the tracheal cartilage involving disruption of the vocal cords
7. Infection
8. Subcutaneous and mediastinal emphysema.

If cricothyrotomy is attempted, a copy of the run record must be made available to the Medical Director through the CQI Coordinator within 24 hours of the run.
Needle Chest Decompression – ALS Skill

A. Auscultate the chest to confirm which side has a suspected tension pneumothorax (indicated by absence/decrease in breath sounds, hypotension, and significant respiratory distress)

B. Locate the second intercostal space at the midclavicular line.

C. Clean the skin.

D. Insert a 3” needle over the superior border of the 3rd rib perpendicular to the floor/cot and with the bevel pointing toward the midline.
   1. When the needle reaches the visceral pleura, you may feel a “pop” and/or air may rush out

E. Reassess and re-auscultate for improvement of breath sounds, pulse, respirations, and blood pressure.

F. Remove the needle and tape the catheter in place.

G. Reassess and re-auscultate for improvement of breath sounds, pulse, respirations, and blood pressure.

COMPLICATIONS

1. Hemorrhage from laceration of intercostal vessels
2. Hemorrhage from laceration of a pulmonary vessel
3. Puncture of the lung

If a needle chest decompression is attempted, a copy of the run record must be made available to the Medical Director through the CQI Coordinator within 24 hours of the run.
A. IVs should only be initiated for patients needing out-of-hospital IV medication administration, rapid fluid replacement, or for those patients who are likely to decompensate before arriving at the hospital.

   1. Aseptic technique must be observed.

   2. Peripheral sites, including the external jugular, are the routes of choice. Upper extremity placement is preferred to lower.

B. An IO may be considered if an IV cannot be placed in the following patient situations:

   1. Cardiac arrest (medical or traumatic)

   2. Profound hypovolemia (shock) with significantly altered mental status

   3. Emergent need for an IV but veins are not immediately available

C. Whenever an IO has been attempted unsuccessfully, identify the site(s) of the attempt(s) to the receiving hospital personnel.

D. IV/IO placement attempts should not delay appropriate and timely patient care.

E. Basic-Advanced EMT’s may initiate IV’s in order to assist the paramedic. Patient care and transport are to be continued by the paramedic.
A. Place the child in the supine position.

B. Identify the tibial tuberosity, 1-3 cm below the tuberosity on the medial surface of the tibia (approximately one finger’s breath below and just medial to the tuberosity).
   1. Alternatively, 1 - 2 cm proximal to the medial malleolus on the anteromedial surface of the distal tibia.)

C. Clean the skin.

D. The leg should be supported on a firm surface. Grasp the thigh and knee above and lateral to the insertion site. Do not allow any portion of your hand to rest behind the insertion point.

E. With the stylet in place, insert the needle at a 45° – 90° angle to the skin and to the long axis of the bone slightly toward the toes.
   1. Using gentle pressure that is steady, begin to advance the needle through the skin and bone, using a gentle twisting, screwing, or drilling motion through the skin, then through the cortex of the bone.
   2. Stop advancing the needle when a sudden decrease in resistance to forward motion of the needle is felt. Unscrew the cap and remove the stylet. It may be possible to aspirate bone marrow at this point with a 20 or 30 mL syringe.

F. Stabilize the IO

G. Aspiration of marrow must be followed by irrigation with 10 ml saline to prevent obstruction of the needle with marrow. Consider 1 mg/Kg 2% lidocaine IO to reduce the pain of infusion.
H. Check for any signs of increased resistance to injection, increased circumference of the soft tissues of the calf, or increased firmness of the tissue.

1. The needle is in the bone marrow when:
   a. there is a lack of resistance
   b. the needle passes through the cortex.
   c. the needle stands upright without resistance.
   d. there is no infiltration
   e. blood and marrow are aspirated (less common)
   f. fluid flows freely through the needle without evidence of subcutaneous infiltration

I. Disconnect the syringe.

J. Attach the IV tubing and begin the infusion. A pressure infusion bag or in-line 60 mL syringe may be required to infuse the solution.

K. If unsuccessful, remove the needle and move to the other leg.

L. Stabilize and secure with tape.

COMPLICATIONS

1. Abscess from prolonged insertion.
2. Leakage around the needle with compartment syndrome.
3. Potential injury to the bone marrow cavity.
4. Osteomyelitis from prolonged insertion.
5. Tibial fractures.
6. Skin necrosis.

