



**GRINNELL PUBLIC SAFETY COMMITTEE MEETING
MONDAY, APRIL 20, 2020 AT 5:30 P.M.
VIA ZOOM**

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TENTATIVE AGENDA

ROLL CALL: White (Chair), Hueftle-Worley, Davis

PERFECTING AND APPROVAL OF AGENDA:

COMMITTEE BUSINESS:

1. Consider approval upgrading Grinnell Fire Department to EMT-B level ambulance with transport.
2. Review amended Emergency Medical Services agreement with Midwest Ambulance to provide for second out ambulance.

INQUIRIES:

ADJOURNMENT

Iowa Department of Public Health
BUREAU OF EMERGENCY AND TRAUMA SERVICES

www.idph.iowa.gov/bets/ems

**EMS SERVICE CHANGE OF STATUS APPLICATION OR
APPLICATION TO SATELLITE SERVICES**

Before completing this application, read Iowa Code 641--147A and Iowa Administrative Code 641--132(147A) EMS Service Program Authorization. Visit www.idph.state.ia.us/ems for the Iowa EMS laws and rules, protocols, scope of practice and sample policies, procedures and agreements.

INSTRUCTIONS

This is the Change of Status Application for EMS agencies that are seeking to change level or type of EMS service or to submit an affiliation agreement to satellite services on one roster. This application shall be submitted to the EMS Regional Coordinator assigned to the intended primary service area at least 30-days prior to the anticipated authorization date. Once this completed application and all required documentation is received, the EMS Regional Coordinator will contact you to schedule the onsite inspection. Login to the EMS System Registry and submit the Change of Status application and ensure all Service Details and the roster are current and accurate.

The application will be approved when the Iowa Department of Public Health is satisfied that the program proposed by the application will be operated in compliance with Iowa Code 641--147A and the enabling administrative rules

Please Mail the Completed Change of Status Application to:

Merrill Meese

EMS Field Coordinator

Iowa Department of Public Health, Bureau of Emergency and Trauma Services

Lucas State Office Building, 321 E 12th

Des Moines, Iowa 50319-0075

Or scan a copy and e-mail it to me at:

Merrill.meese@idph.iowa.gov

Iowa Department of Public Health
BUREAU OF EMERGENCY AND TRAUMA SERVICES
www.idph.iowa.gov/bets/ems

CHANGE OF STATUS APPLICATION OR APPLICATION TO SATELLITE SERVICES

| | |
|-------------------------------------------------------------------------------------|----------------------------------|
| SERVICE PROGRAM NAME | |
| Grinnell Fire Department | |
| Choose the item from the dropdown menu that describes the changes you want to make. | |
| SERVICE TYPE: Ambulance with Transport Agreement | |
| LEVEL: EMT-B | STAFFING TYPE: Minimum |
| BASE OF OPERATION: Fire | PERSONNEL TYPE: Paid & Volunteer |
| RESPONSE TYPE: Emergency Only | PHARMACY TYPE: N/A |

ELECTRONIC FILES (PREFERRED) OF THE FOLLOWING ITEMS MUST BE SUBMITTED WITH THIS APPLICATION IF THEY APPLY TO THE ANTICIPATED LEVEL OF AUTHORIZATION:

1. Affiliation agreement to satellite services Physician approved protocol authorization and changes page and drug list.
(Do not send the entire set of protocols)
2. Critical Care Transport protocols
3. Map of the geographic service area
4. Continuous Quality Improvement Policy that includes changes to skill competencies, CEH and procedures for written PCR audits or measurable outcomes that have been amended to include the new type or level.
5. Equipment and supply checklists that have been modified to list added supplies or equipment.
6. Pharmacy agreement and policies and procedures
7. Transportation agreement
8. Contingency plans

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| | | |
|------------------------------------|---------------------------------|------|
| SATELLITE NAME: | | |
| SERVICE TYPE: Choose an item. | | |
| LEVEL: Choose an item. | STAFFING TYPE: Choose an item. | |
| BASE OF OPERATION: Choose an item. | PERSONNEL TYPE: Choose an item. | |
| RESPONSE TYPE: Choose an item. | PHARMACY TYPE: Choose an item. | |
| PHYSICAL ADDRESS: | | |
| CITY: | STATE: | ZIP: |
| MAILING ADDRESS: | | |
| CITY: | STATE: | ZIP: |
| CONTACT NAME: | | |
| PHONE: | FAX: | |
| EMAIL: | | |

| | | |
|------------------------------------|---------------------------------|------|
| SATELLITE NAME: | | |
| SERVICE TYPE: Choose an item. | | |
| LEVEL: Choose an item. | STAFFING TYPE: Choose an item. | |
| BASE OF OPERATION: Choose an item. | PERSONNEL TYPE: Choose an item. | |
| RESPONSE TYPE: Choose an item. | PHARMACY TYPE: Choose an item. | |
| PHYSICAL ADDRESS: | | |
| CITY: | STATE: | ZIP: |
| MAILING ADDRESS: | | |
| CITY: | STATE: | ZIP: |
| CONTACT NAME: | | |
| PHONE: | FAX: | |

Iowa Department of Public Health
BUREAU OF EMERGENCY AND TRAUMA SERVICES
www.idph.iowa.gov/bets/ems

EMAIL: djsicard@grinnellpd.com

STATEMENT OF AFFIRMATION:

I hereby affirm and declare that I have read 641—132 (147A) and that the service program named in this application will comply with all applicable requirements set forth. I further affirm and declare that the answers and statements in this application are true and correct. I understand that any falsification of this information may result in denial, citation and warning, suspension, revocation or probation of the service program's authorization. I understand that service programs may advertise or otherwise hold itself out to the public as an authorized service program to the level of care maintained 24/7.

| | TYPE OR PRINT NAME | SIGNATURE | DATE |
|--------------------------------------------|---------------------------|------------------|-------------|
| Service Owner or Authorized Representative | Mayor Dan Agnew | | |
| Medical Director | Dr Ronald Collins | | |
| Service Director | Chief Daniel Sicard | | |

GRINNELL FIRE DEPARTMENT

EMS SERVICE

CONTINUOUS QUALITY IMPROVEMENT (CQI) POLICY MANUAL & DESIGNEE APPOINTMENTS

General Purpose: This CQI Policy establishes guidelines for the implementation of a program to support EMS providers as they strive to provide excellent patient care. These policies intend to provide direction to set measurable goals and define minimum performance standards for the individuals and service. This consistent, fair evaluation practice will provide the routine feedback every provider deserves. This policy meets or exceeds the requirements of Iowa Code Chapter 147A: Emergency Medical Care– Trauma Care and the Iowa Administrative Code (IAC): 641—132.8(147A) Service program levels of care and staffing standards and 641—132.9(147A) Service program—off-line medical direction.

General Procedure: The interaction of the physician, service leadership and providers is critical for the success of this CQI program. All staff must understand their role, responsibilities and duties as part of the CQI team. Every team member shall receive an initial orientation to this policy and be provided with an opportunity for input and updates when amended.

Email an electronic copy or mail this signed policy to your Regional EMS Coordinator.

Approval & Affirmation: The signatures within this document indicate approval of the policy and agreement to perform the duties as an official designee of the physician medical director.

SERVICE NAME: GRINNELL FIRE DEPARTMENT

SERVICE LOCATION: 1020 SPRING STREET GRINNELL, IA 50112

| Policy Approval | Print Name | Signature | Date |
|----------------------------|---------------------|-----------|------|
| Medical Director | Dr Ronald Collins | | |
| Service or System Director | Chief Daniel Sicard | | |

Designee Appointment: The medical director shall conduct CQI activities or appoint individual(s) to ensure written audits of the patient care reports are completed; staff orientation, CEH and skill competencies are conducted and documented; and actions plan, follow-up and resolution are done as defined within this policy.

I acknowledge that I am appointed, by the medical director, as an official CQI designee. I understand my duties and will implement and maintain this CQI program as directed.

| Print Name | Signature | Date |
|--------------------|-----------|------|
| Christian Williams | | |
| Todd Zell | | |

SECTION A: SCOPE OF PRACTICE

Policy: EMS providers shall provide care within the current Iowa Scope of Practice and as authorized, in writing, by the medical director.

Procedure:

1. EMS providers shall review the Scope of Practice for EMS Providers during initial orientation to the service and whenever the scope is officially amended.
2. The service shall maintain documentation of initial and periodic staff reviews of the Scope of Practice.
3. EMS providers shall provide care within the Scope of Practice for their certification level limited by the service program level of authorization.

SECTION B: PROTOCOLS

Policy: EMS providers shall deliver care as directed in the medical director authorized protocols.

Procedure:

1. The medical director shall review and authorize all protocol modifications including any state and/or local protocol changes.
2. The service shall ensure the Regional EMS Coordinator promptly receives the medical director signed protocol authorization, change pages and medication list each time the protocols are amended.
3. The EMS service will maintain documentation of protocol education for EMS providers.
4. The EMS service will provide and document training after the medical director has authorized any state or local changes to the protocols.
5. EMS providers shall deliver care as directed within the approved patient care protocols.
6. Treatment rendered that deviates from the approved protocols must be documented on the patient care report (PCR) and reported to the service director and to the attention of the medical director.

SECTION C: INITIAL ORIENTATION PROCESS

Policy: New staff shall complete a standard credentialing orientation process that includes baseline medical competencies.

Procedure:

1. The service shall maintain documentation of new staff orientation under the direction of an assigned preceptor using the service Orientation Form.
2. As a minimum, the orientation will include training on all service agreements, policies, procedures and protocols. (e.g., current Protocols, CQI Policy, Emergency Driving & Communication Policy, Pharmacy Agreement and Policies & Procedures, etc.)
3. The service shall maintain documentation of RN or PA equivalency training and forms as required by the Bureau of EMS.
4. The completed Orientation Form shall be kept on file.

SECTION D: SKILL MAINTENANCE

Policy: All staff shall maintain skill competency for all procedures & equipment as allowed by the medical director.

Procedure:

1. All staff will promptly complete assigned ongoing skill competencies, within their Scope of Practice, as defined by the medical director.
2. The service will maintain documentation of completion of the skill competencies as designated by the medical director within the established timeframes.

The medical director may add or delete criteria to meet the unique needs of the service.

| BASIC SKILLS | FREQUENCY OF PRACTICE Q = quarterly, B = biannually, A = annually, NA = not applicable | | | |
|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---|---|----|
| | Q | B | A | NA |
| ASSESSMENT: vital signs for all ages | | | X | |
| ADULT & PEDIATRIC AIRWAY: BVM, suctioning, oral & nasal, and/or per protocol | X | | | |
| CARDIAC ARREST MANAGEMENT: CPR, AED for all age groups | | | X | |
| MEDICATION ADMINISTRATION: over-the-counter, patient assisted, and/or per protocol | X | | | |
| IMMOBILIZATION DEVICES: cervical collars, long and short boards, extremity splints including traction | | | X | |
| | | | | |
| | | | | |
| | | | | |
| ADVANCED SKILLS | Q | B | A | NA |
| ADULT & PEDIATRIC AIRWAY: bridge, double-lumen, endotracheal | | | | X |
| ADULT & PEDIATRIC IV/IO ACCESS | | | | X |
| NEEDLE CRICOTHYROTOMY | | | | X |
| NEEDLE THORACOSTOMY | | | | X |
| | | | | |

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SECTION E: CONTINUING EDUCATION

Policy: All staff will maintain the appropriate EMS education to be prepared to provide comprehensive, competent, quality care to all patients.

