2017 Adult and Pediatric Statewide EMS Treatment Protocols

IOWA DEPARTMENT OF PUBLIC HEALTH
BUREAU OF EMERGENCY AND TRAUMA SERVICES
Contents

Introduction ............................................................................................................................................ 3

SERVICE PROGRAM AUTHORIZATION ............................................................................................................ 3

PROTOCOL CHECKLIST-EXAMPLE .................................................................................................................. 4

2017 PROTOCOL REVISIONS-EXAMPLE ......................................................................................................... 5

Adult Treatment Protocols ...................................................................................................................... 6

INITIAL PATIENT CARE PROTOCOL ............................................................................................................... 7

ABDOMINAL PAIN (NON-TRAUMATIC) .............................................................................................................. 8

AIRWAY ................................................................................................................................................. 9

ALTERED MENTAL STATUS .......................................................................................................................... 10

AMPUTATED PART ................................................................................................................................ 11

APPARENT DEATH .................................................................................................................................. 12

ASThma AND COPD .................................................................................................................................. 13

BEHAVIORAL EMERGENCIES .......................................................................................................................... 14

BURNS ................................................................................................................................................ 15

CARDIAC ARRHYTHMIAS .......................................................................................................................... 18

CHEST PAIN .......................................................................................................................................... 20

CHILDBIRTH .......................................................................................................................................... 22

CONGESTIVE HEART FAILURE .................................................................................................................... 23

FROSTBITE ............................................................................................................................................ 24

HEAT ILLNESS ........................................................................................................................................ 25

HYPOTHERMIA ...................................................................................................................................... 26

NAUSEA AND VOMITING .......................................................................................................................... 27

PAIN CONTROL ...................................................................................................................................... 28

POISONING ........................................................................................................................................ 29

POST RESUSCITATION WITH RETURN OF SPONTANEOUS CIRCULATION ............................................................... 30

SEIZURE ............................................................................................................................................... 31

SELECTIVE SPINAL IMMOBILIZATION ........................................................................................................... 32

SEXUAL ASSAULT ................................................................................................................................... 34

SHOCK ................................................................................................................................................. 35

STROKE ............................................................................................................................................... 40

TRAUMA ............................................................................................................................................. 41

TRAUMA CONTINUED ............................................................................................................................. 43

1 Introduction
Iowa Department of Public Health Statewide EMS Protocols – Adult and Pediatric

Pediatric Treatment Protocols ............................................................................................................... 44
  PEDIATRIC INITIAL CARE PROTOCOL .............................................................................................. 45
  PEDIATRIC AIRWAY .............................................................................................................................. 47
  PEDIATRIC ALLERGIC REACTION ......................................................................................................... 48
  PEDIATRIC ALTERED MENTAL STATUS .............................................................................................. 49
  PEDIATRIC APPARENT DEATH .............................................................................................................. 50
  PEDIATRIC ASTHMA ............................................................................................................................. 51
  PEDIATRIC BEHAVIORAL EMERGENCIES .......................................................................................... 52
  PEDIATRIC BURNS ................................................................................................................................. 53
  PEDIATRIC CARDIAC ARRHYTHMIA ...................................................................................................... 56
  PEDIATRIC NAUSEA AND VOMITING .................................................................................................. 58
  PEDIATRIC NEAR DROWNING ............................................................................................................. 59
  NEWBORN RESUSCITATION AND CARE ............................................................................................ 61
  PEDIATRIC PAIN CONTROL .................................................................................................................. 63
  PEDIATRIC POISONING ......................................................................................................................... 64
  PEDIATRIC SEIZURE ............................................................................................................................... 65
  PEDIATRIC SELECTIVE SPINAL IMMOBILIZATION ............................................................................. 66
  PEDIATRIC SHOCK ............................................................................................................................... 68
  SUSPECTED CHILD ABUSE .................................................................................................................... 69
  PEDIATRIC TRAUMA ............................................................................................................................. 70

Iowa EMS Treatment Appendices .......................................................................................................... 72
  APPENDIX A - EMS OUT-OF-HOSPITAL DO-NOT-RESUSCITATE PROTOCOL ........................................ 73
  APPENDIX B: ADULT OUT-OF-HOSPITAL TRAUMA TRIAGE DESTINATION DECISION PROTOCOL ....... 74
  APPENDIX C: PHYSICIAN ON SCENE ................................................................................................... 76
  APPENDIX D: AIR MEDICAL TRANSPORT - UTILIZATION GUIDELINES FOR SCENE RESPONSE ........... 77
  APPENDIX E: DISCONTINUATION OF RESUSCITATION .................................................................... 78
  APPENDIX F: REPERFUSION THERAPY SCREENING NOT LIMITED TO PARAMEDIC LEVEL .................. 79
  APPENDIX G: STRATEGIES FOR REPERFUSION THERAPY: ACUTE STROKE ...................................... 81
  APPENDIX H: SIMPLE TRIAGE AND RAPID TREATMENT (START) .................................................... 83
  APPENDIX J: GUIDELINES FOR EMS PROVIDER INITIATING ORGAN AND TISSUE DONATION ........... 85
  APPENDIX K: GUIDELINES FOR EMS PROVIDERS RESPONDING TO A PATIENT WITH SPECIAL NEEDS .... 86
  APPENDIX L: EMS APPROVED ABBREVIATIONS .............................................................................. 87
  APPENDIX M: GUIDELINES FOR NEW PROTOCOL DEVELOPMENT .................................................. 88

2 Introduction
Introduction

Iowa Administrative Code 641 - Chapter 132: Emergency Medical Services—Service Program Authorization

132.8(3) Service program operational requirements. Ambulance and non-transport service programs shall:

b. Utilize department protocols as the standard of care. The service program medical director may make changes to the department protocols provided the changes are within the EMS provider’s scope of practice and within acceptable medical practice. A copy of the changes shall be filed with the department.

132.9(2) The medical director’s duties include, but need not be limited to:

a. Developing, approving and updating protocols to be used by service program personnel that meet or exceed the minimum standard protocols developed by the department.

Purpose

The completed protocol approval page allows for a physician medical director to implement the use of the 2017 Iowa Statewide EMS Treatment Protocols for one or more service programs where they serve as the program’s medical director.

Instructions

Print or type the service name in the space provided. Next select each service’s corresponding service type and level of authorization. If the medical director makes any additions, subtractions, or other changes to the 2017 protocols the changes will need to be noted in the Protocol Revisions space and filed with the Department. This would include the addition, subtraction, or change of any medication listed within the 2017 protocols. If no changes are made to the 2017 protocols check the box for no changes.

Scope of Practice

The Iowa Emergency Medical Care Provider Scope of Practice document outlines the skills each level of certified EMS provider can perform. Some skills will require the approval of the service program’s physician medical director as well as documentation of additional training. Iowa EMS providers may not perform skills outside of their identified scope of practice as documented in the Iowa Emergency Medical Care Provider Scope of Practice. The most current version of the Iowa Emergency Medical Care Provider Scope of Practice document can be viewed and downloaded from the Bureau’s website at: http://idph.iowa.gov/bets/ems/scope-of-practice.

Recommendations

It is recommended that each service program maintain records that document the review/education of all staff members on the program’s most current protocols and the most current version of the Iowa Emergency Medical Care Provider Scope of Practice document.
# Protocol checklist-example

<table>
<thead>
<tr>
<th>Service(s) Name</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Service Type</td>
<td>Ambulance</td>
<td>Nontransport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service’s Level of Authorization</td>
<td>EMR</td>
<td>EMT</td>
<td>EMT-I</td>
<td>AEMT</td>
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### Pharmaceuticals

**Check All Medications Carried by the Service**

*Medication kit should contain only medications approved by the service’s Medical Director*

<table>
<thead>
<tr>
<th>OTC Medications</th>
<th>Medications</th>
<th>IV Fluids</th>
<th>Medications</th>
<th>Medications</th>
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<tbody>
<tr>
<td>☐ Aspirin</td>
<td>☐ Adenosine</td>
<td>☐ Nitroglycerin</td>
<td>☐ Morphine Sulfate</td>
<td>☐ Ondansetron</td>
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<td>☐ Activated Charcoal</td>
<td>☐ Albuterol</td>
<td>☐ Diazepam</td>
<td>☐ Naloxone</td>
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<tr>
<td>☐ Glucose Paste</td>
<td>☐ Amiodarone</td>
<td>☐ Diphenhydramine</td>
<td>☐ Oxygen</td>
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<tr>
<td></td>
<td></td>
<td>☐ Auto-injector Epinephrine</td>
<td>☐ Epinephrine</td>
<td>☐ Procainamide</td>
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<tr>
<td></td>
<td></td>
<td>☐ Dextrose</td>
<td>☐ Fentanyl</td>
<td>☐ Sodium Bicarbonate</td>
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<td></td>
<td>☐ Midazolam</td>
<td>☐ Ondansetron</td>
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**Medications Added by Service’s Medical Director**

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</table>
**2017 Protocol Revisions-example**

- No changes were made to the *2017 Iowa Statewide EMS Treatment Protocols*

  OR

  List below or attach copies of all changes made by the physician medical director to the *2017 Iowa Statewide EMS Treatment Protocols*

<table>
<thead>
<tr>
<th>Page</th>
<th>Protocol Name</th>
<th>Changes Made</th>
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**Additional Skills for the EMR, EMT, AEMT, & EMT-I**

<table>
<thead>
<tr>
<th>Skill</th>
<th>Certification Level</th>
<th>Approval of these additional skills must be within the Service Program’s Level of Authorization and the Iowa EMS Provider’s Scope of Practice</th>
<th>Mark “Yes” if the skill is approved by the medical director to be performed by the identified certification level</th>
<th>Certification Level</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Pulse oximetry</td>
<td>EMR</td>
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<tr>
<td>Glucose monitor</td>
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<tr>
<td>Service carries auto-inject epi</td>
<td>EMT, EMT-I</td>
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<tr>
<td>Central line access</td>
<td>EMT-I, AEMT</td>
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<tr>
<td>CPAP</td>
<td>EMT, AEMT</td>
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**NOTE:** Iowa’s Scope of Practice document requires medical director approval and documentation of additional training for these skills. Service program must maintain documentation of the additional training.

**Medical Director Statement of Approval**

As the physician medical director I have reviewed both the *2017 Iowa Statewide EMS Treatment Protocols* and the *Iowa Emergency Medical Care Provider Scope of Practice* document and approve the use of the skills, medications, and protocols with revisions as documented above for the authorized Iowa EMS program(s) listed within this document.

<table>
<thead>
<tr>
<th>Medical Director’s Printed Name</th>
<th>Signature</th>
<th>Date</th>
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INITIAL PATIENT CARE PROTOCOL

Revised 2016

1. Scene Size Up
   a. Review the dispatch information
   b. As you approach the scene consider safety for yourself and your patient.
   c. Observe universal precautions
   d. After determining the number and location of patients, consider the need for additional resources
   e. Determine mechanism of injury and/or nature of illness
   f. Reassess the situation often

2. Primary Survey
   a. Obtain general impression of patient, chief complaint, and priority problems
   b. Determine responsiveness
   c. Assess airway
   d. Assess breathing
   e. Assess circulation

3. Initial Interventions
   a. Treat airway/breathing problems
   b. Treat circulation problems
   c. Establish IV/IO access if indicated
   d. Apply cardiac monitor if indicated
   e. Apply pulse oximetry or EtCO2 monitor if available and indicated
   f. Treat pain or nausea if present
   g. Maintain normal patient temperature

4. Secondary Survey
   a. Perform secondary assessment after initial interventions are completed
   b. Address problems identified in the secondary survey utilizing the appropriate protocol(s)
   c. Obtain vital signs, including blood glucose if available and indicated

5. Ongoing Assessment
   a) Repeated evaluation of patient
      - Vitals every 5 minutes for unstable patients
      - Vitals every 15 minutes for stable patients
   b) Assess effect of interventions

6. Transport/Contact Medical Control
   a. Patients should be transported as soon as feasible to an appropriate medical facility. Immediate transport with treatment enroute is recommended for patients with significant trauma or unstable airways
   b. Tier with an appropriate service if level of care indicates or assistance is needed and can be accomplished in a timely manner
   c. Contact medical direction as soon as feasible in accordance with local protocol for further orders
   d. For seriously injured or critically ill patients, give a brief initial report from the scene when possible, with a more detailed report given to medical direction while enroute

7 Adult Treatment Protocols
ABDOMINAL PAIN (NON-TRAUMATIC)

Revised 2012

1. Follow initial patient care protocol

**BASIC CARE GUIDELINES**

a) Give nothing by mouth

**ADVANCED CARE GUIDELINES**

b) Consider a fluid bolus if indicated.