III.P.6.2
**Adult Intraosseous Infusion – ALS Skill**

A. Prepare the IO insertion device and needle  
B. Locate insertion site  
   1. Tibial plateau (preferred)  
   2. Proximal humerus  
C. Cleanse insertion site.  
D. Stabilize extremity and insert the needle following the manufacturer’s recommendations.  
E. Remove driver from needle set while stabilizing catheter hub  
F. Remove stylet from needle set and secure until it can be placed in a sharps container  
G. Confirm placement. It may be possible to aspirate bone marrow at this point with a 20 or 30 mL syringe.  
H. Flush needle with 10 mL of 0.9% saline and then 100 mg of 2% Lidocaine.  
I. Connect primed IV line and begin infusion  
J. Place a pressure bag (or IV infusion pump) on solution being infused where applicable  
K. Dress site, secure tubing  
L. Frequently monitor IO catheter site and patient condition  

**COMPLICATIONS**

1. Abscess from prolonged insertion.  
2. Leakage around the needle with compartment syndrome.  
3. Potential injury to the bone marrow cavity.  
4. Osteomyelitis from prolonged insertion.  
5. Tibial fractures.  
6. Skin necrosis.
APPLICATION OF EXTERNAL PACEMAKER - ALS SKILL

Any patient 18 years or older with a non-traumatic presentation of atropine-refractory symptomatic bradycardia.

A. Assess for signs of instability.
   1. Heart rate < 60/min and
   2. SBP < 90 mmHg and
   3. Signs and symptoms of shock

B. Apply pacing electrodes.
   1. The anterior-posterior (AP) placement of the pacing electrodes is preferred. If absolutely necessary, anterior-anterior (AA) placement may be used.
      AP placement-
      a. Place negative electrode on left anterior chest halfway between the xyphoid process and the left nipple with the upper edge of the electrode below the nipple line.
      b. Place the positive electrode on the left posterior chest beneath the scapula and lateral to the spine.
      AA placement-
      a. Place negative electrode on left chest, midaxillary over the fourth intercostal space.
      b. Place positive electrode on anterior right chest, inferior to clavicle.
      c. This position should only be used if AP placement is not possible.

C. Pacing procedure:
   1. Maintain EKG monitoring during pacing procedure.
   2. Attach pacing electrodes and connect pacing cable to pacemaker.
   3. Power up pacemaker.

III.P.8.1
D. Observe monitor for a "sense" marker. One mark should appear on each QRS complex. If it does not appear or only appears intermittently, the pacemaker is not sensing the intrinsic rhythm of the patient. Adjust EKG size (larger) or change from Lead II to Lead I or III in order to achieve sensing. If more than one sensing mark appears for each QRS, the EKG size is probably too high. If intrinsic beats are not present, omit this step.

E. Adjust milliamp (mA) output to start at 10 mA. Gradually increase mA until electrical capture is noticed on the monitor.

F. Adjust pacing rate to 70 bpm.

G. Assess for mechanical capture by checking for a pulse and blood pressure.
   *If electrical capture is present but no pulse is present, increasing the mA is of no benefit.

H. Record time of application and obtain rhythm strips before and after application.
   ✴ If the patient's intrinsic rate exceeds the pacing rate, the pacemaker will sense the activity and not discharge.
   ✴ Musculoskeletal discomfort may accompany external pacing. If this is a problem and the patient's vital signs will allow it, sedation and/or analgesia may be appropriate.
Pre-Existing Vascular Access Device (PVAD) Use - ALS Skill

PVADs (pre-existing vascular access devices) include any indwelling catheter/device placed into one of the central veins to provide vascular access for those patients requiring long term intravenous therapy and hemodialysis shunts or grafts.

A. Types of Catheters

1. External indwelling catheters/devices
   a. Heparin/Saline Lock - A temporary venous catheter placed in a peripheral vein and occluded with a cap. Heparin or saline is instilled periodically to maintain its patency. It may be accessed directly through the injection cap.
   b. Peripherally inserted central catheter (PICC) - A long catheter inserted in the upper arm or antecubital into the subclavian vein or superior vena cava. It may be accessed through the injection cap.
   c. “Broviac®”, “Hickman®”, “Groshong®”, and others - A long catheter that is inserted into the right atrium through a central vein. The catheter enters the skin through an incision in the chest. The line may be heparinized and may be accessed directly through the injection cap. These catheters are usually multi-lumened and any lumen can be used, but a red-colored port is preferred.