Procedure:

1. EMS staff will maintain current Iowa EMS certification, Healthcare Provider CPR and emergency driving and communications training.
2. Drivers on the roster will maintain Healthcare Provider CPR and emergency driving and communications training.
3. All staff listed on the roster shall promptly provide the service director with the documentation required to maintain current personnel and/or training files (e.g.; CPR card, driver's license, etc.)
4. All staff will document course completion in any or all of the following courses, within their scope of practice, as assigned by the medical director.

The medical director may add or delete criteria to meet the unique needs of the service.

| COURSE DESCRIPTION | YES | NO |
|----------------------------------------|-----|----|
| Advanced Cardiac Life Support (ACLS) | | X |
| Pediatric Advanced Life Support (PALS) | | X |
| | | |

SECTION F: WRITTEN MEDICAL AUDITS

Policy: The EMS service shall ensure that written medical audits review patient care & protocol compliance, response time & time spent at the scene, system response, and completeness of documentation. Providers shall receive timely feedback on audited PCR's.

Procedure:

1. Within 24 hours, the responding staff shall complete and file a written patient care report and ensure that the receiving facility has a copy of the completed PCR.
2. Any significant deviation from the approved protocols or standard of care will be brought to the attention of the CQI appointee.
3. Any discussion of EMS responses shall be confidential and limited to current staff.
4. Assigned CQI auditors shall perform written audits quarterly.
5. An audit shall be complete when it is signed by the PCR author, reviewed by responding staff and the auditor is satisfied with the loop closure.

6. The completed written audit shall be kept on file or recorded into a written audit activity log.
7. If there are no patient encounters that meet the assigned criteria during the quarter, the CQI appointee will select a percent of calls to audit or a number of calls per provider or any method that ensures that providers receive written feedback on their documentation and performance.

The medical director may add or delete criteria to meet the unique needs of the service.

The medical director shall review written audits quarterly or sooner at the discretion of the CQI appointee.

| Type of Response | Yes | No |
|-------------------------------------------|-----|----|
| All Responses | | X |
| Cardiac Arrest | X | |
| Trauma Patients with Time-Critical Injury | X | |
| Unconsciousness | X | |
| Pediatric Respiratory Difficulty | | X |
| Stroke Symptoms | | X |
| Death at Scene | X | |
| Refusal of Transport | | X |
| Deviation from Approved Protocol | X | |
| Medications Given | X | |
| Chest Pain | X | |
| | | |

SECTION G: FOLLOW-UP & LOOP CLOSURE

Policy: The medical director and the service director shall utilize a written action plan, as needed, to address personnel, vehicle, equipment and system challenges.

Procedure:

1. The action plan shall be implemented when any of the following occur: significant deviation from written protocol or standard of care, delay of response or treatment, vehicle or equipment failure and/or system difficulty.
2. The medical director and service director shall develop and implement a written action plan and monitor the situation until the desired improvement is achieved.

SECTION H: MEASURABLE OUTCOMES

Policy: The medical director, in consultation with the staff, shall establish measurable outcomes consistent with strategic planning goals and unique needs of the local EMS system to appraise the overall effectiveness and efficiency of the EMS system.

Procedure:

1. The service director or CQI designee shall compile an Annual Report for the service owner, staff and medical director. As a minimum, the Annual Report shall include:
 - a) Total number of responses
 - b) Average time from first page to en route
 - c) Average time from first page to arrival at the scene

- d) For ambulance services: average scene times for medical and trauma.
- 2) In addition to response and scene times, the staff and medical director shall select at least one additional indicator to measure and include in the Annual Report.

The medical director may add or delete criteria to meet the unique needs of the service.

| Indicator | Yes | No |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| One full set of vital signs and the GCS will be completed 95% of adult and pediatric patients. | | X |
| Multiple, complete sets of vital signs and the GCS will be documented on 75% of the patients with transportation times greater than 15 minutes. | | X |
| When transporting and when FR and able to complete BLS assessment, all eligible chest pain patients will receive aspirin (ASA) per protocol before transport 90% of the time. | X | |
| 90% of suspected stroke patients will receive a neurological examination per protocol. | | X |
| Scene time for trauma patients with time critical injuries shall be 10 minutes or less 90% of the time. | | X |
| Reason for use of lights & sirens to the scene and to the destination will be documented on 75% of responses. | | X |
| | | |
| | | |

SECTION I: SUPPLIES & EQUIPMENT MAINTENANCE

Policy: The service will maintain equipment in a manner that ensures equipment is clean and functions well. Equipment maintenance shall, at a minimum, follow the manufacturer's recommendations. Supplies shall be routinely inventoried to ensure appropriate quantities are available and not outdated.

Procedure:

1. Any equipment used shall be cleaned and supplies replaced following each response.
2. Assigned staff shall complete a detailed equipment checklist (including quantities and outdates) monthly, as a minimum.
3. Any deficiencies shall be documented on the checklist and brought to the attention of the service director for corrective action(s) and the resolution shall be documented.
4. Documentation of equipment checks and maintenance shall be kept on file.

SECTION J: VEHICLE MAINTENANCE

Policy: Preventive maintenance shall be routinely conducted on all vehicles to limit downtime, minimize inadvertent failures and reduce maintenance costs.

Procedure:

1. Vehicles shall be maintained according to manufacturer's recommendations.
2. Assigned staff shall complete and document a detailed vehicle checklist as a minimum, monthly.

3. Any deficiencies shall be documented on the checklist and brought to the attention of the service director for corrective action(s) and the resolution shall be documented.
4. Documentation of vehicle checks and maintenance shall be kept on file.

SECTION K: PHARMACY POLICIES & PROCEDURES

Policy: Certified EMS providers shall read and provide care within the service program's pharmacy agreement, policies & procedures, as authorized in writing.

Procedure:

1. The service director and the medical director and/or pharmacist-in-charge of the base pharmacy shall maintain agreements and policies & procedures that comply with Pharmacy Administrative Code Chapter 11[657] – Drugs in Emergency Medical Service Programs.
2. The service will maintain documentation of staff training of the pharmacy policies & procedures.
3. The service will maintain documentation of staff training of all over-the-counter and other medications authorized within the protocols.
4. The service will provide and document training each time the pharmacy policies & procedures or authorized drugs are modified.
5. All EMS providers must follow the approved pharmacy policies & procedures.
6. Any deviations from the service program pharmacy policies and procedures shall be brought to the attention of the service program director.

TRANSPORTATION AGREEMENT & CONTINGENCY PLAN

SECTION 1: PARTIES TO THIS AGREEMENT

The following agencies enter this agreement to ensure all components of the EMS system are efficiently and effectively utilized to ensure appropriate transportation of patients in the given system area.

| AMBULANCE SERVICES | | | | |
|---------------------------------------------|-----------|---------------------|-----------|------|
| Service Name | City | Representative Name | Signature | Date |
| Midwest | Grinnell | Jacob Chapman | | |
| | | | | |
| | | | | |
| AMBULANCE SERVICES WITH TRANSPORT AGREEMENT | | | | |
| Service Name | City | Representative Name | Signature | Date |
| Grinnell Fire Department | Grinnell | Daniel Sicard | | |
| COMMUNICATION CENTER | | | | |
| Name | City | Representative Name | Signature | Date |
| Poweshiek County Sheriff Office | Montezuma | Ben Anderson | | |

SECTION 2: PURPOSE OF AGREEMENT

The parties have entered into this agreement to effectuate these requirements.

Iowa EMS Service Requirements:

A. 24/7 Ambulance Service. Iowa law requires an ambulance service to provide coverage with minimum staffing 24/7. Additionally, ambulance services must maintain an EMS contingency plan that will be put into operation when coverage pursuant to the 24/7 rule is not possible due to unforeseen circumstances.

B. Ambulance Service with Transport Agreement (AMB/TA). Iowa law allows an ambulance service that is unable to fulfill the 24/7 staffing requirement to request approval to provide “*nontransport coverage in addition to or in lieu of ambulance authorization*”. Programs seeking such approval must maintain a written transport agreement which specifies how and when patients will be transported.

SECTION 3: DISPATCH POLICY FOR THE TRANSPORTATION AGREEMENT

B: Authorization Level: Ambulance/TA. The following ambulance service agrees to provide transportation and the communications center will dispatch as described below.

Midwest Ambulance is the primary ambulance to be dispatched in the Grinnell Ambulance District. If Midwest is unavailable the Grinnell Fire Department Ambulance will be paged. If the Grinnell Fire Department Ambulance is unavailable the on duty firefighter will notify the dispatch center to page the closest mutual aid ambulance.

| Ambulance/TA Name | Ambulance Service Name | Describe the Dispatch Policy |
|-----------------------|------------------------|------------------------------|
| Grinnell Fire Depart. | Midwest | See Above |

SECTION 4: CONTINGENCY PLANS FOR THE AMBULANCE SERVICES

For purposes of this agreement, the “requesting service program” is the ambulance service program which requests assistance pursuant to this agreement and the “responding service program” is the ambulance service program which is requested to respond pursuant to this agreement. Parties to the agreement may function as either requesting service programs or responding service programs depending on the circumstances of the response.

- A. Authority to Request and Provide Assistance.** The senior EMT of a service program or his or her designee shall have the authority to make a request for assistance or to provide assistance under this agreement. All requests for assistance shall be placed through the local communications center.
- B. When Assistance May Be Requested.** Assistance pursuant to this agreement may be requested when an unforeseen incident or event occurs, including but not limited to equipment or vehicle malfunction, failure, or unavailability or staff illness or injury.
- C. Response to Request.** The responding service program shall determine the availability of staff and vehicles and either respond or notify the communications center to dispatch another program.
- D. Personnel, Vehicles, and Equipment.** The requesting service program shall include in the request for assistance the specific personnel, vehicle, and equipment needs and the location of need. The final decision on the number and nature of personnel, equipment and vehicles to be sent shall be solely that of the responding service program.
- E. Authority at the Scene.** The responding service program shall report to the senior EMT of the requesting service program. The senior EMT of the requesting service program shall have the authority to issue reasonable orders and directives unless he or she relinquishes this authority to another EMS provider of equal or higher certification

on either service program. The purpose of this section is to maintain order at the scene and shall not be construed to establish an employee/employer relationship.