c) Evaluate the need for pain and nausea control
AIRWAY
Reviewed 2016

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

**Breathing spontaneous on initial assessment and adequate ventilation present**

a) Maintain oxygenation with cannula or mask if oxygen saturations are below 94% titrate to 94% - 99%

**Breathing spontaneous on initial assessment without adequate ventilation present**

a) Check airway for obstruction and clear if needed

b) After airway is clear, assist ventilation with an appropriate adjunct and oxygen

c) If adequate ventilation is not maintained, proceed to an advanced airway

**Not breathing on initial assessment**

a) Open airway with head tilt chin lift. If successful, assist ventilations at an adequate rate and depth then reassess

b) If head tilt chin lift is not successful, check airway for obstruction and clear if needed

c) After airway is clear, assist ventilation

d) If adequate ventilation is not maintained, proceed to an advanced airway
ALTERED MENTAL STATUS

Revised 2017

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Obtain blood glucose

b) If conscious & able to swallow, administer glucose 15 gm by mouth

ADVANCED CARE GUIDELINES

c) If blood sugar less than 60 mg/dL, administer D50 12.5 - 25 gm IV

d) If no vascular access, administer glucagon 1 mg IM

e) Evaluate the need for naloxone 0.2-1.0 mg IV/IO or intranasal. May repeat dosage in 3 minutes

f) Evaluate the need for intubation
AMPUTATED PART

Revised 2016

1. Follow initial patient care protocol

2. Follow Trauma protocol if indicated

BASIC CARE GUIDELINES

a) Locate amputated part if possible

b) Wrap amputated part in saline moistened gauze

c) Place wrapped amputated part in empty plastic bag

d) Place the plastic bag with the amputated part in a water and ice mixture

e) Do not use ice alone or dry ice

f) Label with patient name, the date, and time

g) Make sure the part is transported with the patient, if possible
APPARENT DEATH
Revised 2016

1. Follow initial patient care protocol

   Apparent death indications are as follows:
   - Signs of trauma are conclusively incompatible with life
   - Physical decomposition of the body
   - Rigor mortis and/or dependent lividity

   If apparent death is confirmed, continue as follows:

   BASIC CARE GUIDELINES

   a) The county Medical Examiner and law enforcement shall be contacted

   b) When possible, contact Iowa Donor Network at 1-800-831-4131.
      See Protocol Appendix J

   c) At least one EMS provider should remain at the scene until the appropriate authority is
      present

   d) Provide psychological support for grieving survivors

   e) Document the reason(s) no resuscitation was initiated

   f) Preserve the crime scene if present

   g) In all other circumstances (except where “NO CPR/DNR” protocol applies; see appendix A) full resuscitation must be initiated
ASTHMA AND COPD

Revised 2016

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) If patient has a physician prescribed hand-held metered dose inhaler:
   - Assist patient in administering a single dose if they have not done so already
   - Reassess patient and assist with second dose if necessary per medical direction

b) Evaluate the need for CPAP, if available

ADVANCED CARE GUIDELINES

c) Administer albuterol up to 5.0 mg via nebulizer, repeat as needed

d) Evaluate the need for epinephrine 1:1,000 concentration 0.3 mg IM.

e) Evaluate the need for CPAP, if available

f) Evaluate the need for intubation
BEHAVIORAL EMERGENCIES

Revised 2017

1. Follow initial patient care protocol

2. If there is evidence of immediate danger, protect yourself and others by summoning law enforcement to help ensure safety

BASIC CARE GUIDELINES

a) Consider medical or traumatic causes of behavior problems

b) Keep environment calm

ADVANCED CARE GUIDELINES

c) For severe anxiety, consider a benzodiazepine such as:

- Diazepam 2mg IV every 5 minutes up to 10 mg maximum
  OR
- Diazepam 5-10mg IM

d) For excited delirium, consider medications such as:

- Ketamine 4 mg/kg IM
  OR
- Ziprasidone (Geodon) 10-20 mg IM


**BURNS**

Revised 2017

1. Follow initial patient care protocol

2. Continually monitor the airway for evidence of obstruction

3. Do not use any type of ointment, lotion, or antiseptic

4. Maintain normal patient temperature

5. Transport according to the Out-of-Hospital Trauma Destination Decision Protocol (Appendix B)

**BASIC CARE GUIDELINES**

a) Stop the burning process

b) Estimate percent of body surface area injured and depth of injury

c) If wound is less than 10% Body Surface Area, cool burn with Normal Saline

d) Remove smoldering clothing and jewelry and expose area

e) Cover the burned area with plastic wrap or a clean dry dressing

**ADVANCED CARE GUIDELINES**

f) Establish an IV of LR or NS. For severe burns, consider administration of 500 ml bolus

g) Contact medical control for further fluid administration

h) Refer to Pain Control protocol
### Burns Continued

**Chemical Burns**

**BASIC CARE GUIDELINES**

- a) Brush off powders prior to flushing. Lint roller may also be used to remove powders prior to flushing
- b) Immediately begin to flush with large amounts of water
- c) Continue flushing the contaminated area when en route to the receiving facility
- d) Do not contaminate uninjured areas while flushing
- e) Attempt to identify contaminant

**ADVANCED CARE GUIDELINES**

- f) Refer to Pain Control protocol

**Toxin in Eye**

**BASIC CARE GUIDELINES**

- a) Flood eye(s) with lukewarm water and have patient blink frequently during irrigation. Use caution to not contaminate other body areas
- b) Attempt to identify contaminant

**ADVANCED CARE GUIDELINES**

- c) Establish a large bore IV if indicated and infuse as patient condition warrants
- d) Refer to Pain Control protocol
BURNS CONTINUED

Electrical Burns

BASIC CARE GUIDELINES

  a) Treat soft tissue injuries associated with the burn with dry dressing

  b) Treat for shock if indicated

ADVANCED CARE GUIDELINES

  c) Refer to Pain Control protocol
CARDIAC ARRHYTHMIAS
Revised 2017

1. Follow initial patient care protocol

If No Pulse

BASIC CARE GUIDELINES

a) Perform high quality CPR immediately, apply AED and follow device prompts

b) Compression-only CPR is appropriate if unable to support airway while applying and using AED

c) May place appropriate airway if unable to adequately ventilate patient noninvasively, if does not interrupt compressions, or after return of spontaneous circulation

d) May apply mechanical compression device (if available) after ensuring high quality compressions and application of AED. Emphasis on minimizing interruption of compressions.

ADVANCED CARE GUIDELINES

e) Perform high quality CPR immediately, apply monitor and check rhythm as soon as possible

VENTRICULAR FIBRILLATION OR VENTRICULAR TACHYCARDIA

f) Defibrillate at manufacturer’s specification, immediately resume CPR for two minutes

g) Evaluate and treat for underlying causes

h) Administer epinephrine 1:10,000 concentration 1 mg IV or IO every 3-5 minutes

i) Consider amiodarone for refractory pulseless V-Tach or V-Fib 300 mg IV or IO, repeat 150 mg in 5 minutes

j) Consider magnesium sulfate for Torsades de Pointes 1-2 g IV or IO, delivered over 5-20 minutes

ASYSTOLE/PEA

k) Evaluate for treatable causes

l) Administer epinephrine 1:10,000 concentration 1 mg IV or IO as soon as asystole or PEA is identified. Repeat every 3-5 minutes
CARDIAC ARRHYTHMIAS CONTINUED

Cardiac Arrhythmias if Pulse

BASIC CARE GUIDELINES

a) Follow Chest Pain protocol

b) Assess and treat underlying causes

ADVANCED CARE GUIDELINES

BRADYCARDIA

c) If symptomatic, administer atropine 0.5 mg IV or IO every 3-5 minutes as needed to maximum dose of 3.0 mg

d) Initiate transcutaneous pacing if blood pressure less than 90 systolic, atropine unsuccessful or atropine administration not immediately available.

OR

e) Consider administering dopamine 5-20 mcg/kg/min IV or IO

OR

f) Consider administering epinephrine 2-10 mcg/min IV or IO

TACHYCARDIA (Symptomatic-Rates greater than 150)

g) If patient unstable:
   Perform synchronized cardioversion (consider sedation)

h) If patient stable with wide QRS:
   If regular and monomorphic, consider administration of adenosine 6 mg IV, may be repeated at 12 mg after two minutes

   OR

   Consider administration of amiodarone 150 mg over 10 minutes IV or IO

i) If patient is stable with narrow QRS:
   Perform vagal maneuvers

   OR

   Consider administration of adenosine 6 mg IV, may be repeated at 12 mg after two minutes
CHEST PAIN
Updated 2017

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Place patient in position of comfort, loosen tight clothing and provide reassurance. If patient is complaining of shortness of breath, has signs of respiratory distress or pulse oximetry of less than 94%, titrate oxygen to symptom improvement or to maintain saturation of 94-99%.

b) If capability exists, obtain a 12-lead EKG and transmit to the receiving facility and/or medical control for interpretation as soon as possible. An initial management goal is to identify STEMI and transport the patient with cardiac symptoms to the facility most appropriate to needs.

c) If patient is alert and oriented and expresses no allergy to aspirin have patient chew nonenteric aspirin 325 mg.

d) Evaluate if erectile dysfunction or pulmonary hypertension medications have been taken in the past 24-48 hours including: Sildenafil (Viagra, Revatio), Vardenafil (Levitra, Staxyn), or Avanafil (Stendra), Tadalafil (Cialis, Adcirca).

e) If the patient has not taken any of the medications in (d) in the last 48 hours and has a systolic blood pressure of 90 mmHg or above, have the patient self-administer one dose of nitroglycerin (patient’s nitro only).

f) Repeat one dose of nitroglycerin in 3-5 minutes if pain continues, systolic blood pressure is 90 mmHg or above, up to a maximum of three doses.

g) Reassess patient and vital signs following each dose of nitroglycerin.

ADVANCED CARE GUIDELINES

h) Monitor EKG and treat dysrhythmias.

i) Establish IV access at TKO rate unless otherwise ordered or indicated.
CHEST PAIN CONTINUED

ADVANCED CARE GUIDELINES (Continued)

j) Administer nitroglycerin (tab or spray) 0.4 mg sublingually if systolic blood pressure 90 mmHg or above for symptoms of chest pain or atypical cardiac pain. Repeat one dose in 5 minutes if pain continues and systolic blood pressure is 90 mmHg or above up to a maximum of three doses.

k) If pain continues after administration of nitroglycerin and systolic blood pressure remains above 90 mmHg administer:

- Morphine 2-4 mg IV may repeat every 5 minutes
- Fentanyl 25-50 mcg IV may repeat every 5 minutes
- Patient administered nitrous oxide
CHILD BIRTH

Revised 2017

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

Normal Delivery

a) If delivery is imminent with crowning, commit to delivery on site and contact medical control.

b) If the amniotic sac does not break, or has not broken, use a clamp to puncture the sac and push it away from the infant’s head and mouth as they appear.

c) Clamp cord with 2 clamps and cut the cord between the clamps.

d) For newborn management, see newborn resuscitation protocol.

Abnormal Delivery

Breech Delivery (Buttocks Presentation)

a) Allow spontaneous delivery.

b) Support infant’s body as it’s delivered.

c) If head delivers spontaneously, proceed as in Section I (Normal Delivery).

d) If head does not deliver within 3 minutes, insert gloved hand into the vagina, keeping your palm toward baby’s face; form a "V" with your fingers and push wall of vagina away from baby's face, thereby creating an airway for baby. Do not remove your hand until relieved by advanced EMS or hospital staff.

e) Contact medical control for any other issues.
CONGESTIVE HEART FAILURE
Revised 2017

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Maintain oxygen saturation 94% - 99%

b) If capability exists, obtain a 12-lead EKG and transmit it to the receiving facility and/or medical control for interpretation prior to patient’s arrival

c) Consider nitroglycerin (tab or spray) 0.4 mg sublingually (patients nitro only) if systolic blood pressure 90 mmHg or above. May repeat every 3 to 5 minutes. Maximum of 3 doses.

Evaluate if Erectile Dysfunction or Pulmonary hypertension medications taken in the past 24 hours including: Sildenafil (Viagra, Revatio), Vardenafil (Levitra, Staxyn), or Avanafil (Stendra), Tadalafil (Cialis, Adcirca). Hold nitrates for 48 hours following the last dose

d) Reassess patient and vital signs after each dose of nitroglycerin

e) If capability exists, consider CPAP

ADVANCED CARE GUIDELINES

f) Monitor EKG and treat arrhythmias

g) Administer nitroglycerin (tab or spray) 0.4 mg sublingually if systolic blood pressure 90 mmHg or above. May repeat every 3 to 5 minutes. Maximum of 3 doses.