2. Internal indwelling devices – NOT TO BE USED
   a. Internal subcutaneous infusion ports - An access device embedded subcutaneously and must be accessed through the skin using special equipment.
   b. Hemodialysis fistula or graft - A permanent access device that diverts blood flow from an artery to a vein and is usually located in the forearm or upper arm. It is used for dialysis.

III.P.9.1
B. Indication for use of external indwelling catheters/devices (other than a heparin/saline lock, which may be used as needed):

1. **Cardiac arrest**

2. **Other emergent** need to administer fluids and/or medications:
   a. which can only be given by the IV route, and
   b. a peripheral IV site is not readily/immediately available (after 2 tries), and
   c. intraosseous access is not appropriate due to the patient’s condition, and
   d. with approval by on-line medical control.

3. All ALS medications and fluids (approved for IV administration) may be given through a PVAD.

C. Procedure for external indwelling catheters/devices:

1. Assemble necessary equipment
   a. 10 mL syringe
   b. 0.9 normal saline for injection
   c. IV tubing and fluid
   d. alcohol wipes
   e. 18 gauge needles

2. Disconnect any existing IV lines.

3. Prepare syringe with 10 mL NS and set up IV line.

4. Clean injection cap or needleless-port with alcohol wipe.
   - If there is a red port, use this preferentially

5. If clamped, unclamp catheter.

6. Slowly inject 5 ml of saline – if resistance is met, discontinue procedure.

7. Attach IV tubing to port (using an 18 ga. Needle if an injection cap is in place) and initiate fluid and/or medication therapy

8. Flush line with IV fluid after medication administration.

III.P.9.2
D. Complications

1. Infection. Due to the location of the catheter end, strict adherence to aseptic technique is crucial when handling these devices. The injection cap or needleless port must be cleansed thoroughly. Sterile gloves are preferred. Care must be used not to contaminate the needle used to access the line or the IV tubing used.

2. Air embolism. These devices provide a direct line into the circulation, therefore the introduction of any air into the device will go straight to the heart. Do not ever remove the injection cap or needleless port from the catheter. Do not allow IV fluids to run dry. Clear all air from the IV tubing and syringes prior to administration of fluids or medications.

3. Thrombosis. Improper handling and maintenance of the device may dislodge a clot causing pulmonary embolus or vascular damage. Check patency of the line by slowly injecting 5 mL of NS. Do not inject medications or infuse fluids if resistance is met when establishing patency of the catheter. Flush line with 5 mL of normal saline after medication administration.

4. Catheter damage. These catheters are meant for long-term use. They usually require an invasive or surgical procedure and are costly to insert. Care must be taken to avoid any damage to the catheter. If damage to the catheter outside the skin occurs, immediately clamp the catheter between the skin exit site and the damaged area to prevent air embolism or blood loss. Always use a 10 mL or larger syringe to prevent catheter damage from excess pressure when injecting directly. Use caution when inserting the needle into the injection port.

III.P.9.3
Continuous Positive Airway Pressure (CPAP)

**Indication:** Second line treatment for respiratory distress from COPD and/or pulmonary edema after patient has failed medical (pharmacologic) management as evidenced by:
- Persistent dyspnea/hypoxemia secondary to pulmonary edema and/or COPD
- History consistent with heart failure, volume overload, or COPD exacerbation

Patients must meet the following criteria for CPAP administration:
1. Age greater than or equal to 18 y/o
2. Has the ability to maintain and protect an open airway
3. Systolic BP at or above 90 mm Hg
4. Pulse oximetry < 92% on 100% oxygen plus at least two (2) of the following:
   - Severe or sudden onset of shortness of breath
   - RR rate > 25/minute
   - Use of accessory muscles
   - Dyspnea at rest
   - Rales or wheezes

**Contraindications:**
1. Respiratory or cardiac arrest
2. Agonal respirations
3. Suspected or confirmed pneumothorax or penetrating chest trauma
4. Inability to maintain a patent airway
5. Any impediment to proper mask placement or seal (facial trauma, stroke, facial anomalies, epistaxis)
6. Tracheostomy
7. Persistent nausea and vomiting/Upper GI bleeding
8. Inability to comply with the device due to severe anxiety or altered mental status

III.P.10.1
Continuous Positive Airway Pressure (CPAP) (cont.)