- F. Reporting and Recordkeeping.** The requesting service program shall maintain records regarding the frequency of the use of this agreement and provide them to the Bureau of Emergency and Trauma Services upon request. Each service program shall maintain individual patient care reports.
- G. Personnel Credentialing.** Each of the parties shall be responsible for ensuring that all persons acting on behalf of the party are properly licensed, certified, or accredited as required by applicable federal and state law.
- H. Tax Liability:** Each of the parties to the agreement shall be responsible for withholding taxes, social security, unemployment, worker's compensation, and other taxes for its employees and shall hold all other parties harmless for the same.
- I. Compensation/Reimbursement.** As set out in the separate contract between the City of Grinnell and Midwest Ambulance Service.
- J. Insurance.** Each party to the agreement shall procure and maintain such insurance as is required by applicable federal and state law and as may be appropriate and reasonable to cover its staff, equipment, vehicles and property, including but not limited to liability insurance, workers compensation, unemployment insurance, automobile liability and property damage.
- K. Liability.** Each party to the agreement shall bear the liability and cost of damage to its personnel, vehicles, and equipment. Each party to the agreement shall be responsible for defending claims made against it or its staff arising from participation in this agreement.
- L. Status and Responsibilities of Parties.** Nothing in this agreement shall be construed as creating or constituting the relationship of partnership or joint venture between the parties hereto. Each party shall be deemed to be an independent contractor. No party, unless otherwise specifically provided for herein, has the authority to enter into any contract or create an obligation or liability on behalf of, in the name of, or bidding upon another to this agreement.
- M. Termination.** Any party to this agreement may terminate the agreement by providing thirty days written notice by certified mail to the other parties and to their Bureau of Emergency and Trauma Services Regional Coordinator. Staff contact information is available at www.idph.state.ia.us/ems >> Bureau >> Bureau Staff. If a party withdraws from the agreement, the agreement shall remain in effect as to all remaining parties so long as two or more service programs are parties to the agreement
- N. Duration of Agreement.** The agreement shall be in effect upon signature of the service program participants. The agreement shall be in effect for three years from the date of execution unless terminated earlier in accordance with the termination section of this agreement. The agreement may be extended for an additional three year term upon mutual agreement of all parties in writing at least thirty days before the termination date.



2018

2018 Adult and Pediatric Grinnell EMS Treatment Protocols

IOWA DEPARTMENT OF PUBLIC HEALTH
BUREAU OF EMERGENCY AND TRAUMA SERVICES
AS ADOPTED BY GRINNELL FIRE DEPARTMENT APRIL 2020

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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 *2018 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 2018 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 2018 protocols. If no changes are made to the 2018 protocols check the box for no changes. The service program will post the completed protocol approval document in the AMANDA folder.

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.

2018 Protocol Approval

| | | | | | | |
|----------------------------------|---------------|--------------------------|--------------|--------------|--------------|--------------|
| Service(s) Name | | Grinnell Fire Department | Service Name | Service Name | Service Name | Service Name |
| Service Type | Ambulance | X | | | | |
| | Non transport | | | | | |
| Service's Level of Authorization | EMR | | | | | |
| | EMT | X | | | | |
| | AEMT | | | | | |
| | Paramedic | | | | | |

Pharmaceuticals

| Check All Medications Carried by the Service | | |
|---------------------------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------------|
| <i>Medication kit should contain <u>only</u> medications approved by the service's Medical Director</i> | | |
| OTC Medications | Medications | |
| X Aspirin | <input type="checkbox"/> Adenosine | <input type="checkbox"/> Lorazepam |
| <input type="checkbox"/> Activated Charcoal | <input type="checkbox"/> Albuterol | <input type="checkbox"/> Magnesium Sulfate |
| X Glucose Paste | <input type="checkbox"/> Amiodarone | <input type="checkbox"/> Midazolam |
| Patient Assisted Medications | <input type="checkbox"/> Atropine | <input type="checkbox"/> Morphine Sulfate |
| X Auto-injector Epinephrine | <input type="checkbox"/> Dextrose | <input type="checkbox"/> Naloxone |
| X Nitroglycerin | <input type="checkbox"/> Diazepam | <input type="checkbox"/> Nitroglycerin |
| X Inhaler | <input type="checkbox"/> Diphenhydramine | <input type="checkbox"/> Ondansetron |
| IV Fluids | <input type="checkbox"/> Dopamine | X Oxygen |
| <input type="checkbox"/> Normal Saline | <input type="checkbox"/> Epinephrine | <input type="checkbox"/> Procainamide |
| <input type="checkbox"/> Ringer's Lactate | <input type="checkbox"/> Fentanyl | <input type="checkbox"/> Sodium Bicarbonate |
| <input type="checkbox"/> 5% Dextrose | <input type="checkbox"/> Glucagon | <input type="checkbox"/> Thiamin |
| | <input type="checkbox"/> Lidocaine | <input type="checkbox"/> Vasopressin |
| Medications Added by Service's Medical Director | | |
| | | |
| | | |
| | | |
| | | |

2018 Protocol Approval

X No changes were made to the *2018 Iowa Statewide EMS Treatment Protocols*

OR

List below or attach copies of all changes made by the physician medical director to the *2018 Iowa Statewide EMS Treatment Protocols*

| Page | Protocol Name | Changes Made |
|------|---------------|--------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Additional Skills for the EMR, EMT, AEMT

| Approval of these additional skills must be within the Service Program’s Level of Authorization and the Iowa EMS Provider’s Scope of Practice | Mark “Yes” if the skill is approved by the medical director to be performed by the identified certification level | Certification Level | Yes | No |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------|-----|----|
| | Pulse oximetry | EMR | X | |
| Glucose monitor | EMT | | X | |
| Service carries auto-inject epi | EMT | | X | |
| Central line access | AEMT | | X | |
| CPAP | EMT, AEMT | | X | |

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 <i>2018 Iowa Statewide EMS Treatment Protocols</i> and the <i>Iowa Emergency Medical Care Provider Scope of Practice</i> 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. | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------|
| Medical Director’s Printed Name | Signature | Date |
| | | |

IOWA EMS TREATMENT PROTOCOLS

Adult Treatment Protocols

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Initial Patient Care Protocol-Adult and Pediatrics

Revised 2018

This protocol serves to reduce the need for extensive reiteration of basic assessment and other considerations in every protocol.

Assessment

1. Assess scene safety
 - a. Evaluate for hazards to EMS personnel, patient, bystanders
 - b. Determine number of patients
 - c. Determine mechanism of injury
 - d. Request additional resources if needed and weigh the benefits of waiting for additional resources against rapid transport to definitive care
 - e. Consider declaration of mass casualty incident if needed
2. Use appropriate personal protective equipment (PPE)
3. Wear high-visibility, retro-reflective apparel when deemed appropriate (e.g. operations at night or in darkness, on or near roadways)
4. Consider cervical spine stabilization and/or spinal care if trauma

Primary Survey

1. **Airway, Breathing, Circulation** is cited below; (although there are specific circumstances where **Circulation, Airway, Breathing** may be indicated such as cardiac arrest or major arterial bleeding)
 - a. Airway (assess for patency and open the airway as indicated)
 - i. Patient is unable to maintain airway patency—open airway
 1. Head tilt chin lift
 2. Jaw thrust
 3. Suction
 4. Consider use of the appropriate airway management adjuncts and devices:
 - oral airway,
 - nasal airway,
 - blind insertion, or supraglottic airway device,
 - laryngeal mask airway,
 - endotracheal tube
 5. For patients with laryngectomies or tracheostomies, remove all objects or clothing that may obstruct the opening of these devices, maintain the flow of prescribed oxygen, and reposition the head and/or neck

b. Breathing

- i. Evaluate rate, breath sounds, accessory muscle use, retractions, patient positioning
- ii. Administer oxygen as appropriate with a target of achieving 94-98% saturation for most acutely ill patients
- iii. Apnea (not breathing) – open airway-see #4 above

c. Circulation

- i. Control any major external bleeding (see Extremity Trauma/External Hemorrhage Management guideline)
- ii. Assess pulse
 1. If none – go to Cardiac Arrhythmia Protocol
 2. Assess rate and quality of carotid and radial pulses
- iii. Evaluate perfusion by assessing skin color and temperature
 1. Evaluate capillary refill

d. Disability

- i. Evaluate patient responsiveness: AVPU scale (Alert, Verbal, Pain, Unresponsive)
- ii. Evaluate gross motor and sensory function in all extremities
- iii. Check blood glucose in patients with altered mental status
- iv. If acute stroke suspected – go to Stroke Protocol

e. Expose patient as appropriate to complaint

- i. Be considerate of patient modesty
- ii. Keep patient warm

Secondary Survey

1. The performance of the secondary survey should not delay transport in critical patients. Secondary surveys should be tailored to patient presentation and chief complaint. Secondary survey may not be completed if patient has critical primary survey problems

a. Head

- i. Pupils
- ii. Naso-oropharynx
- iii. Skull and scalp

b. Neck

- i. Jugular venous distension
- ii. Tracheal position
- iii. Spinal tenderness

- c. Chest
 - i. Retractions
 - ii. Breath sounds
 - iii. Chest wall deformity
 - d. Abdomen/Back
 - i. Flank/abdominal tenderness or bruising
 - ii. Abdominal distension
 - e. Extremities
 - i. Edema
 - ii. Pulses
 - iii. Deformity
 - e. Neurologic
 - i. Mental status/orientation
 - ii. Motor/sensory
2. Obtain Baseline Vital Signs (An initial full set of vital signs is required: pulse, blood pressure, respiratory rate, neurologic status assessment) (see chart below)
- a. Neurologic status assessment: establish a baseline and note any change in patient neurologic status
 - i. AVPU (Alert, Verbal, Painful, Unresponsive) or
 - ii. Glasgow Coma Score (GCS)
 - b. Patients with cardiac or respiratory complaints
 - i. Pulse oximetry
 - ii. 12-lead EKG should be obtained early in patients with cardiac or suspected cardiac complaints
 - iii. Continuous cardiac monitoring, if available
 - iv. Consider waveform capnography (essential for patients who require invasive airway management) or digital capnometry
 - c. Patient with altered mental status
 - i. Check blood glucose
 - ii. Consider waveform capnography (essential for patients who require invasive airway management) or digital capnometry
 - d. Stable patients should have at least two sets of pertinent vital signs. Ideally, one set should be taken shortly before arrival at receiving facility
 - e. Critical patients should have pertinent vital signs frequently monitored
3. Obtain OPQRST history:
- a. **O**nset of symptoms (circumstances surrounding onset such as gradual, or sudden onset)
 - b. **P**rovocation – location; any exacerbating or alleviating factors
 - c. **Q**uality of pain

- d. Radiation of pain
- e. Severity of symptoms – pain scale
- f. Time of onset and circumstances around onset

4. Obtain SAMPLE history:

- a. Symptoms
- b. Allergies – medication, environmental, and foods
- c. Medications – prescription and over-the-counter; bring containers to ED if possible
- d. Past medical history
 - i. look for medical alert tags, portable medical records, advance directives
 - ii. look for medical devices/implants (some common ones may be dialysis shunt, insulin pump, pacemaker, central venous access port, gastric tubes, urinary catheter)
- e. Last oral intake
- f. Events leading up to the 911 call

Treatment and Interventions

1. Administer oxygen as appropriate with a target of achieving 94-98% saturation
2. Triage with an appropriate service if advanced level of care or assistance is needed and can be accomplished in a timely manner
3. Place appropriate monitoring equipment as dictated by assessment, within scope of practice – these may include:
 - a. Continuous pulse oximetry
 - b. Cardiac rhythm monitoring
 - c. Waveform capnography or digital capnometry
 - d. Carbon monoxide assessment
4. If within scope of practice, establish vascular access if indicated or in patients who are at risk for clinical deterioration.
 - a. If IO is to be used for a conscious patient, consider the use of 0.5 mg/kg of lidocaine 0.1mg/mL with slow push through IO needle to a maximum of 40 mg to mitigate pain from IO medication administration
5. Monitor pain scale if appropriate
6. Reassess patient

Patient Safety Considerations

1. Routine use of lights and sirens is not warranted
2. Even when lights and sirens are in use, always limit speeds to level that is safe for the emergency vehicle being driven and road conditions on which it is being operated
3. Be aware of legal issues and patient rights as they pertain to and impact patient care (e.g. patients with functional needs or children with special healthcare needs)
4. Be aware of potential need to adjust management based on patient age and comorbidities, including medication dosages
5. The maximum weight-based dose of medication administered to a pediatric patient should not exceed the maximum adult dose except where specifically stated in a patient care guideline
6. Direct medical control should be contacted when mandated or as needed

Key Considerations

Pediatrics: Use an accurate weight or length-based assessment tool (length-based tape or other system) to estimate patient weight and guide medication therapy and adjunct choices.