Evaluate if Erectile Dysfunction or Pulmonary hypertension medications taken in the past 24 hours including: Sildenafil (Viagra, Revatio), Vardenafil (Levitra, Staxyn), or Avanafil (Stendra), Tadalafil (Cialis, Adcirca). Hold nitrates for 48 hours following the last dose.
FROSTBITE
Reviewed 2011

1. Follow initial patient care protocol

**BASIC CARE GUIDELINES**

a) Remove the patient from the cold environment

b) Protect the cold injured extremity from further injury (manual stabilization)

c) Remove wet or restrictive clothing

d) Do not rub or massage

e) Do not re-expose to the cold

f) Remove jewelry

g) Cover with dry clothing or dressings

**ADVANCED CARE GUIDELINES**

h) Establish IV access at a TKO rate. Use warmed IV fluid if possible

i) Refer to pain control protocol
HEAT ILLNESS

Reviewed 2011

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Remove from the hot environment and place in a cool environment (back of air conditioned response vehicle)

b) Loosen or remove clothing

c) Place in recovery position

d) Initially cool patient by fanning

e) Additionally, cool patient with cold packs to neck, groin and axilla

f) If alert, stable and not nauseated, you may have the patient slowly drink small sips of water

g) If the patient is unresponsive or is vomiting, transport to an appropriate medical facility with patient on their left side

ADVANCED CARE GUIDELINES

h) Monitor EKG and treat dysrhythmias following the appropriate protocol(s)
HYPOThERMIA
Reviewed 2011

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Remove wet clothing

b) If able, check core temperature

c) Handle patient very gently

d) Cover patient with blankets

ADVANCED CARE GUIDELINES

e) Administer warm IV fluids if available, do not administer cold fluids
NAUSEA AND VOMITING
Reviewed 2011

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Give nothing by mouth

ADVANCED CARE GUIDELINES

b) Consider fluid bolus IV/IO if evidence of hypovolemia and lung sounds are clear
c) If patient nauseated or is vomiting, consider anti-emetic medication such as ondansetron (Zofran) 4 mg IV
d) Consider intubating patients with altered mental status who are vomiting and cannot protect their airway
PAIN CONTROL
Reviewed 2012

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) First, attempt to manage all painful conditions:
   - Splint extremity injuries
   - Place the patient in a position of comfort

ADVANCED CARE GUIDELINES

b) Consider administration of pain medications for patients that have significant pain, do not have a decreased level of consciousness, are hemodynamically stable, and have oxygen saturations above 94% medication. Example:
   - Morphine 2-4 mg via IV, repeated in 5 min
     OR
   - Fentanyl 25 to 50 mcg IV every 5 minutes as needed to a maximum of 100 mcg

c) Administer naloxone 1 mg IV for respiratory depression from narcotics. May repeat once if needed

d) For severe pain consider anxiolytic medication
   - Midazolam 0.5-2.5 mg IV / IM repeated every 5 minutes as needed to a maximum of 5 mg
     OR
   - Diazepam 2-5 mg IV / IM repeated every 5 minutes as needed to a maximum of 10 mg
     OR
   - Lorazepam 2mg IV, repeated every 30 minutes as needed to a maximum of 4 mg. Use for long transports

e) Monitor ECG and O2 saturations

f) The patient must have vital signs taken prior to each dose and be monitored closely. If at any time there is a decreased level of consciousness, decrease in oxygen saturation below 92%, or blood pressure drops to 100 mmHg or less, administration of narcotic medication must stop
POISONING
Reviewed 2011

1. Follow initial patient care protocol

2. Identify contaminate and call Poison Control and follow directions given to provide care: 1-800-222-1222

3. Contact Medical Direction as soon as possible with information given by Poison Control and care given

BASIC CARE GUIDELINES

**Ingested poisons**

a) Identify and estimate amount of substance ingested

**Inhaled poisons:**

b) Remove patient to fresh air
c) Administer high flow oxygen
d) Estimate duration of exposure to inhaled poison

**Absorbed poisons**

e) Identify contaminate! If it will be a hazard to you, use protective clothing and extreme caution

**Injected poisons**

f) Be alert for respiratory difficulty. Maintain airway and give high flow oxygen
g) Check patient for marks, rashes, or welts
h) Try to identify source of injected poison
POST RESUSCITATION WITH RETURN OF SPONTANEOUS CIRCULATION

Revised 2017

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Maintain oxygen saturation between 94% - 99%

b) Attempt to maintain normal patient temperature

c) If available, obtain blood glucose and treat per altered mental status protocol

d) If capability exists, obtain a 12-lead EKG and transmit it to the receiving facility and/or medical control for interpretation prior to patient’s arrival

ADVANCED CARE GUIDELINES

e) If available, perform waveform capnography, maintaining PETCO2 35-40 mm Hg

f) Treat hypotension per shock protocol
SEIZURE
Revised 2017

1. Follow initial patient care protocol

   **Active Seizure**

   **BASIC CARE GUIDELINES**
   a) Protect airway

   **ADVANCED CARE GUIDELINES**
   b) b) Administer benzodiazepine such as:
      - Valium 2 mg IV push until seizure stops or maximum dose of 10 mg is given
      OR
      - Lorazepam 1 mg IV push, until the seizure stops or until maximum dose of 10 mg is given
      OR
      - Midazolam 2 mg IV push until the seizure stops or until maximum dose of 10 mg is given
   c) Check blood glucose level, if available, and treat hypoglycemia if present

   **Post Seizure**

   **BASIC CARE GUIDELINES**
   a) Protect airway

   b) Check blood sugar, if available, and treat hypoglycemia if present per altered mental status protocol

   **ADVANCED CARE GUIDELINES**
   c) Consider thiamine 100 mg IM
SELECTIVE SPINAL IMMOBILIZATION

Revised 2015

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

1. Patient Presentation:
   a) This protocol is intended for patients who present with a traumatic mechanism of injury.
   b) Immobilization is contraindicated for patients who have penetrating trauma who do not have a neurological deficit.

2. Patient Management:
   a) Assessment:
      ▪ Assess for mental status, neurological deficits, spinal pain, tenderness, any evidence of intoxication, or other severe injuries.
      ▪ While maintaining spinal alignment, examine the spine for tenderness on palpation or deformities.
   b) Treatment and Interventions:
      Apply cervical restriction if there is any of the following:
      ▪ Patient complains of neck pain.
      ▪ Any neck tenderness of palpation.
      ▪ Any abnormal mental status, including extreme agitation, or neurological deficit.
      ▪ Any evidence of alcohol or drug intoxication
      ▪ There are other severe or painful injuries present.
      ▪ Any communication barrier that prevents accurate assessment.
SELECTIVE SPINAL IMMOBILIZATION CONTINUED

Immobilize Patient with cervical collar and a long spine board, full body vacuum splint, scoop stretcher, or similar device if:
- Patient complains of midline back pain
- Any midline back tenderness

Note 1: Distracting injuries or altered mental status does not necessitate long spine board use.

Note 2: Patients should not routinely be transported on long boards, unless the clinical situation warrants long board use. An example of this may be facilitation of multiple extremity injuries or an unstable patient where removal of a board will delay transport and/or other treatment priorities. In these rare situation, long boards should be padded or have a vacuum mattress applied to minimize secondary injury to the patient.
Sexual Assault

Reviewed 2011

1. Follow initial patient care protocol

Basic Care Guidelines

a) Identify yourself to the patient, assure patient that they are safe and in no further danger

b) Do not burden patient with questions about the details of the crime; you are there to provide emergency medical care

c) Be alert to immediate scene and document what you see. Touch only what you need to touch at the scene

d) Do not disturb any evidence unless necessary for treatment of patient. (If necessary to disturb evidence, document why and how it was disturbed.)

e) Preserve evidence; such as clothing you may have had to remove for treatment, and make sure that it is never left unattended at any time, to preserve "chain of evidence"

f) Contact local law enforcement if not present

g) Treat other injuries as indicated

h) Treat for shock if indicated
SHOCK
Revised 2016

1. Follow initial patient care protocol

2. Maintain oxygen saturation between 94% - 99%

Hypovolemic External Bleeding

BASIC CARE GUIDELINES

a) Avoid further heat loss

b) Splint extremities as needed

c) Follow Hemorrhage Control Protocol
   - Control bleeding with direct pressure. Large gaping wounds may need application of a bulky sterile gauze dressing and direct pressure by hand
   - Consider application of tourniquet if unable to control hemorrhage with direct pressure

ADVANCED CARE GUIDELINES

d) Establish IV/IO access

e) If radial pulse is absent or systolic blood pressure is less than 90 mmHg, administer 20ml/kg, up to 250ml, NS or LR. Repeat as needed to until radial pulse returns or systolic blood pressure reaches 90 mmHg.

Hypovolemic Internal Bleeding

BASIC CARE GUIDELINES

a) Place patient in supine position

b) Consider use of PASG for lower extremity or pelvis fractures

c) Consider use of pelvic stabilizer for pelvis fractures

ADVANCED CARE GUIDELINES

d) Establish IV/IO access

e) If radial pulse is absent or systolic blood pressure is less than 90 mmHg, administer 20ml/kg, up to 250ml, NS or LR. Repeat as needed to until radial pulse returns or systolic blood pressure reaches 90 mmHg.
SHOCK CONTINUED

Cardiogenic

BASIC CARE GUIDELINES

a) Place in position of comfort

b) If capability exists, obtain a 12-lead EKG and transmit it to the receiving facility and/or medical control for interpretation prior to patient’s arrival

ADVANCED CARE GUIDELINES

c) Establish IV/IO access

d) Obtain 12-lead EKG

e) Administer dopamine IV or IO at 10-20 mcg/kg/min

Obstructive Shock: Tension Pneumothorax

BASIC CARE GUIDELINES

a) Place in a position of comfort

ADVANCED CARE GUIDELINES

b) Perform needle decompression

Obstructive Shock: Pericardial Tamponade

BASIC CARE GUIDELINES

a) Place in a position of comfort

ADVANCED CARE GUIDELINES

b) The goal should be to minimize scene time with time critical injuries, including establishing IV access en route.

c) Administer 20 ml/kg, up to 500 ml, NS or LR. Repeat as needed to maintain a systolic pressure of 90 mmHg.
**Obstructive Shock: Pulmonary Embolus**

**BASIC CARE GUIDELINES**

a) Place in a position of comfort

b) Avoid further heat loss

**ADVANCED CARE GUIDELINES**

c) Administer 20 ml/kg, up to 500ml, NS or LR. Repeat as needed to maintain a systolic pressure of 90 mmHg

d) If available, obtain 12-lead EKG

e) Evaluate the need for pain and nausea control

f) If patient is alert and oriented and expresses no allergy to aspirin, consider having patient chew nonenteric aspirin 160 – 325 mg

g) Consider administration of dopamine IV or IO at 10-20/mcg/kg/min if systolic blood pressure is less than 90 mmHg.