Procedure
1. Assure patent airway, place patient on EKG monitor and pulse oximetry; capnography if available.
2. Explain procedure to the patient and reassure.
3. CPAP does not replace pharmacology – initiate medications first if applicable:
   a. If suspected pulmonary edema and SBP > 90 mm Hg, administer three 0.4 mg doses of NTG SL and repeat three 0.4 mg doses every 3 minutes if SBP remains at or above 90 mm Hg and patient remains dyspneic.
      1) Remember to avoid the use of NTG in the setting of Viagra, Levitra, Cialis, or other ED drug use.
   b. If reactive airway disease is suspected, administer 5 mg albuterol per nebulizer and repeat every 10 minutes if the patient remains dyspneic.
   c. If the 2nd round of pharmacologic therapy (above) fails to resolve the patient’s dyspnea, and they remain hypoxemic (oxygen saturation < 92% on 100% oxygen), then CPAP may be initiated.
4. Ensure adequate oxygen supply to device, if needed, set manufacturers recommended liter flow.
5. Place mask and hold in place as patient adjusts to ventilatory support. Encourage patient to breathe deeply.
6. Secure mask, check for air leaks and if recommended by manufacturer, increase liter flow as needed.
7. Contact receiving hospital as early as possible to allow Respiratory Therapy to prepare their equipment.
8. Monitor and document patient VS and pulse oximetry (watch for decreased respiratory rate and/or mental status).
9. If patient deteriorates, remove device and consider BVM ventilations or ET intubation.

Documentation
Documentation should include all of the following:
1. CPAP level (cm H2O)
2. SpO2 every 5 minutes
3. Vital signs (HR, RR, BP)
4. Response to treatment including, SpO2, RR and work of breathing
5. Adverse reactions
6. Clinical Impression on patient care form (respiratory distress and/or CHF/COPD)
Indianapolis Fire Department
English/Spanish Translation

I am a paramedic.  
Yo soy paramedico.

How are you?  
Como estas?

What's the matter?  
Que pasa?

Speak slowly please.  
Despacio por favor.

You must go to the hospital.  
Tienes que ir al hospital.

We’re going to take you to the to the hospital. OK?  
Te vamos a llevar al hospital. OK?

Understand?  
Comprehendo?

What is your name?  
Como se llama?

What is your age?  
Cuantos anos tiene?

Where do you live?  
Donde vive?

Are you allergic to medicine?  
Tiene alergia de medicino?

Where does it hurt?  
Donde duele?

Does it hurt here?  
Duele aqui?

How much does it hurt?  
Quanto duele?

Bad?  Mild?  Little?  
Malo?  Suave?  Poco?

Do you take medications?  
Toma medicino?

Do you have insurance?  
Toma seguro?

What hospital do you want to go to?  
Que hospital?

Sign here please.  
Firme aqui por favor.

Do you feel better?  
Se siente mejor?

Do you take Viagra?  
Toma Viagra?

Please don't move.  
Por favor, no te muevas.

Any questions?  
Hay preguntas?
Refusal of Transportation

1. *Emergency personnel have offered to transport me to the hospital for further evaluations and care.* I refuse this service.

   El personal de emergencia me ha ofrendado transporte para el hospital para que propone cuidado médico. Yo no quiero el transporte.

2. *I understand that I have not been evaluated by a Physician, and that serious medical problems may still exist which may result in disability or death.*

   Yo comprendo que no he sido visto por un doctor y que el problema serio que quiero existir el cual puede causar discapacidad o muerte.

3. *I understand that I may call 911 or an ambulance at anytime if I change my mind and wish to be taken to a hospital.*

   Yo comprendo que puedo llamar al teléfono 911 o ambulancia si cambio de opinión y deseo ser llevado a un hospital.

4. *I understand that I am assuming full responsibility for my continuing medical care.*

   Yo comprendo que yo asumo toda la responsabilidad por mi cuido médico.

(Sign here please. Show the patient the signature line on the form)

(Firme aquí por favor.)

January 2000
IFD EMS gr
INDICATIONS FOR HBIG (HEPATITIS B IMMUNE GLOBULIN):

- Post exposure prophylaxis to Hepatitis B as soon as possible after exposure, preferably within 24 hours, no longer than 7 days.

- If exposed patient has received any Hepatitis B immunizations or has history of Hepatitis B infection, determine antibody status. If Hepatitis antibody and titer are negative, then HBIG is indicated for prophylactic protection.

- May give HBIG and Hepatitis B immunization booster and/or initiate Hepatitis B immunizations.

- If Hepatitis B immunizations refused, advice patient that second dose of HBIG should be administered within one month.

CONTRAINDICATIONS:

- Do not give IG if giving HBIG.

- Do not give to a pregnant patient. Refer to infectious disease physician and primary physician.