- a. The pediatric population is generally defined by those patients who weigh up to 40 kg or up to 14-years of age, whichever comes first
- b. Consider using the pediatric assessment triangle (appearance, work of breathing, circulation) when first approaching a child to help with assessment.

Geriatrics: The geriatric population is generally defined as those patients who are 65 years old or more.

- a. In these patients, as well as all adult patients, reduced medication dosages may apply to patients with renal disease (i.e. on dialysis or a diagnosis of chronic renal insufficiency) or hepatic disease (i.e. severe cirrhosis or end-stage liver disease)

Co-morbidities: reduced medication dosages may apply to patients with renal disease (i.e. on dialysis or a diagnosis of chronic renal insufficiency) or hepatic disease (i.e. severe cirrhosis or end-stage liver disease).

Normal Vital Signs

| Age | Pulse | Respiratory Rate | Systolic BP |
|------------------------|---------|------------------|-------------|
| Preterm less than 1 kg | 120-160 | 30-60 | 36-58 |
| Preterm 1 kg | 120-160 | 30-60 | 42-66 |
| Preterm 2 kg | 120-160 | 30-60 | 50-72 |
| Newborn | 120-160 | 30-60 | 60-70 |
| Up to 1 year | 100-140 | 30-60 | 70-80 |
| 1-3 years | 100-140 | 20-40 | 76-90 |
| 4-6 years | 80-120 | 20-30 | 80-100 |
| 7-9 years | 80-120 | 16-24 | 84-110 |
| 10-12 years | 60-100 | 16-20 | 90-120 |
| 13-14 years | 60-90 | 16-20 | 90-120 |
| 15 years or older | 60-90 | 14-20 | 90-130 |

Glasgow Coma Scale

| ADULT GLASGOW COMA SCALE | | PEDIATRIC GLASGOW COMA SCALE | |
|--------------------------------|---|--------------------------------|---|
| Eye Opening (4) | | Eye Opening (4) | |
| Spontaneous | 4 | Spontaneous | 4 |
| To Speech | 3 | To Speech | 3 |
| To Pain | 2 | To Pain | 2 |
| None | 1 | None | 1 |
| Best Motor Response (6) | | Best Motor Response (6) | |
| Obeys Commands | 6 | Spontaneous Movement | 6 |
| Localizes Pain | 5 | Withdraws to Touch | 5 |
| Withdraws from Pain | 4 | Withdraws from Pain | 4 |
| Abnormal Flexion | 3 | Abnormal Flexion | 3 |
| Abnormal Extension | 2 | Abnormal Extension | 2 |
| None | 1 | None | 1 |
| Verbal Response (5) | | Verbal Response (5) | |
| Oriented | 5 | Coos, Babbles | 5 |
| Confused | 4 | Irritable Cry | 4 |
| Inappropriate | 3 | Cries to Pain | 3 |
| Incomprehensible | 2 | Moans to Pain | 2 |
| None | 1 | None | 1 |
| Total | | Total | |

ABDOMINAL PAIN (NON-TRAUMATIC)

Revised 2018

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) Consider pain and nausea control

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

Reviewed 2018

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

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 bronchodilator via nebulizer, repeat as needed
- d) Evaluate the need for CPAP, if available
- e) Evaluate the need for airway management.

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

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

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) Complete Fibrinolytic Therapy Checklist-Appendix F
- d) If patient is alert and oriented and expresses no allergy to aspirin assist the patient by having them chew nonenteric aspirin 325 mg.
- e) 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).
- f) 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, assist the patient self-administer one dose of nitroglycerin (patient's nitro dose only).
- g) Repeat one dose of nitroglycerin in 5 minutes if pain continues, systolic blood pressure is 90 mmHg or above, up to a maximum of three doses.
- h) Reassess patient and vital signs following each dose of nitroglycerin.
- i) If transport initiated to a non-PCI Facility-Complete fibrinolytic therapy checklist found in Appendix F.

ADVANCED CARE GUIDELINES

- j) Monitor EKG-evaluate for evidence of STEMI and treat dysrhythmias.
- k) 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.
- l) Establish IV access at TKO rate unless otherwise ordered or indicated.
- m) 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.
- n) 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
OR
 - Fentanyl 25-50 mcg IV may repeat every 5 minutes
OR
 - Patient administered nitrous oxide-observe for altered mentation and ability to self-administer

CHILDBIRTH

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.

DETERMINATION OF DEATH-WITHHOLDING RESUSCITATIVE EFFORTS

Revised 2018

Follow initial patient care protocol

Resuscitation should be started on all patients who are found apneic and pulseless unless the following medical cause, traumatic injury or body condition clearly indicating biological death (irreversible brain death) such as:

- Signs of trauma are conclusively incompatible with life
 - Decapitation
 - Transection of the torso
 - 90% of the body surface area with full thickness burns
 - Massive crush injury
 - Apneic, pulseless and without other signs of life (movement, EKG activity, pupillary response)
- Cardiac and respiratory arrest with obvious signs of death including
 - Rigor mortis
 - Dependent lividity
- Physical decomposition of the body

OR

A valid DNR order (form, card, bracelet) or other actionable medical order (e.g. I-POLST form) present, when it:

- Conforms to the state specifications
- Is intact: it has not been cut, broken or shows signs of being repaired
- Displays the patient's name and the physician's name

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 1-800-831-4131.
- 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 applicable

FROSTBITE

Revised 2018

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) Refer to pain control protocol

HEAT ILLNESS

Revised 2018

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 and cool mist if available
- e) Consider cooling 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 or other fluids e.g. sports drinks

ADVANCED CARE GUIDELINES

- g) Monitor EKG and treat dysrhythmias following the appropriate protocol(s)

HYPOTHERMIA

Updated 2018

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
- e) EKG if available

ADVANCED CARE GUIDELINES

- f) Administer warm IV fluids if available, do not administer cold fluids
- g) Monitor EKG and treat dysrhythmias
- h) If body temp is confirmed or suspected to be below 86 degrees Fahrenheit
 - ONLY give epinephrine every 8 minutes if indicated
 - Defibrillation is indicated ONLY once
 - Consider spacing other medications used for resuscitation

NAUSEA AND VOMITING

Revised 2018

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

- a) Limit oral intake to sips

ADVANCED CARE GUIDELINES

- b) Consider fluid bolus IV/IO if evidence of hypovolemia and lung sounds are clear
- h) If patient nauseated or is vomiting, consider anti-emetic medication such as ondansetron (Zofran) 4 mg IV or PO. May repeat x 1 after 5 minutes

PAIN CONTROL

Reviewed 2018

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

- a) 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%.
 - Morphine 2-4 mg via IV, repeated in 5 min
OR
 - Fentanyl 25 to 50 mcg IV every 5 minutes
OR
 - Ketamine 0.1-0.3 mg/kg IV or 0.5 mg/kg IM/IN
OR
 - Nitrous Oxide per self-administration - observe for altered mentation before secondary doses and continued ability to self-administer.
- c) 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.
- d) The patient must have vital signs taken prior to each dose, after each dose, and be monitored closely.
- e) After drug administration, reassess the patient using the appropriate pain scale

POISONING

Revised 2018

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

1. Attempt to identify substances ingested or exposed by interviewing witnesses. Try to establish the exact time of ingestion, as well as the amount and type of ingestion. Medication containers or chemical labels should be taken with you.

ADVANCED CARE GUIDELINES

Bradycardia with Unknown Overdose:

- a. Consider Atropine 0.5 mg IV every 5 minutes as needed up to total dose of 3 mg.
- b. Consider dopamine (Intropin) 5-15 mcg/kg/min
- c. Consider transcutaneous pacemaker

Tachycardia with Unknown Overdose:

- a. Provide IV fluid bolus with normal saline 1L
- b. Consider benzodiazepine such as
 1. Midazolam 0.5-2.5 mg IV / IM repeated every 5 minutes as needed to a maximum of 5 mg
OR
 2. Diazepam 2-5 mg IV / IM repeated every 5 minutes as needed to a maximum of 10 mg
OR
 3. Lorazepam 2mg IV, repeated every 30 minutes as needed to a maximum of 4 mg. Use for long transports
- c. AVOID lidocaine and beta-blockers, particularly Labetalol.
- d. Consider Sodium Bicarbonate 1 mEq/kg IV for dysrhythmias refractory to benzodiazepines (especially those with a wide QRS complex or prolonged QT).
- e. Cool patients presenting with agitation, delirium, seizure and elevated body temperature

Suspected Opioid Overdose:

- f. Support ventilations via bag-valve-mask and oxygen while preparations are made for Naloxone (Narcan) administration
- g. Initial dose of Naloxone (Narcan) is 0.4 to 2 mg IV over 15-30 seconds or 0.4 to 4 mg IM, SQ or IN. Repeated doses maybe required

Calcium Channel Blocker (Norvasc, Cardizem) or Beta Blocker (Atenolol, Lopressor, Inderal) Overdose:

- h. Consider Calcium gluconate 10% [1 g/10 mL] 2 g IV over 5 minutes
 - i. May repeat x 1 in 5 minutes if persistent EKG changes
 - ii. Calcium therapy is contraindicated for patients taking digitalis
- i. Consider Glucagon 1-3 mg slow IV push over 1-2 minutes, may repeat in 10-15 minutes if no response is seen

Digitalis Overdose:

- j. Consider normal saline IV
- k. Consider Atropine 0.5 mg IV every 5 minutes as needed up to total dose of 3 mg
- l. Consider transcutaneous pacemaker

TCA (Elavil, Tofranil) Overdose:

- m. Consider Sodium bicarbonate 50 ml [1 ampule] IV for wide complex QRS
- n. Be cautious for seizures

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) Administer benzodiazepine such as:
 - Valium 2 mg IV push until seizure stops or maximum dose of 10 mg is givenOR
 - Lorazepam 1 mg IV push, until the seizure stops or until maximum dose of 10 mg is givenOR
 - 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

SPINAL CARE

Revised 2018

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) Spinal motion restriction is contraindicated for patients who have penetrating trauma who do not have a neurological deficit.