**Distributive Shock: Neurogenic**

**BASIC CARE GUIDELINES**

a) Place supine

b) Avoid further heat loss
SHOCK CONTINUED

ADVANCED CARE GUIDELINES

c) Administer 20 ml/kg, up to 500ml, NS or LR. Repeat as needed to maintain a systolic pressure of 90 mmHg

d) Consider administering dopamine at 10-20 mcg/kg/min IV or IO

e) If symptomatic bradycardia is present and does not respond to the treatments above, consider:

- Administering atropine 0.5 mg every 5 minutes, up to 3 mg
- Transcutaneous pacing

Distributive Shock: Anaphylactic

BASIC CARE GUIDELINES

a) If the patient has a physician prescribed Auto-Inject Epinephrine assist with administering it for signs of anaphylaxis

ADVANCED CARE GUIDELINES

b) Administer epinephrine 1:1,000 concentration 0.01 mg/kg IM, up to a single dose of 0.5 mg. Maximum total dose 1 mg.

c) Administer diphenhydramine 25 – 50 mg IV/IM

d) Administer albuterol 2.5mg by nebulizer if respiratory distress

e) Evaluate need for early intubation if severe anaphylaxis

f) For cases of severe anaphylaxis consider administration of epinephrine 1:10,000 concentration 0.3 mg - 0.5 mg IV/IO slowly over 3-5 minutes.
**SHOCK CONTINUED**

**Distributive Shock: Septic**

**BASIC CARE GUIDELINES**

- a) Maintain oxygen saturation between 94% - 99%
- b) Place patient in supine position
- c) If temperature is over 102°F/38.9°C, cool patient (i.e. cool sponges)

**ADVANCED CARE GUIDELINES**

- d) Administer 20 ml/kg, up to 500ml, NS or LR. Repeat as needed to maintain a systolic pressure of 90 mmHg
- e) If temperature is over 102°F/38.9°C, cool patient
- f) Consider administering dopamine at 10-20 mcg/kg/min IV or IO
- g) Consider administering diphenhydramine 25 – 50 mg IV/IM
STROKE 
Revised 2017

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Complete a validated stroke exam such as the MEND exam. Notify receiving facility as soon as possible if stroke is suspected

b) If Stroke Screening is positive expedite transport to the hospital

c) Refer to Appendix G (Reperfusion Strategies)

d) Check blood glucose, if available

e) Place patient in position of comfort, loosen tight clothing and provide reassurance.

f) If patient is complaining of shortness of breath, has signs of respiratory distress and pulse oximetry of less than 94% then titrate oxygen to maintain a saturation of 94-99%

ADVANCED CARE GUIDELINES

g) If blood sugar less than 60 mg/dL administer D50 12.5 - 25 gm IV

\[
\bullet \text{ If no vascular access, administer glucagon 1 mg IM}
\]

h) Monitor patient's level of consciousness and blood pressure every five (5) minutes, and keep patient as calm as possible
TRAUMA
Revised 2016

1. Follow Initial Patient Protocol for all patients

2. Follow the Out-of-Hospital Trauma Triage Destination Decision Protocol for the identification of time-critical injuries, method of transport and destination decision for treatment of those injuries

3. The goal should be to minimize scene time with time critical injuries, including establishing IVs enroute.

Hemorrhage Control

BASIC CARE GUIDELINES

a) Control bleeding with direct pressure. Large gaping wounds may need application of a bulky sterile gauze dressing and direct pressure by hand

b) If direct pressure/pressure dressing is ineffective or impractical, apply a tourniquet to extremity

c) If bleeding site is not amenable to tourniquet placement (i.e. junctional injury), apply a topical hemostatic agent with direct pressure

ADVANCED CARE GUIDELINES

d) If radial pulse is absent or systolic blood pressure is less than 90 mmHg, administer 20ml/kg, up to 250ml, NS or LR. Repeat as needed until radial pulse returns or systolic blood pressure reaches 90 mmHg.

Chest Trauma

BASIC CARE GUIDELINES

a) Seal open chest wounds immediately. Use occlusive dressing taped down. If the breathing becomes worse, loosen one side of the dressing to release pressure and then reseal

b) Impaled objects must be left in place and should be stabilized by building up around the object with multiple trauma dressings or other cushioning material

c) Take care that the penetrating object is not allowed to do further damage
TRAUMA CONTINUED

ADVANCED CARE GUIDELINES

d) If concerned for symptomatic pneumothorax, perform needle decompression.

Abdominal Trauma

BASIC CARE GUIDELINES

a) Control external bleeding. Dress open wounds to prevent further contamination

b) Evisceration should be covered with a sterile saline soaked occlusive dressing

c) Impaled objects should be stabilized with bulky dressings for transport

Head, Neck, and Face Trauma

BASIC CARE GUIDELINES

a) Place the head in a neutral in-line position unless the patient complains of pain or the head does not easily move into this position

b) Closely monitor the airway. Provide suctioning of secretions or vomit as needed. Be prepared to log roll the patient if they vomit.

c) Impaled objects in the cheek may be removed if causing airway problems, or you are having trouble controlling bleeding.

d) Reassess vitals and Glasgow Coma Score (GCS) frequently

e) Consider eye shield for any significant eye trauma. If the globe is avulsed, do not put it back into socket; cover with moist saline dressing and then place cup over it.

ADVANCED CARE GUIDELINES

f) Consider intubation if GCS is less than 8 or airway cannot be maintained

g) If patient is intubated or has an airway such as Combitube, King, LMA PETCO2 levels should be continually monitored and maintained at 33 – 43 mmHg if available
**Extremity Injuries**

**BASIC CARE GUIDELINES**

a) Assess extent of injury including presence or absence of pulse

b) Establish and maintain manual stabilization of injured extremity by supporting above and below the injury

c) Remove or cut away clothing and jewelry

d) Cover open wounds with a sterile dressing

e) Do not intentionally replace any protruding bones

f) Apply cold pack to area of pain or swelling

g) If severe deformity of the distal extremity is cyanotic or lacks pulses, align with gentle traction before splinting, and transport immediately
Iowa EMS Treatment Protocols

Pediatric Treatment Protocols

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1. Scene Size Up
   a. Review the dispatch information
   b. As you approach the scene, be sure to consider safety for yourself and your patient
   c. Observe universal precautions
   d. After determining the number and location of patients, consider the need for additional resources
   e. Determine mechanism of injury and/or nature of illness
   f. Reassess the situation often

2. Primary Survey
   a. Obtain general impression of patient, chief complaint, and priority problems
   b. Determine responsiveness
   c. Assess airway
   d. Assess breathing
   e. Assess circulation
   f. Maintain cervical stabilization/immobilization if indicated
   g. Utilize length/weight based tape to determine appropriate medications and equipment

3. Initial Interventions
   a. Treat airway/breathing problems
   b. Treat circulation problems
   c. Establish IV/IO access if indicated
   d. Treat pain or nausea
   e. Apply cardiac monitor
   f. Maintain normal patient temperature

4. Secondary Survey
   a. Perform secondary assessment after initial interventions are completed
   b. Address problems identified in the secondary survey utilizing the appropriate protocol(s)
   c. Obtain vital signs, including blood glucose if available and indicated
   d. Assess pain

---

Pediatric Initial Care Protocol
Revised 2016
5. Ongoing Assessment
   a. Repeated evaluation of patient
      • Vitals every 5 minutes for unstable patient
      • Vitals every 15 minutes for stable patients
   b. Assess effect of interventions

6. Transport/Contact Medical Control
   a. Patients should be transported as soon as feasible to an appropriate medical facility. Immediate transport with treatment enroute is recommended for patients with significant trauma or unstable airways
   b. Tier with an appropriate service if level of care indicates or assistance is needed and can be accomplished in a timely manner
   c. Contact medical direction as soon as feasible in accordance with local protocol for further orders
   d. For seriously injured or critically ill patients, give a brief initial report from the scene when possible, with a more detailed report given to medical direction while enroute
PEDIATRIC AIRWAY

Reviewed 2016

1. Follow initial patient care protocol

Breathing spontaneous on initial assessment with adequate ventilation

BASIC CARE GUIDELINES

a) Maintain oxygenation with cannula, mask, or blow-by if oxygen saturations are below 94%, titrate to 94% - 99%

Breathing without adequate ventilation or not breathing

BASIC CARE GUIDELINES

a) Open the airway

b) Attempt assisted ventilation using an appropriate adjunct with high-flow 100% oxygen. If unable to ventilate, first reposition airway and attempt to ventilate again

c) If ventilation still unsuccessful, check airway for obstruction and attempt to dislodge with age appropriate techniques

ADVANCED CARE GUIDELINES

d) If unsuccessful establish direct view of object and attempt to remove it with Magill forceps

If obstruction cleared

BASIC CARE GUIDELINES

a) Assist with ventilation and provide oxygen.

ADVANCED CARE GUIDELINES

b) If adequate ventilation is NOT maintained proceed to an advanced airway as appropriate for patient size

If obstruction not cleared

ADVANCED CARE GUIDELINES

a) Attempt endotracheal intubation and try to ventilate the patient

b) If endotracheal intubation is not successful, perform needle cricothyrotomy and needle insufflation
PEDIATRIC ALLERGIC REACTION

Reviewed 2012

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Assess airway via Airway Protocol

b) If the patient has a physician prescribed auto-injectable epinephrine assist with administration and monitor for signs of anaphylaxis

ADVANCED CARE GUIDELINES

c) Administer epinephrine 1:1,000 concentration 0.01 mg/kg IM, up to a maximum dose of 0.3 - 0.5 mg

d) Establish IV access

e) Administer diphenhydramine at 1.0 mg/kg IV or deep IM, up to a maximum dose of 50 mg

f) Administer epinephrine 1:10,000 concentration 0.01 mg/kg IV for profound shock, up to a maximum dose of 0.3 - 0.5 mg

g) Administer albuterol 2.5 mg by nebulizer if in respiratory distress
PEDIATRIC ALTERED MENTAL STATUS

Revised 2017

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Obtain blood glucose

b) If conscious & able to swallow, administer glucose 15 gm by mouth for children over 2 years of age.

ADVANCED CARE GUIDELINES

c) If blood sugar less than 60 mg/dL administer Dextrose based on Pediatric Dosing Reference

d) If patient unconscious and no IV access; administer Glucagon 0.025 mg/kg IM up to 1 mg maximum

e) If no improvement in level of consciousness after glucose administration give naloxone 0.1 mg/kg IV up to maximum dose of 2.0 mg per dose
PEDIATRIC APPARENT DEATH

Updated 2017

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

Apparent death indications are as follows:

- Signs of trauma are conclusively incompatible with life
- Physical decomposition of the body
- Rigor mortis and/or dependent lividity

If apparent death is confirmed, continue as follows:

a) The county Medical Examiner and law enforcement shall be contacted

b) When possible contact Iowa Donor Network at 800-831-4131 (see protocol appendix J)

c) At least one EMS provider should remain at the scene until the appropriate authority is present

d) Provide psychological support for grieving survivors

e) Document reason no resuscitation was initiated

f) Preserve the crime scene if present

g) In all other circumstances (except where “NO CPR/DNR” protocol applies) full resuscitation must be initiated
PEDiATRIC ASTHMA
Revised 2016

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Use Airway Protocol to evaluate the airway and adequacy of ventilation

b) If patient has a physician prescribed, hand-held metered dose inhaler, assist with administration

c) Reassess patient and repeat second dose if necessary per medical direction

ADVANCED CARE GUIDELINES

d) Administer albuterol 2.5 mg via Nebulizer

e) Evaluate the need for epinephrine 1:1,000 concentration according to length/weight based tape. Dosage may be repeated once after 5 minutes.

f) Evaluate the need for intubation.
PEDIATRIC BEHAVIORAL EMERGENCIES

New 2017

1. Follow initial patient care protocol

2. If there is evidence of immediate danger, protect yourself and others by summoning law enforcement to help ensure safety

BASIC CARE GUIDELINES

a) Consider medical or traumatic causes of behavior problems

b) Keep environment calm

ADVANCED CARE GUIDELINES

c) For severe anxiety, consider a benzodiazepine such as Diazepam, with dosages based on Pediatric Dosing Reference
PEDIATRIC BURNS

Revised 2016

1. Follow initial patient care protocol

2. Continually monitor the airway for evidence of obstruction

3. Do not use any type of ointment, lotion, or antiseptic

4. Maintain normal patient temperature

5. Transport according to the Out-of-Hospital Trauma Destination Decision Protocol (Appendix B)

Thermal Burns

BASIC CARE GUIDELINES

a) Stop the burning process

b) Remove smoldering clothing and jewelry

c) Prevent further contamination of wounds

d) Cover the burned area with a clean, dry dressing or plastic wrap

e) Estimate percent of body surface area injured and estimate the depth of burn as superficial, partial thickness or full thickness

ADVANCED CARE GUIDELINES

f) Establish an IV of LR or NS. For severe burns, consider administration of 20 ml/kg, not to exceed 500 ml.

g) Contact medical control for further fluid administration

h) Treat pain per pain protocol
**Chemical Burns**

**BASIC CARE GUIDELINES**

a) Brush off powders prior to flushing. Lint roller may also be used to remove powders prior to flushing

b) Immediately begin to flush with large amounts of water. Continue flushing the contaminated area when en route to the receiving facility

c) Do not contaminate uninjured areas while flushing

d) Attempt to identify contaminant

e) Transport according to the Out-of-Hospital Destination Decision Protocol (Appendix B)

**ADVANCED CARE GUIDELINES**

f) Treat pain per pain control protocol

**Toxin in Eye**

**BASIC CARE GUIDELINES**

a) Flood eye(s) with lukewarm water and have patient blink frequently during irrigation. Use caution to not contaminate other body areas

b) Continue irrigation until advanced personnel take over

c) Attempt to identify contaminant

d) Transport to the most appropriate medical facility

**ADVANCED CARE GUIDELINES**

e) Treat pain per pain control protocol
### PEDiATRIC BURNS CONTINUED

#### Electrical Burns

<table>
<thead>
<tr>
<th>BASIC CARE GUIDELINES</th>
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<tbody>
<tr>
<td>a) Treat soft tissue injuries associated with the burn with dry dressing</td>
</tr>
<tr>
<td>b) Treat for shock if indicated</td>
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<tr>
<td>c) Transport according to the Out-of-Hospital Destination Decision Protocol (Appendix B)</td>
</tr>
<tr>
<td>d) Estimate percent of body surface area injured and estimate the depth of burn as superficial, partial thickness or full thickness</td>
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<table>
<thead>
<tr>
<th>ADVANCED CARE GUIDELINES</th>
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<tbody>
<tr>
<td>f) Treat pain per pain control protocol</td>
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</tbody>
</table>
**PEDIATRIC CARDIAC ARRHYTHMIA**