- Give with caution to patients with a history of prior systemic allergic reactions following administration of human immunoglobulin preparation or in patients with severe thrombocytopenia or any coagulation disorder that would contraindicate intramuscular injections.

ADVERSE REACTIONS:

- Local pain and tenderness at injections site, urticaria and angioedema may occur.

- Anaphylactic reactions are rare.

DOSAGE AND ADMINISTRATION:

- Patient must sign consent or declination if refused. Use “Consent for Hepatitis B Immune Globulin” or if patient refuses use “Information about Hepatitis B Immune Globulin”.

- Give 0.06 ml/kg of body weight, IM.

- 3cc syringes – maximum dosage per injection site is 3 ml, preferably in gluteus or deltoid; 21 gauge needle recommended due to viscosity.
A. Definitions:

1. Source material:
   a. Highest risk: Both larger volume of blood (e.g., deep injury with large diameter hollow needle previously in source patient’s vein or artery, especially involving an injection of source patient’s blood) and blood containing a high titer of HIV (e.g., source with acute retroviral illness or end-stage AIDS).
   
   b. Increased Risk: Either exposure to larger volume of blood or blood with a high titer of HIV. For skin, risk is increased for exposures involving a high titer of HIV, prolonged contact, an extensive area, or an area in which skin integrity is visibly compromised. For skin exposures without increased risk, the risk for drug toxicity outweighs the benefit of post-exposure prophylaxis.
   
   c. No Increased Risk: Neither exposure to larger volume of blood nor blood with a high titer of HIV (e.g., solid suture needle injury from source patient with asymptomatic HIV infection)

2. Other potentially infectious fluid: semen, vaginal secretions, cerebrospinal, synovial, pleural, peritoneal, pericardial and amniotic fluids.

3. Anti-Retroviral medications: ZDV = zidovudine; 3TC = lamivudine; INV = indinavir
**Possible toxicity of additional drug may not be warranted**

The PEPline, provided by University of California at San Francisco and funded by the Health Resources and Services Administration HIV/AIDS Bureau in partnership with the Centers for Disease Control, offers health care providers free, start-of-the-art advice 24/7 on managing occupational exposures to HIV and hepatitis B & C. This National Clinicians’ Post-Exposure Prophylaxis Hotline is (888) 448-4911.
PAIN ASSESSMENT SCALES

0 – 10 Numeric Rating Scale and Descriptors

<table>
<thead>
<tr>
<th>0</th>
<th>1</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>
</tr>
</thead>
<tbody>
<tr>
<td>no pain</td>
<td>little</td>
<td>moderate</td>
<td>quite bad</td>
<td>severe</td>
<td>unbearable pain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Wong-Baker Faces Rating Scale

**Wong-Baker FACES Pain Rating Scale**

![Wong-Baker Faces Rating Scale](image)


Wong-Baker Faces Rating Scale in Spanish

![Escala de rostros de dolor](image)

III.X.4.1
# Infant Pain Scale Assessment Tool

<table>
<thead>
<tr>
<th>Behavior</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facial</strong></td>
<td>Neutral/smiling</td>
<td>Frowning/grimacing</td>
<td>Clenched teeth</td>
<td>Full cry expression</td>
</tr>
<tr>
<td><strong>Body Movement</strong></td>
<td>Calm, relaxed</td>
<td>Restless/fidgeting</td>
<td>Moderate agitation or moderate mobility</td>
<td>Thrashing, flailing, incessant agitation or strong voluntary immobility</td>
</tr>
<tr>
<td><strong>Sleep</strong></td>
<td>Sleeping quietly with easy respirations</td>
<td>Restless while asleep</td>
<td>Sleeps intermittently (sleep/awake)</td>
<td>Sleeping for prolonged periods of time interrupted by jerky movements or unable to sleep</td>
</tr>
<tr>
<td><strong>Verbal/vocal</strong></td>
<td>No cry</td>
<td>Whimpering, complaining</td>
<td>Pain crying</td>
<td>Screaming, high-pitched cry</td>
</tr>
<tr>
<td><strong>Consolability</strong></td>
<td>Neutral</td>
<td>Easy to console</td>
<td>Not easy to console</td>
<td>Inconsolable</td>
</tr>
<tr>
<td><strong>Response to Movement/Touch</strong></td>
<td>Moves easily</td>
<td>Winces when touched/moved</td>
<td>Cries out when moved/touched</td>
<td>High-pitched cry or scream when touched or moved</td>
</tr>
</tbody>
</table>

III.X.4.2