2. Patient Management:

a) Assessment while maintaining spinal alignment:

- mental status,
- neurological deficits,
- spinal pain,
- tenderness,
- evidence of intoxication,
- 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 on 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.

SPINAL CARE CONTINUED

- c) Spinal and cervical motion restriction 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.

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 500ml, NS or LR. Repeat as needed to maintain a systolic pressure of 90 mmHg.

(SHOCK Continued)

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

- a) Administer 20 ml/kg, up to 500ml, NS or LR. Repeat as needed to maintain a systolic pressure of 90 mmHg
- c) Consider administering dopamine at 10-20 mcg/kg/min IV or IO
- d) 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
OR
 - Transcutaneous pacing

Distributive Shock: Anaphylactic

BASIC CARE GUIDELINES

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

ADVANCED CARE GUIDELINES

- c) 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.
- d) Administer diphenhydramine 25 – 50 mg IV/IM
- e) Administer albuterol 2.5mg by nebulizer if respiratory distress
- f) Evaluate need for early intubation if severe anaphylaxis
- g) 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
2. Refer to Appendix G

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) Check blood glucose, if available
- c) Place patient in position of comfort, loosen tight clothing and provide reassurance.
- d) 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

- a) If blood sugar less than 60 mg/dL administer D50 12.5 - 25 gm IV
 - If no vascular access, administer glucagon 1 mg IM
- b) Monitor patient's level of consciousness and blood pressure every five (5) minutes, and keep patient as calm as possible

TERMINATION OF RESUSCITATIVE EFFORTS

Revised 2018

Indications to consider termination of resuscitation:

1. Advanced level care (Paramedic level) has been instituted to include rhythm analysis and defibrillation if indicated, airway management, and medications given per protocol
2. No return of spontaneous circulation or respiration
3. Correctable causes or special resuscitation circumstances have been considered and addressed
4. Patient does not have profound hypothermia
5. Patient has no other signs of life (no response to pain, non-reactive pupils, no spontaneous movement)

Termination of resuscitation:

1. A valid DNR order, such as IPOST, is obtained by the EMS provider at any level
- OR
2. Patient meets all criteria under 'indications' above and as applicable to scope of practice
 - a. *On-line medical direction* is contacted (while advanced care continues) to discuss any further appropriate actions.
 - b. 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.
5. See Appendix J -EMS Provider Initiating Organ and Tissue Donation at the Scene of the Deceased.

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

- e) Control bleeding with direct pressure. Large gaping wounds may need application of a bulky sterile gauze dressing and direct pressure by hand
- f) If direct pressure/pressure dressing is ineffective or impractical, apply a tourniquet to extremity
- g) If bleeding site is not amenable to tourniquet placement (i.e. junctional injury), apply a topical hemostatic agent with direct pressure

ADVANCED CARE GUIDELINES

- h) 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.

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 left in place, 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 or LMA, the PETCO₂ levels should be continually monitored and maintained at 33 – 43 mmHg if available

(Trauma Continued)

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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Initial Patient Care Protocol-Adult and Pediatrics

Revised 2018

This protocols serves to reduce the need for extensive reiteration of basic assessment and other considerations in every protocol.

Assessment

1. Assess scene safety
 - a. Evaluate for hazards to EMS personnel, patient, bystanders
 - b. Determine number of patients
 - c. Determine mechanism of injury
 - d. Request additional resources if needed and weigh the benefits of waiting for additional resources against rapid transport to definitive care
 - e. Consider declaration of mass casualty incident if needed
2. Use appropriate personal protective equipment (PPE)
3. Wear high-visibility, retro-reflective apparel when deemed appropriate (e.g. operations at night or in darkness, on or near roadways)
4. Consider cervical spine stabilization and/or spinal care if trauma

Primary Survey

1. **Airway, Breathing, Circulation** is cited below; (although there are specific circumstances where **Circulation, Airway, Breathing** may be indicated such as cardiac arrest or major arterial bleeding)
 - a. Airway (assess for patency and open the airway as indicated)
 - i. Patient is unable to maintain airway patency—open airway
 1. Head tilt chin lift
 2. Jaw thrust
 3. Suction
 4. Consider use of the appropriate airway management adjuncts and devices:
 - oral airway,
 - nasal airway,
 - blind insertion, or supraglottic airway device,
 - laryngeal mask airway,
 - endotracheal tube
 5. For patients with laryngectomies or tracheostomies, remove all objects or clothing that may obstruct the opening of these devices, maintain the flow of prescribed oxygen, and reposition the head and/or neck

b. Breathing

- i. Evaluate rate, breath sounds, accessory muscle use, retractions, patient positioning
- ii. Administer oxygen as appropriate with a target of achieving 94-98% saturation for most acutely ill patients
- iii. Apnea (not breathing) – open airway-see #4 above

c. Circulation

- i. Control any major external bleeding [see Extremity Trauma/External Hemorrhage Management guideline]
- ii. Assess pulse
 1. If none – go to Pediatric Cardiac Arrhythmia Protocol
 2. Assess rate and quality of carotid and radial pulses
- iii. Evaluate perfusion by assessing skin color and temperature
 1. Evaluate capillary refill

d. Disability

- i. Evaluate patient responsiveness: AVPU scale (Alert, Verbal, Pain, Unresponsive)
- ii. Evaluate gross motor and sensory function in all extremities
- iii. Check blood glucose in patients with altered mental status
- iv. If acute stroke suspected – go to Stroke Protocol

e. Expose patient as appropriate to complaint

- i. Be considerate of patient modesty
- ii. Keep patient warm

Secondary Survey

1. The performance of the secondary survey should not delay transport in critical patients. Secondary surveys should be tailored to patient presentation and chief complaint. Secondary survey may not be completed if patient has critical primary survey problems

a. Head

- i. Pupils
- ii. Naso-oropharynx
- iii. Skull and scalp

b. Neck

- i. Jugular venous distension
- ii. Tracheal position
- iii. Spinal tenderness

c. Chest

- i. Retractions
- ii. Breath sounds
- iii. Chest wall deformity

- d. Abdomen/Back
 - i. Flank/abdominal tenderness or bruising
 - ii. Abdominal distension
 - e. Extremities
 - i. Edema
 - ii. Pulses
 - iii. Deformity
 - e. Neurologic
 - i. Mental status/orientation
 - ii. Motor/sensory
2. Obtain Baseline Vital Signs (An initial full set of vital signs is required: pulse, blood pressure, respiratory rate, neurologic status assessment) (see chart below)
- a. Neurologic status assessment: establish a baseline and note any change in patient neurologic status
 - i. Glasgow Coma Score (GCS) (see chart below) or
 - ii. AVPU (**A**lert, **V**erbal, **P**ainful, **U**nresponsive)
 - b. Patients with cardiac or respiratory complaints
 - i. Pulse oximetry
 - ii. 12-lead EKG should be obtained early in patients with cardiac or suspected cardiac complaints
 - iii. Continuous cardiac monitoring, if available
 - iv. Consider waveform capnography (essential for patients who require invasive airway management) or digital capnometry
 - c. Patient with altered mental status
 - i. Check blood glucose
 - ii. Consider waveform capnography (essential for patients who require invasive airway management) or digital capnometry
 - d. Stable patients should have at least two sets of pertinent vital signs. Ideally, one set should be taken shortly before arrival at receiving facility
 - e. Critical patients should have pertinent vital signs frequently monitored
3. Obtain OPQRST history:
- a. **O**nset of symptoms
 - b. **P**rovocation – location; any exacerbating or alleviating factors
 - c. **Q**uality of pain
 - d. **R**adiation of pain
 - e. **S**everity of symptoms – pain scale
 - f. **T**ime of onset and circumstances around onset

4. Obtain SAMPLE history:
 - a. Symptoms
 - b. Allergies – medication, environmental, and foods
 - c. Medications – prescription and over-the-counter; bring containers to ED if possible
 - d. Past medical history
 - i. look for medical alert tags, portable medical records, advance directives
 - ii. look for medical devices/implants (some common ones may be dialysis shunt, insulin pump, pacemaker, central venous access port, gastric tubes, urinary catheter)
 - e. Last oral intake
 - f. Events leading up to the 911 call

In patients with syncope, seizure, altered mental status, or acute stroke, consider bringing the witness to the hospital or obtain their contact phone number to provide to ED care team

Treatment and Interventions

1. Administer oxygen as appropriate with a target of achieving 94-98% saturation
2. Tier with an appropriate service if advanced level of care or assistance is needed and can be accomplished in a timely manner
3. Place appropriate monitoring equipment as dictated by assessment and scope of practice – these may include:
 - a. Continuous pulse oximetry
 - b. Cardiac rhythm monitoring
 - c. Waveform capnography or digital capnometry
 - d. Carbon monoxide assessment
4. If within scope of practice establish vascular access if indicated or in patients who are at risk for clinical deterioration.
 - a. If IO is to be used for a conscious patient, consider the use of 0.5 mg/kg of lidocaine 0.1mg/mL with slow push through IO needle to a maximum of 40 mg to mitigate pain from IO medication administration
5. Monitor pain scale if appropriate
6. Reassess patient

Patient Safety Considerations

1. Routine use of lights and sirens is not warranted
2. Even when lights and sirens are in use, always limit speeds to level that is safe for the emergency vehicle being driven and road conditions on which it is being operated

3. Be aware of legal issues and patient rights as they pertain to and impact patient care (e.g. patients with functional needs or children with special healthcare needs)
4. Be aware of potential need to adjust management based on patient age and comorbidities, including medication dosages
5. The maximum weight-based dose of medication administered to a pediatric patient should not exceed the maximum adult dose except where specifically stated in a patient care guideline
6. Direct medical control should be contacted when mandated or as needed

Key Considerations

Pediatrics: ALWAYS use a weight-based assessment tool (length-based tape or other system) to estimate patient weight and guide medication therapy and adjunct choices.

- a. The pediatric population is generally defined by those patients who weigh up to 40 kg or up to 14-years of age, whichever comes first
- b. Consider using the pediatric assessment triangle (appearance, work of breathing, circulation) when first approaching a child to help with assessment.

Geriatrics: The geriatric population is generally defined as those patients who are 65 years old or more.

- a. In these patients, as well as all adult patients, reduced medication dosages may apply to patients with renal disease (i.e. on dialysis or a diagnosis of chronic renal insufficiency) or hepatic disease (i.e. severe cirrhosis or end-stage liver disease)

Co-morbidities: reduced medication dosages may apply to patients with renal disease (i.e. on dialysis or a diagnosis of chronic renal insufficiency) or hepatic disease (i.e. severe cirrhosis or end-stage liver disease).