Updated 2017

1. Follow initial patient care protocol

**If no pulse**

**BASIC CARE GUIDELINES**

- a) Perform high quality CPR immediately, apply AED and follow device prompts

**ADVANCED CARE GUIDELINES**

- b) Perform high quality CPR immediately, apply monitor and check rhythm as soon as possible

**Ventricular fibrillation or ventricular tachycardia**

- a) Defibrillate at 2J/kg, immediately resume CPR for two minutes

- b) Second defibrillation at 4 J/kg

- c) Subsequent defibrillations increasing by 2 J/kg, to a maximum of 10 J/kg, not to exceed maximum adult dose

- d) Evaluate and treat for underlying causes

- e) Administer epinephrine 1:10,000 according to Pediatric Dosing Reference every 3-5 minutes

- f) Administer anti-arrhythmic

  - Administer amiodarone according to Pediatric Dosing Reference, may repeat twice OR
  - Administer lidocaine according to Pediatric Dosing Reference
**Pediatric Cardiac Arrhythmia Continued**

**Asystole/PEA**

a) Evaluate and treat for underlying causes

b) Administer epinephrine 1:10,000 according to Pediatric Dosing Reference every 3-5 minutes as needed

**Cardiac arrhythmias if pulse**

**Basic Care Guidelines**

a) If patient is complaining of shortness of breath, has signs of respiratory distress, or pulse oximetry of less than 94% then titrate oxygen to symptom improvement or to maintain a saturation of 94-99%

b) Evaluate and treat for underlying causes

**Bradycardia with signs of poor perfusion**

**Basic Care Guidelines**

a) Start CPR if pulse is less than 60 and altered mental status

**Advanced Care Guidelines**

b) Administer epinephrine 1:10,000 according to Pediatric Dosing Reference every 3-5 minutes

c) Consider administration of atropine according to Pediatric Dosing Reference

**Tachycardia (rates greater than 180 in children or 210 in infants)**

**Advanced Care Guidelines**

a) If patient unstable:
   b) Perform synchronized cardioversion according to Pediatric Dosing Reference
   c) Consider sedation according to Pediatric Dosing Reference
      If patient stable:
      ▪ With wide QRS
         • If regular and monomorphic, consider administration of adenosine according to Pediatric Dosing Reference
      ▪ With narrow QRS
         • Perform vagal maneuvers
         • Consider administration of adenosine according to Pediatric Dosing Reference
PEDIATRIC NAUSEA AND VOMITING

Reviewed 2011

1. Follow initial patient care protocol

ADVANCED CARE GUIDELINES

a) Initiate IV access

b) Consider fluid bolus if evidence of hypovolemia

c) If patient nauseated or is vomiting administer anti-emetic medication such as ondansetron (Zofran) 0.1 mg/kg IV up to 4 mg maximum

d) Consider intubating patients with altered mental status who are vomiting and can’t protect their airway
**PEDIATRIC NEAR DROWNING**

Revised 2012

1. Follow initial patient care protocol

<table>
<thead>
<tr>
<th>BASIC CARE GUIDELINES</th>
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<tbody>
<tr>
<td>a) Establish patient responsiveness</td>
</tr>
<tr>
<td>b) If cervical spine trauma is suspected, manually stabilize the spine</td>
</tr>
<tr>
<td>c) Assess airway for patency, protective reflexes and the possible need for advanced airway management. Look for signs of airway obstruction</td>
</tr>
<tr>
<td>d) Open the airway using head tilt/chin lift if no spinal trauma is suspected, or modified jaw thrust if spinal trauma is suspected</td>
</tr>
<tr>
<td>e) Suction as necessary</td>
</tr>
<tr>
<td>f) Consider placing an oropharyngeal or nasopharyngeal airway adjunct if the airway cannot be maintained with positioning and the patient is unconscious</td>
</tr>
<tr>
<td>g) Assess breathing. Obtain pulse oximeter reading</td>
</tr>
<tr>
<td>h) If breathing is inadequate, assist ventilation using an appropriate adjunct with high-flow, 100% concentration oxygen</td>
</tr>
<tr>
<td>i) Assess circulation and perfusion</td>
</tr>
<tr>
<td>j) If breathing is adequate, place the child in a position of comfort and maintain oxygenation with cannula, mask or blow-by if oxygen saturations are below 94% titrate to 94% - 99%</td>
</tr>
<tr>
<td>k) Assess mental status</td>
</tr>
<tr>
<td>l) If spinal trauma is suspected, continue manual stabilization, apply a rigid cervical collar, and immobilize the patient on a long backboard or similar device</td>
</tr>
<tr>
<td>m) Expose the child only as necessary to perform further assessments. Maintain the child’s body temperature throughout the examination</td>
</tr>
</tbody>
</table>
**PEDIATRIC NEAR DROWNING CONTINUED**

n) If the child’s condition is stable, perform focused history and detailed physical examination on the scene, then initiate transport.

o) If the child’s condition is stable, perform focused history and detailed physical examination on the scene, then initiate transport.

**ADVANCED CARE GUIDELINES**

p) If abdominal distention arises, consider placing a gastric tube to decompress the stomach if available.

q) If the airway cannot be maintained by other means, including attempts at assisted ventilation, or if prolonged assisted ventilation is anticipated.

r) Perform sedatives and paralytic agents, to aid with intubation as permitted by medical direction. Confirm placement of endotracheal tube using clinical assessment and end-tidal CO2 monitoring as per medical direction.

s) Initiate cardiac monitoring and determine rhythm. Consult the appropriate protocol for treatment of specific dysrhythmias. Refer to AHA guidelines.

t) Obtain vascular access. Administer normal saline at a maintenance rate according to weight.

u) If the child’s condition is critical or unstable, initiate transport as quickly as possible. Perform focused history and detailed physical examination en route to the hospital if patient status and management of resources permit.
NEWBORN RESUSCITATION AND CARE

Revised 2017

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Suction the airway using a bulb syringe as soon as the head is delivered and before delivery of the body. Suction the mouth first, then the nose

b) Once the body is fully delivered, dry the baby, replace wet towels with dry ones, and wrap the baby in a thermal blanket or dry towel. Cover the scalp to preserve warmth

c) Open and position the airway. Suction the airway again using a bulb syringe. Suction the mouth first, then the nose

d) Assess breathing and adequacy of ventilation

e) If ventilation is inadequate, stimulate by gently rubbing the back and flicking the soles of the feet

f) If ventilation is still inadequate after brief stimulation, begin assisted ventilation at 40 to 60 breaths per minute using a bag-valve-mask device with room air. If no improvement after 30-60 seconds, apply 100% oxygen

g) If ventilation is adequate and the infant displays central cyanosis, administer oxygen at 5 L via blow-by. Hold the tubing 1/2 to 1 inch from the nose

h) If the heart rate is slower than 60 beats per minute after 30 seconds of assisted ventilation with high-flow, oxygen:

   a) Begin chest compressions at a combined rate of 120/minute (three compressions to each ventilation)
NEWBORN RESUSCITATION AND CARE CONTINUED

ADVANCED CARE GUIDELINES

i) If there is no improvement in heart rate after 30 seconds. Perform endotracheal intubation
j) If there is no improvement in heart rate after intubation and ventilation, administer
   ▪ epinephrine 1:1000 concentration at 0.1 mg/kg (maximum individual dose 10.0 mg)
     via endotracheal tube,
   ▪ or epinephrine 1:10,000 concentration at 0.01 mg/kg (maximum individual dose 1.0 mg) IV/IO
   ▪ Repeat epinephrine at the same dose every 3 to 5 minutes as needed
k) Initiate transport. Reassess heart rate and respirations enroute

If the heart rate is between 60 & 80 beats per minute, initiate the following actions:

a) Continue assisted ventilation with high-flow, 100% concentration oxygen. If there is no improvement in heart rate after 30 seconds, initiate management sequence described in step H above, beginning with chest compressions

b) Initiate transport. Reassess heart rate and respirations enroute

If the heart rate is between 80 & 100 beats per minute, initiate the following actions:

a) Continue assisted ventilation with high-flow, 100% concentration oxygen. Stimulate as previously described

b) Initiate transport. Reassess heart rate after 15 to 30 seconds

If the heart rate is faster than 100 beats per minute, initiate the following actions:

a) Assess skin color. If central cyanosis is still present, continue blow by oxygen. Initiate transport. Reassess heart rate and respirations enroute

If thick meconium is present:

a) Initiate endotracheal intubation before the infant takes a first breath. Suction the airway using an appropriate suction adapter while withdrawing the endotracheal tube. Repeat this procedure until the endotracheal tube is clear of meconium. If the infant’s heart rate slows, discontinue suctioning immediately and provide ventilation until the infant recovers

Note: If the infant is already breathing or crying, this step may be omitted
PEDIATRIC PAIN CONTROL
Reviewed 2011

1. Follow initial patient care protocol

2. First attempt to manage all painful conditions with basic care

BASIC CARE GUIDELINES

a) Splint extremity injuries

b) Place the patient in a position of comfort

ADVANCED CARE GUIDELINES

c) Consider administration of pain medications for patients that have significant pain, do not have a decreased level of consciousness, are hemodynamically stable, and have oxygen saturations above 94% medication

Examples:

- Morphine 0.1 mg/kg (maximum individual dose 10 mg) via intravenous or subcutaneous route
- Fentanyl 1.0 mcg/kg (maximum individual dose 100 mcg) via intravenous route

d) Monitor ECG and O2 saturations

e) The patient must have vital signs taken prior to each dose and be monitored closely. Administration of narcotic medication must stop if at any time there is a

- decreased level of consciousness,
- decrease in oxygen saturation below 92%
- blood pressure drops to 100 mmHg or less

After drug administration, reassess the patient using the appropriate pain scale
PEDIATRIC POISONING
Reviewed 2011

1. Follow initial patient care protocol

2. Identify contaminant and call Poison Control and follow directions given to provide care:
   1-800-222-1222

3. Contact Medical Direction as soon as possible with information given by Poison Control
   and care given

BASIC CARE GUIDELINES

Ingested Poisons

a) Identify and estimate amount of substance ingested

Inhaled Poisons:

a) Remove patient to fresh air

b) Administer high flow oxygen

c) Estimate duration of exposure to inhaled poison

Absorbed Poisons

a) If it will be a hazard to you, use protective clothing and extreme caution

Injected Poisons

a) Be alert for respiratory difficulty. Maintain airway and give high flow oxygen

b) Check patient for marks, rashes, or welts
**PEDIATRIC SEIZURE**

Revised 2017

1. Follow initial patient care protocol

**Active Seizure**

**BASIC CARE GUIDELINES**

a) Protect airway

**ADVANCED CARE GUIDELINES**

b) Administer Benzodiazepine, dosage according to Pediatric Dosing Reference to stop seizure. May repeat dose in 5 minutes if still seizing

c) Check blood glucose level, if available, and treat hypoglycemia if present

**Post Seizure**

**BASIC CARE GUIDELINES**

a) Protect airway
PEDIATRIC SELECTIVE SPINAL IMMOBILIZATION

Revised 2015

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

Patient Presentation:

a) This protocol is intended for patients who present with a traumatic mechanism of injury.

b) Immobilization is contraindicated for patients who have penetrating trauma who do not have a neurological deficit.

Patient Management:

c) Assessment:

a) Assess for mental status, neurological deficits, spinal pain, tenderness, any evidence of intoxication, or other severe injuries.

b) While maintaining spinal alignment, examine the spine for tenderness on palpation or deformities.

c) Treatment and Interventions:

i. Apply cervical restriction if there is any of the following:

- Patient complains of neck pain.
- Any neck tenderness of palpation.
- Any abnormal mental status, including extreme agitation, or neurological deficit.
- Any evidence of alcohol or drug intoxication
- There are other severe or painful injuries present.
- Any communication barrier that prevents accurate assessment.
ii. Immobilize Patient with cervical collar and a long spine board, full body vacuum splint, scoop stretcher, or similar devise if:

- Patient complains of midline back pain

- Any midline back tenderness

Note 1: Distracting injuries or altered mental status does not necessitate long spine board use.