Normal Vital Signs

| Age | Pulse | Respiratory Rate | Systolic BP |
|------------------------|---------|------------------|-------------|
| Preterm less than 1 kg | 120-160 | 30-60 | 36-58 |
| Preterm 1 kg | 120-160 | 30-60 | 42-66 |
| Preterm 2 kg | 120-160 | 30-60 | 50-72 |
| Newborn | 120-160 | 30-60 | 60-70 |
| Up to 1 year | 100-140 | 30-60 | 70-80 |
| 1-3 years | 100-140 | 20-40 | 76-90 |
| 4-6 years | 80-120 | 20-30 | 80-100 |
| 7-9 years | 80-120 | 16-24 | 84-110 |
| 10-12 years | 60-100 | 16-20 | 90-120 |
| 13-14 years | 60-90 | 16-20 | 90-120 |
| 15 years or older | 60-90 | 14-20 | 90-130 |

Glasgow Coma Scale

| ADULT GLASGOW COMA SCALE | | PEDIATRIC GLASGOW COMA SCALE | |
|--------------------------------|---|--------------------------------|---|
| Eye Opening (4) | | Eye Opening (4) | |
| Spontaneous | 4 | Spontaneous | 4 |
| To Speech | 3 | To Speech | 3 |
| To Pain | 2 | To Pain | 2 |
| None | 1 | None | 1 |
| Best Motor Response (6) | | Best Motor Response (6) | |
| Obeys Commands | 6 | Spontaneous Movement | 6 |
| Localizes Pain | 5 | Withdraws to Touch | 5 |
| Withdraws from Pain | 4 | Withdraws from Pain | 4 |
| Abnormal Flexion | 3 | Abnormal Flexion | 3 |
| Abnormal Extension | 2 | Abnormal Extension | 2 |
| None | 1 | None | 1 |
| Verbal Response (5) | | Verbal Response (5) | |
| Oriented | 5 | Coos, Babbles | 5 |
| Confused | 4 | Irritable Cry | 4 |
| Inappropriate | 3 | Cries to Pain | 3 |
| Incomprehensible | 2 | Moans to Pain | 2 |
| None | 1 | None | 1 |
| Total | | Total | |

PEDIATRIC ALLERGIC REACTION

Reviewed 2018

1. Follow initial patient care protocol

BASIC CARE GUIDELINES

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

ADVANCED CARE GUIDELINES

- c) Consider epinephrine 1:1,000 concentration IM per pediatric dosing guideline up to a maximum dose of 0.5 mg
- d) Consider one repeat dose of epinephrine 1:1,000 concentration IM per pediatric dosing guideline up to a maximum dose of 0.5 mg
- e) Consider diphenhydramine IV or IM per pediatric dosing guideline, up to a maximum dose of 50 mg
- f) If after two doses of IM epinephrine with persistent signs and symptoms, administer intravenous epinephrine infusion per pediatric dosing guideline.
- g) Consider albuterol 2.5 mg by nebulizer

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 ASTHMA

Revised 2017

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 bronchodilator via Nebulizer
- e) Evaluate the need for IM epinephrine 1:1,000 concentration according to length/weight based device. Dosage may be repeated once after 5 minutes.
- f) Evaluate the need for airway management.

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 control protocol

(Pediatric 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. 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

BASIC CARE GUIDELINES

- a) Treat soft tissue injuries associated with the burn with dry dressing
- b) Treat for shock if indicated
- c) Transport according to the Out-of-Hospital Destination Decision Protocol (Appendix B)
- d) Estimate percent of body surface area injured and estimate the depth of burn as superficial, partial thickness or full thickness

ADVANCED CARE GUIDELINES

- f) Treat pain per pain control protocol

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 DETERMINATION OF DEATH/WITHHOLDING RESUSCITATIVE EFFORTS

Updated 2018

Follow initial patient care protocol

Resuscitation should be started on all patients who are found apneic and pulseless unless the following medical cause, traumatic injury or body condition clearly indicating biological death (irreversible brain death) such as:

- Signs of trauma are conclusively incompatible with life
 - Decapitation
 - Transection of the torso
 - 90% of the body surface area with full thickness burns
 - Massive crush injury
 - Apneic, pulseless and without other signs of life (movement, EKG activity, pupillary response)
- Cardiac and respiratory arrest with obvious signs of death including
 - Rigor mortis
 - Dependent lividity
- Physical decomposition of the body

OR

A valid DNR order (form, card, bracelet) or other actionable medical order (e.g. I-POLST form) that:

- Conforms to the state specifications

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 1-800-831-4131.
See Protocol Appendix
- 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 applicable

PEDIATRIC DROWNING

Revised 2018

Follow initial patient care protocol

BASIC CARE GUIDELINES

- a) If cervical spine trauma is suspected-follow Spinal Care Protocol
- b) Treat for hypothermia if necessary

ADVANCED CARE GUIDELINES

- c) Consider placing a gastric tube to decompress the stomach if available

PEDIATRIC NAUSEA & VOMITING

Revised 2018

1. Follow Initial Patient Care Protocol

BASIC CARE GUIDELINES

2. Limit oral intake to sips

ADVANCED CARE GUIDELINES

- a) Consider fluid bolus if evidence of hypovolemia
- b) If patient nauseated or is vomiting, consider anti-emetic medication such as ondansetron (Zofran) per pediatric dosing guideline. Consider a repeat dose after 5 minutes if necessary.

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 inches 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
- i) Begin chest compressions at a combined rate of 120/minute (three compressions to each ventilation)

(Newborn Resuscitation and Care Continued)

ADVANCED CARE GUIDELINES

- j) If there is no improvement in heart rate after 30 seconds. Perform endotracheal intubation
- k) 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
- l) Initiate transport. Reassess heart rate and respirations enroute

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

- m) 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
- n) Initiate transport. Reassess heart rate and respirations enroute

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

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

- q) 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:

- r) 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

Revised 2018

1. Follow initial patient care protocol
2. First attempt to manage all painful conditions with basic care

BASIC CARE GUIDELINES

- a) 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%

Consider:

- Morphine per pediatric dosing guideline
or
 - Fentanyl per pediatric dosing guideline for IV or Intranasal
or
 - Ketamine 0.1 mg/kg-0.3 mg/kg IV or 0.5 mg/kg IM or IN
or
 - Nitrous Oxide per self-administration observe for altered mentation before secondary doses and continued ability to self-administer.
- c) The patient must have vital signs taken prior to each dose, after each dose, and be monitored closely.
 - d) After drug administration, reassess the patient using the appropriate pain scale

PEDIATRIC POISONING

Reviewed 2018

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

1. Attempt to identify substances ingested or exposed by interviewing witnesses. Try to establish the exact time of ingestion, as well as the amount and type of ingestion. Medication containers or chemical labels should be taken with you.

ADVANCED CARE GUIDELINES

Bradycardia with Unknown Overdose:

- a. Consider Atropine per pediatric dosing guideline every 5 minutes as needed up to total dose of 3 mg.
- b. Consider dopamine (Intropin) per pediatric dosing guideline
- c. Consider transcutaneous pacemaker

Tachycardia with Unknown Overdose:

- d. Consider benzodiazepine such as
 - i. Midazolam per pediatric dosing guideline IV / IM repeated every 5 minutes as needed to a maximum of 5 mg
OR
 - ii. Diazepam per pediatric dosing guideline IV / IM repeated every 5 minutes as needed to a maximum of 10 mg
OR
 - iii. Lorazepam per pediatric dosing guideline, repeated every 30 minutes as needed to a maximum of 4 mg. Use for long transports
- e. AVOID lidocaine and beta-blockers, particularly Labetalol.
- f. Consider Sodium Bicarbonate per pediatric dosing guideline IV for dysrhythmias refractory to benzodiazepines (especially those with a wide QRS complex or prolonged QT).
- g. Cool patients presenting with agitation, delirium, seizure and elevated body temperature.

Suspected Opioid Overdose:

- h. Support ventilations via bag-valve-mask and oxygen while preparations are made for Naloxone (Narcan) administration.
- i. Consider Naloxone (Narcan) per pediatric dosing guideline

Calcium Channel Blocker (Norvasc, Cardizem) or Beta Blocker (Atenolol, Lopressor, Inderal) Overdose :

- j. Consider Calcium gluconate 10% per pediatric dosing guideline IV over 5 minutes
 - i. May repeat x 1 in 5 minutes if persistent EKG changes
 - ii. Calcium therapy is contraindicated for patients taking digitalis
- k. Consider Glucagon per pediatric dosing guideline slow IV push over 1-2 minutes, may repeat in 10-15 minutes if no response is seen.
- l. Consider Sodium bicarbonate per pediatric dosing guideline IV for wide complex QRS.
- m. Consider transcutaneous pacemaker

Digitalis Overdose:

- n. Consider Atropine per pediatric dosing guideline every 5 minutes as needed up to total dose of 0.04 mg/kg or 3 mg.
- o. Consider transcutaneous pacemaker

TCA (Elavil, Tofranil) Overdose:

- p. Consider Sodium bicarbonate per pediatric dosing guideline IV for wide complex QRS.
- q. Be cautious for seizures.

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 CARE

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 while maintaining spinal alignment:
 - mental status,
 - neurological deficits,
 - spinal pain or tenderness, while maintaining spinal alignment, examine the spine for tenderness on palpation or deformities.
 - any evidence of intoxication,
 - or other severe injuries.

- b) Treatment and Interventions:

Apply cervical restriction if there is any of the following:

- Patient complains of neck pain.
- Any neck tenderness on 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.

(Pediatric Selective Spinal Immobilization continued)

- c) Spinal and cervical restriction and 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.

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 additional times for a maximum total of 60 ml/kg

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 \leq 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)
 - Death in same passenger compartment
 - Vehicle telemetry data consistent with high risk of injury
- 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

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
- ETOH/Drug use
- Pregnancy $>$ 20 weeks
- EMS provider judgment
- Anticoagulants and bleeding disorders
- Low impact mechanisms (e.g. ground level falls) might result in severe injury
- 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

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ▪ 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 | <ul style="list-style-type: none"> ▪ 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

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ▪ Falls ▪ >10 feet or two times the height of the child ▪ High-risk auto crash: <ul style="list-style-type: none"> ○ Interior compartment intrusion, including roof: >12 inches occupant site; >18 inches any site ○ Ejection (partial or complete) from automobile | <ul style="list-style-type: none"> ○ 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:

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ▪ Pregnancy > 20 weeks ▪ Anticoagulants and bleeding disorders ▪ Patients with head injury are at high risk for rapid deterioration | <ul style="list-style-type: none"> ▪ EMS provider Judgment ▪ ETOH/Drug use |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|

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: Intentionally Blank

Appendix F: Fibrinolytic Checklist

This checklist should be completed for patients suffering from Acute Coronary Syndromes and/or-STEMI. 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 Paramedic level.

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

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

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-Appendix F

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

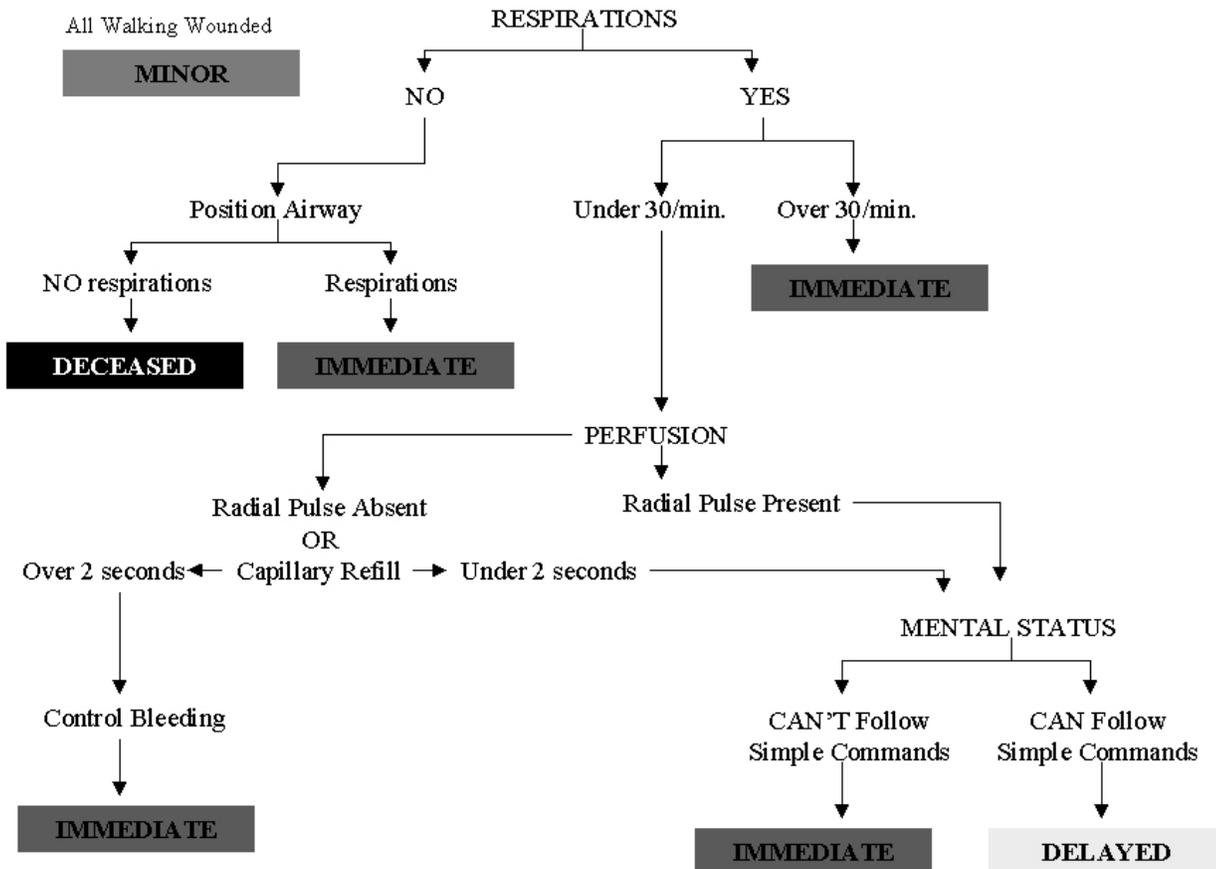
Appendix H: Simple Triage and Rapid Treatment (START)

START

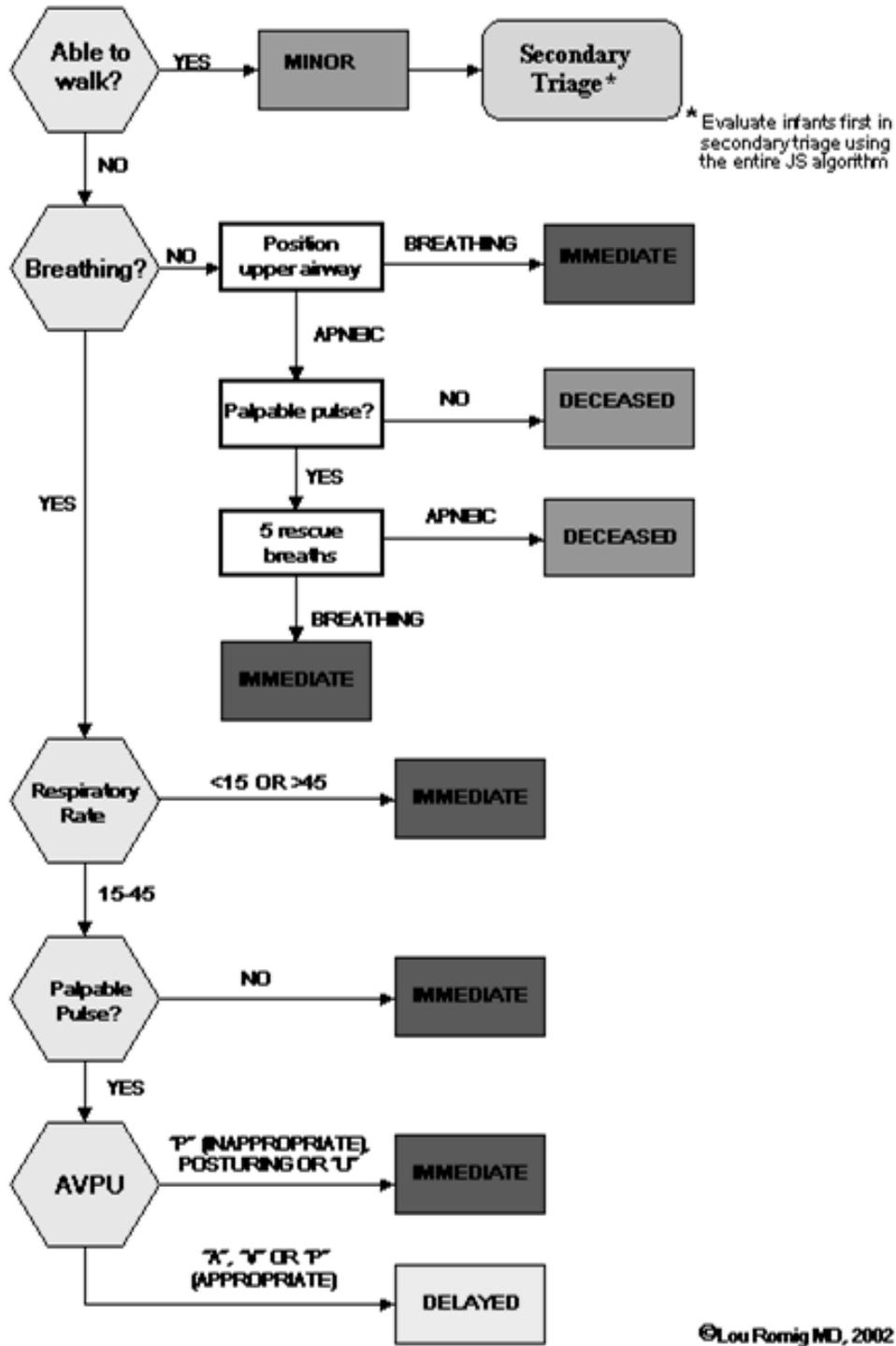
The following are guidelines for initial tactical triage using the START method. START is most useful in initially clearing the disaster zone where there are numerous casualties. **It focuses on respiration rate, perfusion, and mental status and takes under one minute to complete.** Once the patient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

Respirations
Perfusion
Mental Status

Green = Minor/Ambulatory
Yellow = Delayed
Red = Immediate
Black = Deceased/Expectant



Simple Triage and Rapid Treatment – Pediatric JumpSTART



Appendix I: Suspected Abuse/Assault/Neglect/Maltreatment

- a) Provide reassurance
- b) Contact local law enforcement if not present
- c) Provide appropriate medical care per protocol
- d) Do not burden patient with questions about the details of the assault
- e) Be alert to immediate scene and document what you see.
- f) Touch only what you need to touch at the scene
- g) Do not disturb any evidence unless necessary for treatment of patient. (If necessary to disturb evidence, document why and how it was disturbed.)
- h) 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"
- i) Provide local referrals as available
- j) Communicate vital information only – additional info can be given to receiving RN and/or Physician on arrival
- k) Record observations and factual information on run report

Pediatric Considerations:

- a) Approach child slowly in order to establish rapport (except in life-threatening situations), then perform exam
- b) Provide appropriate medical care per 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

Report all suspected abuse to the pediatric and dependent adult hotline at 1-800-362-2178 within 24 hours of your contact of the patient. This will be an oral report only. Within 48 hours of oral reporting, you must submit a written report for all suspected abuse to the Iowa Department of Human Services

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

| | | | | | |
|-----------------|---------------------------------------|--------------------|------------------------------|------|-----------------------------------|
| ā | before | ET | endotracheal | PAT | paroxysmal atrial tachycardia |
| ABC | airway, breathing, circulation | ETOH | alcohol | PCR | patient care record |
| ALS | advanced life support | fib | fibrillation | PE | physical exam, pulmonary edema |
| AMI | acute myocardial infarction | fl | fluid | pedi | pediatric |
| amps | ampules | fx | fracture | PERL | pupils equal, reactive to light |
| ASA | aspirin | GI | gastrointestinal | PJC | premature junctional by mouth |
| AT | atrial tachycardia | gm | gram | po | per rectum |
| AV | atrioventricular | gr | grain | prn | whenever necessary, as needed |
| bicarb | sodium bicarbonate | gt(t) | drop(s) | PVC | premature ventricular contraction |
| BID | twice a day | h, hr | hour | q | every |
| BLS | basic life support | hx | history | QID | four times a day |
| BP | blood pressure | ICU | intensive care unit | R | respirations |
| BS | blood sugar | IM | intramuscular | R/O | rule out |
| ̄ | with | IV | intravenous | RN | registered nurse |
| CAD | coronary artery disease | Kg | kilogram | Rx | treatment |
| CC | chief complaint | KVO | keep vein open | ̄ | without |
| cc | cubic centimeter | L | liter | SC | subcutaneous |
| CCU | coronary care unit | LOC | level of consciousness | Sec | second |
| CHB | complete heart block | LR | lactated ringers | SL | sublingual |
| CHF | congestive heart failure | Mgtt | microdrip | SOB | shortness of breath |
| cm | centimeter | MD | medical doctor | SQ | subcutaneous |
| CNS | central nervous system | mEq | milliequivalents | STAT | immediately |
| c/o | complains of | mg | milligram | s/s | sign, symptoms |
| CO | carbon monoxide | MI | myocardial infarction | SVT | supraventricular tachycardia |
| CO ₂ | carbon dioxide | min | minute | Sx | symptoms |
| COPD | chronic obstructive pulmonary disease | ml | milliliter | TIA | transient ischemic attack |
| CPR | cardiopulmonary resuscitation | mm | millimeter | TID | three times a day |
| CSF | cerebral spinal fluid | MS | morphine sulfate | TKO | to keep open |
| CVA | cerebral vascular accident | NaCl | sodium chloride | VF | ventricular fibrillation |
| D/C | discontinue | NaHCO ₃ | sodium bicarbonate | w/s | watt second setting |
| DOA | dead on arrival | NG,N/G | nasogastric | x | times |
| D5W | 5% dextrose in water | nitro | nitroglycerine | y/o | years old |
| Dx | diagnoses | NPO | nothing by mouth | | |
| ED | emergency department | NS | normal saline | | |
| EKG/ECG | electrocardiogram | NSR | normal sinus rhythm | | |
| Epi | epinephrine | NTG | nitroglycerine | | |
| ER | emergency room | O ₂ | oxygen | | |
| | | OB | obstetrics | | |
| | | OD | overdose | | |
| | | OR | operating room | | |
| | | P | pulse | | |
| | | p | after | | |
| | | PAC | premature atrial contraction | | |

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

**Amended and Restated Agreement for the Provision of Emergency
Medical Services between the City of Grinnell, Iowa and Midwest
Ambulance of Iowa, Inc.**

This Amended and Restated Agreement for the Provision of Emergency Medical Services ("Agreement") is made this _____th day of _____, 2020, between the City of Grinnell, Iowa, ("City") and Midwest Ambulance of Iowa, Inc., ("Midwest").