Note 2: Patients should not routinely be transported on long boards, unless the clinical situation warrants long board use. An example of this may be facilitation of multiple extremity injuries or an unstable patient where removal of a board will delay transport and/or other treatment priorities. In these rare situation, long boards should be padded or have a vacuum mattress applied to minimize secondary injury to the patient.
**Pediatric Shock**

Revised 2012

1. Follow initial patient care protocol

**Basic Care Guidelines**

a) Assess airway via Airway Protocol

b) Assess circulation and perfusion

c) Control external bleeding

d) Assess mental status

e) Expose the child only as necessary to perform further assessments. Maintain the child’s body temperature throughout the examination

f) Initiate transport. Perform focused history and detailed physical examination en route to the hospital if patient status and management of resources permit

**Advanced Care Guidelines**

g) Initiate cardiac monitoring

h) Establish IV access using an age-appropriate large-bore catheter with large-caliber tubing. If intravenous access cannot be obtained in a child younger than six years, proceed with intraosseous access. Do not delay transport to obtain vascular access

i) Administer a fluid bolus of normal saline at 20 ml/kg over 10 to 15 minutes. Reassess patient after bolus. If signs of shock persist, bolus may be repeated at the same dose up to two times for a maximum total of 60 ml/kg
SUSPECTED CHILD ABUSE
Reviewed 2011

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

a) Approach child slowly to establish rapport (except in life-threatening situations), then perform exam

b) Treat obvious injuries according to appropriate protocol

c) Genital exam only if indicated in the presence of blood, known or obvious injury and or trauma

d) Interview parents separate from child, if possible

e) Transport if permitted by parents

f) If parents do not allow transport, notify law enforcement for assistance

g) Communicate vital information only – additional info can be given to attending RN and/or Physician on arrival

h) Record observations and factual information on run report

i) Report all suspected abuse to the National hotline at 1-800-362-2178 within 24 hours of your contact of the patient. This will be an oral report only

j) Within 48 hours of oral reporting, you must submit a written report for all suspected abuse to the Department of Human Services
PEDIATRIC TRAUMA
Revised 2016

1. Follow initial patient care protocol

2. Follow the Out-of-Hospital Trauma Triage Destination Decision Protocol for the identification of time critical injuries, method of transport and trauma facility resources necessary for treatment of those injuries

3. The goal should be to minimize scene time with time critical injuries, including establishing IVs en route.

BASIC CARE GUIDELINES

a) Follow Shock Protocol if shock is present

Hemorrhage Control

BASIC CARE GUIDELINES

a) Control bleeding with direct pressure. Large gaping wounds may need application of a bulky sterile gauze dressing and direct pressure by hand

b) If direct pressure/pressure dressing is ineffective or impractical, apply a tourniquet to extremity

c) If bleeding site is not amenable to tourniquet placement (i.e. junctional injury), apply a topical hemostatic agent with direct pressure

ADVANCED CARE GUIDELINES

d) Establish large bore IV

e) Cardiac monitor
Pediatric Trauma Continued

Chest Trauma

BASIC CARE GUIDELINES

a) Seal open chest wounds immediately. Use occlusive dressing taped down. If the breathing becomes worse, loosen one side of the dressing to release pressure and then reseal.

b) Impaled objects must be left in place and should be stabilized by building up around the object with multiple trauma dressings or other cushioning material.

c) Take care that the penetrating object is not allowed to do further damage.

Abdominal Trauma

BASIC CARE GUIDELINES

a) Control external bleeding. Dress open wounds to prevent further contamination.

b) Evisceration should be covered with a sterile saline soaked occlusive dressing.

c) Impaled objects should be stabilized with bulky dressings for transport.

Head, Neck, and Face Trauma

BASIC CARE GUIDELINES

a) Place the head in a neutral in-line position unless the patient complains of pain or the head does not easily move into this position.

b) Closely monitor the airway. Provide suctioning of secretions or vomit as needed. Be prepared to log roll the patient if they vomit. Maintain manual spinal stabilization if patient is log rolled.

c) Reassess vitals, GCS and pupillary response frequently.

d) Consider eye shield for any significant eye trauma. If the globe is avulsed, do not put it back into socket; cover with moist saline dressing and then place cup over it.
Iowa EMS Treatment Appendices

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Appendix A - EMS Out-of-Hospital Do-Not-Resuscitate Protocol

Purpose: This protocol is intended to avoid unwarranted resuscitation by emergency care providers in the out-of-hospital setting for a qualified patient. There must be a valid Out-Of-Hospital Do-Not-Resuscitate (OOH DNR) order signed by the qualified patient’s attending physician or the presence of the OOH DNR identifier indicating the existence of a valid OOH DNR order.

No resuscitation: Means withholding any medical intervention that utilizes mechanical or artificial means to sustain, restore, or supplant a spontaneous vital function, including but not limited to:

1. Chest compressions
2. Defibrillation,
3. Esophageal/tracheal/double-lumen airway; endotracheal intubation, or
4. Emergency drugs to alter cardiac or respiratory function or otherwise sustain life.

Patient criteria: The following patients are recognized as qualified patients to receive no resuscitation:

1. The presence of the uniform OOH DNR order or uniform OOH DNR identifier, or
2. The presence of the attending physician to provide direct verbal orders for care of the patient.

The presence of a signed physician order on a form other than the uniform OOH DNR order form approved by the department may be honored if approved by the service program EMS medical director. However, the immunities provided by law apply only in the presence of the uniform OOH DNR order or uniform OOH DNR identifier. When the uniform OOH DNR order or uniform OOH DNR identifier is not present contact must be made with on-line medical control and on-line medical control must concur that no resuscitation is appropriate.

Revocation: An OOH DNR order is deemed revoked at any time that a patient, or an individual authorized to act on the patient’s behalf as listed on the OOH DNR order, is able to communicate in any manner the intent that the order be revoked. The personal wishes of family members or other individuals who are not authorized in the order to act on the patient’s behalf shall not supersede a valid OOH DNR order.

Comfort Care (♥): When a patient has met the criteria for no resuscitation under the foregoing information, the emergency care provider should continue to provide that care which is intended to make the patient comfortable (a.k.a. ♥ Comfort Care). Whether other types of care are indicated will depend upon individual circumstances for which medical control may be contacted by or through the responding ambulance service personnel.

♥ Comfort Care may include, but is not limited to:

1. Pain medication.
2. Fluid therapy.
3. Respiratory assistance (oxygen and suctioning).

Qualified Patient means an adult patient determined by an attending physician to be in a terminal condition for which the attending physician has issued an Out of Hospital DNR order in accordance with the law. Iowa Administrative Code 641-142.1 (144A) Definitions.
Appendix B: Adult Out-Of-Hospital Trauma Triage Destination Decision Protocol

The following criteria shall be utilized to assist the EMS provider in the identification of time critical injuries, method of transport and trauma care facility resources necessary for treatment of those injuries.

Step 1 - Assess for Time Critical Injuries: Level of Consciousness & Vital Signs
- Glasgow Coma Score ≤13
- Respiratory rate <10 or >29 breaths per minute, or need for ventilatory support.
- Systolic B/P (mmHg) less than <90 mmHg

If ground transport time to a Resource (Level I) or Regional (Level II) Trauma Care Facility is less than 30 minutes, transport to the nearest Resource (Level I) or Regional (Level II) Trauma Care Facility. If greater than 30 minutes, ground transport time to Resource (Level I) or Regional (Level II) Trauma Care Facility, transport to the nearest appropriate Trauma Care Facility. If time can be saved or level of care needs exist, tier with ground or air ALS service program.

If step 1 does not apply, move on to step 2.

Step 2 - Assess for Anatomy of an Injury
- All penetrating injuries to head, neck, torso and extremities proximal to elbow or knee
- Chest wall instability or deformity (e.g., flail chest)
- Suspected two or more proximal long-bone fractures
- Suspected pelvic fractures
- Crushed, degloved, mangled, or pulseless extremity
- Open or depressed skull fracture
- Amputation proximal to wrist or ankle
- Paralysis or Paresthesia
- Partial or full thickness burns > 10% TBSA or involving face/airway

If ground transport time to a Resource (Level I) or Regional (Level II) Trauma Care Facility is less than 30 minutes, transport to the nearest Resource (Level I) or Regional (Level II) Trauma Care Facility. If greater than 30 minutes ground transport time to Resource (Level I) or Regional (Level II) Trauma Care Facility, transport to the nearest appropriate Trauma Care Facility. If time can be saved or level of care needs exist, tier with ground or air ALS service program.

If step 2 does not apply, move on to step 3.

Step 3 - Consider Mechanism of Injury & High Energy Transfer
- Falls
  - Adult: > 20 ft. (one story is equal to 10 feet)
  - High-risk auto crash:
    - Interior compartment intrusion, including roof: >12 inches' occupant site; >18 inches any site
    - Ejection (partial or complete) from automobile
- Ejection (partial or complete) from automobile
- Death in same passenger compartment
- Vehicle telemetry data consistent with high risk of injury
- Auto vs. pedestrian/bicyclist thrown, run over, or with significant (>20 mph) impact
- Motorcycle crash >20 mph

Transport to the nearest appropriate Trauma Care Facility, need not be the highest level trauma care facility.

If step 3 does not apply, move on to step 4.

Step 4 - Consider risk factors:
- Older adults
  - Risk of injury/death increases after age 55 years
  - SBP<110 might represent shock after age 65 years
- EMS provider judgment
- Low impact mechanisms (e.g. ground level falls) might result in severe injury
- ETOH/Drug use
- Pregnancy > 20 weeks
- Anticoagulants and bleeding disorders
- Patients with head injury are at high risk for rapid deterioration

Transport to the nearest appropriate Trauma Care Facility, need not be the highest level trauma care facility.

If none of the criteria in the above 4 steps are met, follow local protocol for patient disposition. When in doubt, transport to nearest trauma care facility for evaluation.

For all Transported Trauma Patients:
1. Patient report to include: MOI, Injuries, Vital Signs & GCS, Treatment, Age, Gender and ETA
2. Obtain further orders from medical control as needed.
Pediatric Out-Of-Hospital Trauma Triage Destination Decision Protocol

The following criteria shall be utilized to assist the EMS provider in the identification of time critical injuries, method of transport and trauma care facility resources necessary for treatment of those injuries

**Step 1 - Assess for Time Critical Injuries: Level of Consciousness & Vital Signs**

- **Abnormal Responsiveness:** abnormal or absent cry or speech. Decreased response to parents or environmental stimuli. Floppy or rigid muscle tone or not moving. Verbal, Pain, or Unresponsive on AVPU scale.

OR

- **Airway/Breathing Compromise:** obstruction to airflow, gurgling, stridor or noisy breathing. Increased/excessive retractions or abdominal muscle use, nasal flaring, stridor, wheezes, grunting, gasping, or gurgling. Decreased/absent respiratory effort or noisy breathing. Respiratory rate outside normal range.

OR

- **Circulatory Compromise:** cyanosis, mottling, paleness/pallor or obvious significant bleeding. Absent or weak peripheral or central pulses; pulse or systolic BP outside normal range. Capillary refill > 2 seconds with other abnormal findings.

- **Glasgow Coma Score ≤13**

If ground transport time to a Resource (Level I) or Regional (Level II) Trauma Care Facility is less than 30 minutes, transport to the nearest Resource (Level I) or Regional (Level II) Trauma Care Facility. If greater than 30 minutes, ground transport time to Resource (Level I) or Regional (Level II) Trauma Care Facility, transport to the nearest appropriate Trauma Care Facility. If time can be saved or level of care needs exist, tier with ground or air ALS service program

*If step 1 does not apply, move on to step 2*

**Step 2 - Assess for Anatomy of an Injury**

- All penetrating injuries to head, neck, torso and extremities proximal to elbow or knee

- Chest wall instability or deformity (e.g., flail chest)

- Suspected two or more proximal long-bone fractures

- Suspected pelvic fractures

- Crushed, degloved, mangled, or pulseless extremity

- Open or depressed skull fracture

- Amputation proximal to wrist or ankle

- Paralysis or Paresthesia

- Partial or full thickness burns > 10% TBSA or involving face/airway

If ground transport time to a Resource (Level I) or Regional (Level II) Trauma Care Facility is less than 30 minutes, transport to the nearest Resource (Level I) or Regional (Level II) Trauma Care Facility. If greater than 30 minutes ground transport time to Resource (Level I) or Regional (Level II) Trauma Care Facility, transport to the nearest appropriate Trauma Care Facility. If time can be saved or level of care needs exist, tier with ground or air ALS service program

*If step 2 does not apply, move on to step 3*

**Step 3 - Consider Mechanism of Injury & High Energy Transfer**

- Falls

- >10 feet or two times the height of the child

- High-risk auto crash:
  - Interior compartment intrusion, including roof: >12 inches occupant site; >18 inches any site
  - Ejection (partial or complete) from automobile

- Auto vs. pedestrian/bicyclist thrown, run over, or with significant (>20 mph) impact

- Motorcycle crash >20 mph

- Death in same passenger compartment

- Vehicle telemetry data consistent with high risk of injury

- EMS provider Judgment

- ETOH/Drug use

Transport to the nearest appropriate Trauma Care Facility, need not be the highest level trauma care facility.

*If step 3 does not apply, move on to step 4*

**Step 4 - Consider risk factors:**

- Pregnancy > 20 weeks

- Anticoagulants and bleeding disorders

- Patients with head injury are at high risk for rapid deterioration

- Patients with head injury are at high risk for rapid deterioration

Transport to the nearest (Any Level) Trauma Care Facility.

*If none of the criteria in the above 4 steps are met, follow local protocol for patient disposition. When in doubt, transport to nearest trauma care facility for evaluation.*

**For all Transported Trauma Patients:**

1. Patient report to include: MOI, Injuries, Vital Signs & GCS, Treatment, Age, Gender and ETA

2. Obtain further orders from medical control as needed
Appendix C: Physician on Scene

Your offer of assistance is appreciated. However, this EMS service, under law and in accordance with nationally recognized standards of care in Emergency Medicine, operates under the direct authority of a Physician Medical Director. Our Medical Director and physician designees have already established a physician-patient relationship with this patient. To ensure the best possible patient care, and to prevent inadvertent patient abandonment or interference with an established physician-patient relationship, please comply with our established protocols.

Please review the following if you wish to assume responsibility for this patient:

1. You must be recognized or identify yourself as a qualified physician.

2. You must be able to provide proof of licensure and identify your specialty.

3. If requested, you must speak directly with the on-line medical control physician to verify transfer of responsibility for the patient from that physician to you.

4. EMS personnel, in accordance with state law, can only follow orders that are consistent with the approved protocols.

5. You must accompany this patient to the hospital, unless the on-line medical control physician agrees to re-assume responsibility for this patient prior to transport.
Appendix D: Air Medical Transport - Utilization Guidelines for Scene Response

These guidelines have been developed to assist with the decision making for use of air medical transport by the emergency medical services community. The goal is to match the patient’s needs to the timely availability of resources in order to improve the care and outcome of the patient from injury or illness.

Clinical indicators:

1. Advanced level of care need (skills or medications) exists that could be made available more promptly with an air medical tier versus tiering with ground ALS service, and further delay would likely jeopardize the outcome of the patient

2. Transport time to definitive care hospital can be significantly reduced for a critically ill or injured patient where saving time is in the best interest of the patient

3. Multiple critically ill or injured patients at the scene where the needs exceed the means available

4. EMS Provider ‘index of suspicion’ based upon mechanism of injury and patient assessment

Difficult access situations:

1. Wilderness or water rescue assistance needed

2. Road conditions impaired due to weather, traffic, or road construction / repair

3. Other locations difficult to access

The local EMS provider must have a good understanding of regional EMS resources and strive to integrate resources to assure that ground and air services cooperate as efficiently and effectively as possible in the best interest of the patient.

Medical directors for ambulance services should assure that EMS providers are aware of their own service’s abilities and limitations given the level of care and geographic response area being served. Audits should be conducted on an ongoing basis to assure that utilization of regional resources (ground and air) is appropriate in order to provide the level of care needed on a timely basis.
Appendix E: Discontinuation of Resuscitation

Indications to consider termination of resuscitation:
1. Patient is in full arrest with no signs of life present.
2. Patient is considered an adult.
3. Full advanced care has been instituted (Paramedic level) to include rhythm analysis and defibrillation if indicated, advanced airway management, and drugs given per protocol.
4. No return of circulation or shockable rhythm exists.
5. Correctable causes or special resuscitation circumstances have been considered and addressed.

Termination of resuscitation:
1. Patient meets all five criteria under ‘indications’ above, or patient is terminally ill/DNR where CPR was started prior to knowledge of resuscitation status.
2. Physician on-line medical direction is contacted (while advanced care continues) to discuss any further appropriate actions.
3. Advanced care may be discontinued if physician on-line medical direction authorizes.

Other considerations:
1. Documentation must reflect that the decision to terminate resuscitation was determined by physician on-line medical direction.
2. An EMS/health care provider must attend the deceased until the appropriate authorities arrive.
3. All IVs, tubes, etc. should be left in place until the medical examiner authorizes removal.
4. Implement survivor support plans related to coroner notification, funeral home transfer, leaving the body at the scene, and death notification/grief counseling for survivors.

Special Considerations
Patients with profound hypothermia or drug or toxin overdose may benefit from continued resuscitation.
Appendix F: Reperfusion Therapy Screening Not Limited to Paramedic Level

This form should be completed for patients suffering from Acute Coronary Syndromes. This tool will be used to triage patients to the appropriate receiving facility, and provide a template for passing information on to the receiving facility. Fibrinolytic screening may be done at the EMT level; however, the decision to bypass a local hospital to transport to a Percutaneous Coronary Intervention (PCI) capable facility is reserved for the PS and Paramedic levels.

1. If available, obtain 12-Lead EKG and transmit to receiving facility

2. EMT level – Transport patient to closest appropriate facility. Contact medical control for decision on completing thrombolytic checklist.

3. PS/Paramedic Level – Evaluate 12-Lead for evidence of STEMI.

If STEMI is present, determine appropriate destination.

- If transport time to a facility capable of providing emergency PCI care is 60 minutes or less, it is recommended that all of these patients be transported directly to the emergency PCI capable facility.
- If transport time to a facility capable of providing emergency PCI care is between 60 - 90 minutes, transport to the PCI capable facility should be considered.
- If transport is initiated to a non-PCI facility:

  Complete fibrinolytic therapy checklist on next page.

  - If a local protocol for fibrinolytic therapy in the field has been established, then proceed with fibrinolytic protocol if:
    - Authorized by voice contact with medical control, and
    - The PS/Paramedic has received training and has the approval of their physician medical director

In all instances those patients requiring immediate hemodynamic or airway stabilization should be transported to the closest appropriate facility.

If STEMI is not present, transport patient to closest appropriate facility.

**Note: See Fibrinolytic Checklist on the following page**

If directed by medical control, complete fibrinolytic checklist below
Fibrinolytic Checklist

Any **YES** findings will be relayed to medical control. **Absolute Contraindications** preclude the use of fibrinolytics. **Relative Contraindications** require consultation with medical control.

<table>
<thead>
<tr>
<th>DATE:</th>
<th>PATIENT AGE:</th>
<th>MALE</th>
<th>FEMALE</th>
<th>INCIDENT/RECORD #:</th>
<th>YES</th>
<th>NO</th>
</tr>
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<tbody>
<tr>
<td><strong>ABSOLUTE CONTRAINDICATIONS</strong></td>
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<tr>
<td>Any known intracranial hemorrhage?</td>
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<td>Known structural cerebral vascular lesion?</td>
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<td>Ischemic stroke within 3 months EXCEPT acute ischemic stroke within 3 hours?</td>
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<td>Suspected aortic dissection?</td>
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<td>Active bleeding or bleeding diathesis (excluding menses)?</td>
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<td>Significant closed head trauma or facial trauma within 3 months?</td>
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<td><strong>RELATIVE CONTRAINDICATIONS</strong></td>
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<td>History of chronic, severe, poorly controlled hypertension?</td>
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<tr>
<td>Severe, uncontrolled hypertension on presentation (S &gt;180mmHg or D&gt;110mmHg)</td>
<td></td>
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<tr>
<td>History of prior ischemic stroke &gt;3 months, dementia, or known intracranial pathology?</td>
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<tr>
<td>Traumatic or prolonged (&gt;10 min) CPR or major surgery (&lt;3 weeks)</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Non-compressible vascular punctures?</td>
<td></td>
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<td></td>
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<tr>
<td>Pregnancy?</td>
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<tr>
<td>Active peptic ulcer?</td>
<td></td>
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<tr>
<td>Current use of anticoagulants?</td>
<td></td>
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</tr>
<tr>
<td><strong>EMS Provider Print Name:</strong></td>
<td><strong>Signature:</strong></td>
<td></td>
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</table>
Appendix G: Strategies for Reperfusion Therapy: Acute Stroke

Revised 2017

Reperfusion Therapy Screening Not Limited to Paramedic Level

This appendix should be used for suspected acute stroke. This tool will be used to triage patients to the appropriate receiving facility, and provide a template for passing information to the receiving facility.

1. Perform a validated stroke assessment such as the MEND exam.

2. If assessment is positive for stroke, and onset of symptoms can be established within the past 4.5 hours, then determine the appropriate destination:
   a. If transport time to a Primary Stroke Center is less than 30 minutes, it is recommended that all of these patients be transported directly to the Primary Stroke Center
   b. If transport time to a Primary Stroke Center is greater than 30 minutes, then transport to the nearest stroke capable hospital.

3. Consider the use of air transport if it will facilitate the arrival of the acute stroke patient for treatment within 4.5 hours to a Primary Stroke Center or stroke capable hospital.

4. If transport to a Primary Stroke Center or stroke capable hospital cannot be achieved to arrive within 4.5 hours, then transport to the closest appropriate facility.

5. In all instances, those patients requiring immediate hemodynamic or airway stabilization should be transported to the closest appropriate facility.

6. Complete the fibrinolytic checklist on next page.

Levels of Stroke Care Capacity:

**Comprehensive Stroke Center:** Hospitals that have been certified by the Joint Commission-accredited acute care hospitals and must meet all the criteria for Primary Stroke Certification

**Primary Stroke Center:** Hospitals that have been certified by the Joint Commission on Hospital Accreditation or an equivalent agency to meet Brain Attack Coalition and American Stroke Association guidelines for stroke care

**Stroke capable hospital:** Hospitals that have the following:

- rt-PA readily available for administration
- Head CT, laboratory and EKG capabilities 24/7
- Process in place for transporting appropriate patients to a Primary Stroke Center
- Stroke protocol in place that follows American Stroke Association guidelines
- Emergency department coverage by physician, or advanced practitioner

The list of Iowa Hospital Triage Designations is available on the Iowa Healthcare Collaborative web site at: https://www.ihconline.org/additional-tools/initiatives/coverdell-stroke-project/
If directed by medical control, complete fibrinolytic checklist below

**Fibrinolytic Checklist**

Any **YES** findings will be relayed to medical control. **Absolute Contraindications** preclude the use of fibrinolitics. **Relative Contraindications** require consultation with medical control.

<table>
<thead>
<tr>
<th>DATE:</th>
<th>PATIENT AGE:</th>
<th>MALE</th>
<th>FEMALE</th>
<th>INCIDENT/RECORD #:</th>
<th>YES</th>
<th>NO</th>
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</thead>
<tbody>
<tr>
<td><strong>ABSOLUTE CONTRAINDICATIONS</strong></td>
<td></td>
<td></td>
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<tr>
<td>Any known intracranial hemorrhage?</td>
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<tr>
<td>Known structural cerebral vascular lesion?</td>
<td></td>
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</tr>
<tr>
<td>Ischemic stroke within 3 months EXCEPT acute ischemic stroke within 3 hours?</td>
<td></td>
<td></td>
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<tr>
<td>Suspected aortic dissection?</td>
<td></td>
<td></td>
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<tr>
<td>Active bleeding or bleeding diathesis (excluding menses)?</td>
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<tr>
<td>Significant closed head trauma or facial trauma within 3 months?</td>
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<td><strong>RELATIVE CONTRAINDICATIONS</strong></td>
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<td>History of chronic, severe, poorly controlled hypertension?</td>
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<tr>
<td>Severe, uncontrolled hypertension on presentation (S &gt;180mmHg or D&gt;110mmHg)</td>
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<tr>
<td>History of prior ischemic stroke &gt;3 months, dementia, or known intracranial pathology?</td>
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<tr>
<td>Non-compressible vascular punctures?</td>
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<tr>
<td>Pregnancy?</td>
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<tr>
<td>Active peptic ulcer?</td>
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<tr>
<td>Current use of anticoagulants?</td>
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</tbody>
</table>

**EMS Provider Print Name:** [Signature]
Appendix H: Simple Triage and Rapid Treatment (START)

START

The following are guidelines for initial tactical triage using the START method. START is most useful in initially clearing the disaster zone where there are numerous casualties. It focuses on respiration rate, perfusion, and mental status and takes under one minute to complete. Once the patient moves toward a higher level of care (evacuation), a more detailed approach to triage may be needed.

<table>
<thead>
<tr>
<th>Respiration</th>
<th>Perfusion</th>
<th>Mental Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Yellow</td>
<td>Red</td>
</tr>
<tr>
<td>Green</td>
<td>Yellow</td>
<td>Black</td>
</tr>
<tr>
<td>Green</td>
<td>Yellow</td>
<td>Black</td>
</tr>
<tr>
<td>Green</td>
<td>Yellow</td>
<td>Black</td>
</tr>
<tr>
<td>Green</td>
<td>Yellow</td>
<td>Black</td>
</tr>
</tbody>
</table>

- **Green** = Minor/Ambulatory
- **Yellow** = Delayed
- **Red** = Immediate
- **Black** = Deceased/Expectant
Simple Triage and Rapid Treatment – Pediatric JumpSTART

- Able to walk? (YES → MINOR → Secondary Triage

- Breathing? (NO → Position upper airway → BREATHING → IMMEDIATE

- Palpable pulse? (NO → DECEASED

- 5 rescue breaths (YES → APNEIC → DECEASED

- Respiratory Rate (<15 OR >45 → IMMEDIATE

- 15-45

- Palpable Pulse? (NO → IMMEDIATE

- AVPU (P inappropriate) → IMMEDIATE

- "A", "V" or "P" (appropriate → DELAYED

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Appendix J: Guidelines for EMS Provider Initiating Organ and Tissue Donation at the Scene of the Deceased

1. All appropriate patient care protocols will be enacted to assure patient care is provided according to prevailing standards.

2. If resuscitation efforts are unsuccessful or if upon arrival the patient is deceased and without indications to initiate resuscitation, then on-line medical direction will be contacted to confirm that no further medical care is to be given.

3. As per Iowa Code 142C.7 a medical examiner or a medical examiner’s designee, peace officer, fire fighter, or emergency medical care provider may release an individual’s information to an organ procurement organization, donor registry, or bank or storage organization to determine if the individual is a donor.

4. As per Iowa Code 142C.7 any information regarding a patient, including the patient’s identity, however, constitutes confidential medical information and under any other circumstances is prohibited from disclosure without the written consent of the patient or the patient’s legal representative.

5. At least one EMS provider should remain at the scene until the appropriate authority (medical examiner, funeral home, public safety, etc.) is present.

6. Contact Iowa Donor Network at 800-831-4131
Appendix K: Guidelines for EMS Providers Responding to a patient with special needs

This protocol is **not** intended for interfacility transfers

These guidelines should be used when an EMS provider, responding to a call, is confronted with a patient using specialized medical equipment that the EMS provider has not been trained to use, and the operation of that equipment is outside of the EMS provider’s scope of practice. The EMS provider may treat and transport the patient, as long as the EMS provider doesn’t monitor or operate the equipment in any way while providing care.

When providing care to patients with special needs, EMS personnel should provide the level of care necessary, within their level of training and certification. When possible, the EMS provider should consider utilizing a family member or caregiver who has been using this equipment to help with monitoring and operating the special medical equipment if necessary during transport.

Some examples of special medical devices:
- PCA (patient controlled analgesic)
- Chest Tube
### Appendix L: EMS Approved Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
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<tbody>
<tr>
<td>ã</td>
<td>before</td>
</tr>
<tr>
<td>ABC</td>
<td>airway, breathing, circulation</td>
</tr>
<tr>
<td>ALS</td>
<td>advanced life support</td>
</tr>
<tr>
<td>AMI</td>
<td>acute myocardial infarction</td>
</tr>
<tr>
<td>amps</td>
<td>ampules</td>
</tr>
<tr>
<td>ASA</td>
<td>aspirin</td>
</tr>
<tr>
<td>AT</td>
<td>atrial tachycardia</td>
</tr>
<tr>
<td>AV</td>
<td>atrioventricular</td>
</tr>
<tr>
<td>bicarb</td>
<td>sodium bicarbonate</td>
</tr>
<tr>
<td>BID</td>
<td>twice a day</td>
</tr>
<tr>
<td>BLS</td>
<td>basic life support</td>
</tr>
<tr>
<td>BP</td>
<td>blood pressure</td>
</tr>
<tr>
<td>BS</td>
<td>blood sugar</td>
</tr>
<tr>
<td>CAD</td>
<td>coronary artery disease</td>
</tr>
<tr>
<td>CC</td>
<td>chief complaint</td>
</tr>
<tr>
<td>cc</td>
<td>cubic centimeter</td>
</tr>
<tr>
<td>CCU</td>
<td>coronary care unit</td>
</tr>
<tr>
<td>CHB</td>
<td>complete heart block</td>
</tr>
<tr>
<td>CHF</td>
<td>congestive heart failure</td>
</tr>
<tr>
<td>cm</td>
<td>centimeter</td>
</tr>
<tr>
<td>CNS</td>
<td>central nervous system</td>
</tr>
<tr>
<td>c/o</td>
<td>complains of</td>
</tr>
<tr>
<td>CO</td>
<td>carbon monoxide</td>
</tr>
<tr>
<td>CO2</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td>COPD</td>
<td>chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>CPR</td>
<td>cardiopulmonary resuscitation</td>
</tr>
<tr>
<td>CSF</td>
<td>cerebral spinal fluid</td>
</tr>
<tr>
<td>CVA</td>
<td>cerebral vascular accident</td>
</tr>
<tr>
<td>D/C</td>
<td>discontinue</td>
</tr>
<tr>
<td>DOA</td>
<td>dead on arrival</td>
</tr>
<tr>
<td>DSW</td>
<td>5% dextrose in water</td>
</tr>
<tr>
<td>Dx</td>
<td>diagnoses</td>
</tr>
<tr>
<td>ED</td>
<td>emergency department</td>
</tr>
<tr>
<td>EKG/ECG</td>
<td>electrocardiogram</td>
</tr>
<tr>
<td>Epi</td>
<td>epinephrine</td>
</tr>
<tr>
<td>ER</td>
<td>emergency room</td>
</tr>
<tr>
<td>ET</td>
<td>endotracheal</td>
</tr>
<tr>
<td>ETOH</td>
<td>alcohol</td>
</tr>
<tr>
<td>fib</td>
<td>fibrillation</td>
</tr>
<tr>
<td>fl</td>
<td>fluid</td>
</tr>
<tr>
<td>fx</td>
<td>fracture</td>
</tr>
<tr>
<td>GI</td>
<td>gastrointestinal</td>
</tr>
<tr>
<td>gr</td>
<td>grain</td>
</tr>
<tr>
<td>gt(t)</td>
<td>drop(s)</td>
</tr>
<tr>
<td>h, hr</td>
<td>hour</td>
</tr>
<tr>
<td>hx</td>
<td>history</td>
</tr>
<tr>
<td>ICU</td>
<td>intensive care unit</td>
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<tr>
<td>IM</td>
<td>intramuscular</td>
</tr>
<tr>
<td>IV</td>
<td>intravenous</td>
</tr>
<tr>
<td>Kg</td>
<td>kilogram</td>
</tr>
<tr>
<td>KVO</td>
<td>keep vein open</td>
</tr>
<tr>
<td>L</td>
<td>liter</td>
</tr>
<tr>
<td>LOC</td>
<td>level of consciousness</td>
</tr>
<tr>
<td>LR</td>
<td>lactated ringers</td>
</tr>
<tr>
<td>M</td>
<td>microdrip</td>
</tr>
<tr>
<td>MD</td>
<td>medical doctor</td>
</tr>
<tr>
<td>mEq</td>
<td>milliequivalents</td>
</tr>
<tr>
<td>mg</td>
<td>milligram</td>
</tr>
<tr>
<td>MI</td>
<td>myocardial infarction</td>
</tr>
<tr>
<td>min</td>
<td>minute</td>
</tr>
<tr>
<td>ml</td>
<td>milliliter</td>
</tr>
<tr>
<td>mm</td>
<td>millimeter</td>
</tr>
<tr>
<td>MS</td>
<td>morphine sulfate</td>
</tr>
<tr>
<td>NaCl</td>
<td>sodium chloride</td>
</tr>
<tr>
<td>NaHCO₃</td>
<td>sodium bicarbonate</td>
</tr>
<tr>
<td>NG/N/G</td>
<td>nasogastric</td>
</tr>
<tr>
<td>nitro</td>
<td>nitroglycerine</td>
</tr>
<tr>
<td>NPO</td>
<td>nothing by mouth</td>
</tr>
<tr>
<td>NS</td>
<td>normal saline</td>
</tr>
<tr>
<td>NSR</td>
<td>normal sinus rhythm</td>
</tr>
<tr>
<td>NTG</td>
<td>nitroglycerine</td>
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<tr>
<td>O₂</td>
<td>oxygen</td>
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<td>OB</td>
<td>obstetrics</td>
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<tr>
<td>OD</td>
<td>overdose</td>
</tr>
<tr>
<td>OR</td>
<td>operating room</td>
</tr>
<tr>
<td>P</td>
<td>pulse</td>
</tr>
<tr>
<td>PAC</td>
<td>premature atrial contraction</td>
</tr>
<tr>
<td>PAT</td>
<td>paroxysmal atrial tachycardia</td>
</tr>
<tr>
<td>PCR</td>
<td>patient care record</td>
</tr>
<tr>
<td>PE</td>
<td>physical exam, pulmonary edema</td>
</tr>
<tr>
<td>pedi</td>
<td>pediatric</td>
</tr>
<tr>
<td>PERL</td>
<td>pupils equal, reactive to light</td>
</tr>
<tr>
<td>po</td>
<td>by mouth</td>
</tr>
<tr>
<td>pr</td>
<td>per rectum</td>
</tr>
<tr>
<td>prn</td>
<td>whenever necessary, as needed</td>
</tr>
<tr>
<td>PVC</td>
<td>premature ventricular contraction</td>
</tr>
<tr>
<td>q</td>
<td>every</td>
</tr>
<tr>
<td>QID</td>
<td>four times a day</td>
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<tr>
<td>R</td>
<td>respirations</td>
</tr>
<tr>
<td>R/O</td>
<td>rule out</td>
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<tr>
<td>RN</td>
<td>registered nurse</td>
</tr>
<tr>
<td>Rx</td>
<td>treatment</td>
</tr>
<tr>
<td>S</td>
<td>without</td>
</tr>
<tr>
<td>SC</td>
<td>subcutaneous</td>
</tr>
<tr>
<td>Sec</td>
<td>second</td>
</tr>
<tr>
<td>SL</td>
<td>sublingual</td>
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<tr>
<td>SOB</td>
<td>shortness of breath</td>
</tr>
<tr>
<td>SQ</td>
<td>subcutaneous</td>
</tr>
<tr>
<td>STAT</td>
<td>immediately</td>
</tr>
<tr>
<td>s/s</td>
<td>sign, symptoms</td>
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<tr>
<td>SVT</td>
<td>supraventricular tachycardia</td>
</tr>
<tr>
<td>Sx</td>
<td>symptoms</td>
</tr>
<tr>
<td>TIA</td>
<td>transient ischemic attack</td>
</tr>
<tr>
<td>TID</td>
<td>three times a day</td>
</tr>
<tr>
<td>TKO</td>
<td>to keep open</td>
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<tr>
<td>VF</td>
<td>ventricular fibrillation</td>
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<tr>
<td>w/s</td>
<td>watt second setting</td>
</tr>
<tr>
<td>x</td>
<td>times</td>
</tr>
<tr>
<td>y/o</td>
<td>years old</td>
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Appendix M: Guidelines for New Protocol Development

Making a decision to develop a new protocol or evaluate an existing one should be based on a rational process. Questions that should be asked and answered when considering a new drug therapy or procedure are as follows:

**Key Questions for any New Protocol**

1. Is the drug therapy or procedure medically indicated and safe?
2. Is it within the scope of practice for the provider?
3. How specifically will this protocol benefit patient care?
4. What specifically is needed to implement this protocol (education/training, medical director protocol development/authorization, equipment needs, etc.)?
5. How will this protocol impact operation?
6. What is the opinion of providers concerning this protocol?
7. Does the medical community support this protocol change?
8. What are all the costs versus benefits associated with implementation and maintenance?
9. What are the medical-legal implications?
10. What ongoing provider involvement such as skills maintenance and continuous quality improvement is necessary?
11. How will success be measured?

**Rational Protocol Development Process to Make the Right Protocol Decision**

1. Study the issue thoroughly
2. Identify key questions
3. Compare with goals
4. Assess fit with system
5. Cost benefit analysis
6. Identify measuring tools

**Stakeholders in this process are recognized to include, but not be limited to:**

1. Medical direction (on-line and off-line)
2. Educators/training programs
3. Regulators of policy and rules
4. Service directors
5. Service providers
6. Consumers
7. Third party payers