RECITALS

WHEREAS, the City and Midwest previously entered into an Agreement for the Provision of Emergency Medical Services on DATE ("Original Agreement"); and

WHEREAS, the City and Midwest now desire to amend and restate the Original Agreement in its entirety in order to modify certain aspects of the Original Agreement.

~~This Agreement is entered into by and between the city of Grinnell, here in after referred to as the City and Midwest Ambulance Service of Iowa, Inc. here in after referred to as Midwest.~~

~~WHEREAS, the City, acting pursuant to Chapter 364 of the 2019 Code of Iowa desires to attain competent and reliable emergency medical services (EMS) for its citizens and the citizens of the service territory detailed in this Agreement.~~

~~WHEREAS, Midwest desires and has the ability to provide competent and reliable EMS to the service territory.~~
NOW, ~~TEHRE~~THEREFORE, IT IS HEREBY AGREED by and between the City and Midwest as follows:

1. DEFINITIONS.

BASIC - SERVICE AMBULANCE shall mean ambulances equipped to provide 'basic emergency medical care' as defined in Iowa Administrative Code 641-Chapter 132 (2019)

FIRST OUT OR FIRST AMBULANCE shall mean an ambulance staffed and equipped to respond first and immediately to an emergency call.

SECOND OUT OR SECOND AMBULANCE shall mean an ambulance equipped to respond to an emergency call in the event the First Out Ambulance is unavailable.

CUSTOMERS shall mean those people or legal entities financially responsible for particular EMS calls or services.

EMERGENCY SERVICE CALLS shall not include non-emergency transfers to out of area hospitals.

2. TERMS OF RELATIONSHIP.

It is fully and completely understood by and between the parties that Midwest is an independent

contractor and the City, by entering into this agreement and subsidizing Midwest operations in the service territory has an ongoing responsibility to monitor the work of Midwest as outlined in this agreement. City agrees that by subsidizing Midwest, it has neither directly nor indirectly, any control of Midwest and that any actions on the part of Midwest are solely the actions of ~~the Ambulance Service~~ Midwest and City shall not in any way enter into the operations of, or services rendered by, Midwest.

The City shall solely establish the Service Territory of this Agreement (Attachment A - Map of Service Territory) and minimum level of service provided within the service territory. All communications regarding the service territory and services provided shall be solely between the City and Midwest. Midwest shall honor the Service Territory and may only provide service outside the territory with staff and equipment assigned to this Agreement with prior written approval of the City, except as permitted in the agreement for mutual aid. If for any reason the Service Territory is altered either party can request renegotiating the terms of the entire Agreement.

3. EQUIPMENT.

Midwest shall provide a minimum of two (2) ambulances stationed in the corporate limits of Grinnell. The ambulances shall be equipped and meet the minimum level of service as specified in Article 4 of this Agreement.

Midwest shall properly maintain these ambulance units in accordance with applicable federal, and state laws. The City agrees that a vehicle may be out of service for repairs for as long as ~~4~~ four (4) days but at no time may Midwest have less than ~~1~~ one (1) vehicle in service. ~~If a vehicle is out of service for more than four (4) days, Midwest shall provide a replacement vehicle within 24 hours of the end of the four (4) day period. Once 4 (four) days is exceeded a replacement vehicle must be provided within 24 hours of a unit going out of service.~~

Said ambulances shall be stored in the Grinnell Public Safety Building and maintained at the expense of Midwest. Midwest shall be responsible for maintaining the cleanliness and good mechanical condition of the ambulances at all times. The City agrees to provide ~~two~~ two (2) parking spots ~~inside~~ inside the Grinnell Public Safety Building for ~~Midwest's~~ ambulances.

The City may inspect ambulances, equipment, and facilities ~~with a reasonable notice at any time~~, for the purposes of determining that they are in good mechanical condition and resources are appropriate for servicing the agreement. ~~Midwest shall be responsible for stocking and replenishing all medical or other supplies in the ambulances for the provision of services included in this Agreement. Reasonable notice shall be 4 (four) hours during the hours of 8:00 a.m. to 5:00 p.m. and 12 (twelve) hours if an inspection is to occur outside those hours. These inspections shall be initiated by the Grinnell City Manager but may be completed by either the City Manager or an appropriate designee.~~

4. PERSONNEL.

Midwest shall render prompt ambulance service during the period covered by this Agreement and shall staff the ambulance with an adequate number of personnel qualified as Emergency Medical Technicians and under the following conditions:

'First Out' Ambulance Staffing

- a) Midwest shall staff the 'First Out' ambulance at a minimum classification of Basic Level Care, 24 hours a day, 7 days a week.
- b) The Midwest personnel who staff the 'First Out' ambulance shall be stationed with the ambulance on duty.
- ~~c) In the event the 'First Out' ambulance is on a medical call and another emergency call for service is requested, Midwest shall attempt to call in additional staff to respond to the call. In the event that Midwest is unable to have a crew available in a reasonable amount of time, Midwest will then immediately notify dispatch.~~
- c) The 'First Out' ambulance ~~nor its staff shall~~ and its staff shall not be used for non-emergency transports that do not end or originate in the service territory. The 'First Out' ambulance shall not be used for calls originating from Grinnell Regional Medical Center.

'Second Out' Ambulance Staffing

- ~~a) In the event the 'First Out' ambulance is on a medical call and another emergency call for service is requested, Midwest shall attempt to call in additional staff to respond to the call. In the event that Midwest is unable to have a crew available in a reasonable amount of time, Midwest will then immediately notify the City's Fire Department. The City's Fire Department may staff the 'Second Out' ambulance if they so choose. If the City's Fire Department does not choose to staff the 'Second Out' ambulance, Midwest shall then immediately notify dispatch.~~
- ~~b) It is understood and agreed that the City's Fire Department personnel who may provide EMS services in the 'Second Out' ambulance shall at all times remain the employees of the City and shall be subject to the Fire Department's command and operations structure. Fire Department Personnel shall follow the City's EMS protocols.~~
- ~~c) Midwest shall pay the City for the services performed by the City's Fire Department personnel at the rate of \$120 per call. Such payment shall be made within 30 days of receipt of invoice from the City.~~

General Staffing Requirements

- a) Only one of the ambulances assigned to the Service Territory may be out of the Service Territory for non-emergency transports at any time unless the City is first notified. Midwest shall notify an on duty fire fighter.
- b) Midwest agrees to use the resources that are a part of this Agreement to provide EMS to the Service Territory unless service is provided outside the Service Territory as part of a written mutual aid agreement or a tier agreement approved in writing by the City.
- c) Midwest shall not perform transports with equipment or personnel assigned to this ~~contract~~ Agreement, that do not originate in the Service Territory without approval from the City. This does not include work done as part of a written mutual aid agreement.

5. SUBSIDY AND PAYMENTS.

Midwest agrees to fulfill the terms of this Agreement from February 1, 2020 to January 31, 2025 and shall be paid by the City as follows:

February 1, 2020 to January 31, 2021. (270,000.00). Payments shall be made monthly in twelve equal installments of (22,500.00).

February 1, 2021 to January 31, 2022. (284,750.00). Payments shall be made monthly in twelve equal installments of (23,729.17).

February 1, 2022 to January 31, 2023. (300,237.50). Payments shall be made monthly in twelve equal installments of (25,019.79).

February 1, 2023 to January 31, 2024. ~~((316,499.00))~~ Payments shall be made monthly in twelve equal installments of (26,374.92).

February 1, 2024 to January 31, 2025. ~~((333,574.34))~~ Payments shall be made monthly in twelve equal installments of (27,797.86).

Payments are due ~~the~~ by the 10th of each month with the first payment for this Agreement~~contract~~ due February 10, 2020.

The foregoing payments shall constitute a subsidy to Midwest by the City as assistance to Midwest to perform the services set forth in this Agreement, and that said subsidy has been established as an effort to make this operation profitable for Midwest allowing them to offset the cost of personnel and equipment needed to staff, maintain, and operate an ambulance service in the Grinnell area.

6. CHARGES.

Midwest shall charge Customers based on a schedule of fees, including charges for supplies and drugs, which have been established by Midwest and which must be provided to the Grinnell City Manager annually no later than January 31st and are automatically made part of this Agreement once received by the City. It is understood that charges for drugs and supplies may change through the course of the year. These charges will apply even where the City's Fire Department personnel are staffing the 'Second Out' ambulance.

It is understood and agreed by the parties that said charges, (the rates are set forth in the current schedule of fees -Attachment B to this Agreement) shall be billed, collected, and retained by Midwest as substantial compensation for its cost of operation. The City is not responsible for charges or collections. City agrees to allow Midwest to re-negotiate the subsidy above in the event the actions taken by the federal, state, or local government, or their respective agencies, would substantially reduce the amount of monies which could reasonably be expected to be collected from Customers of Midwest, or would cause sufficient increases in operational expenses so as to adversely affect profitability for Midwest. The City also has the right to negotiate if their revenues or expenditures are substantially impacted by actions taken by the federal, or state government, or their respective agencies.

Midwest agrees to provide ambulance service to all city employees that may require assistance while on duty at no charge. This includes all volunteer fire fighters, police reserves, or other persons receiving hourly or salary compensation for their work. This does not include any employees working solely on a contractual basis.

7. RECORDS.

Midwest shall insure that a record is kept of the following: the time a call is received, the time Midwest arrives at the scene, the time on scene/the time the ambulance leaves the scene for the hospital, the time of arrival at the hospital, and the time the ambulance is back in service.

As a part of this Agreement, Midwest agrees to have all emergency response dispatched via the Poweshiek County Dispatch Center. Both parties agree to coordinate this with the Poweshiek County Sheriff's Office as they are charged with the management and oversight of the dispatch operations. Ultimately, Midwest is responsible for the maintenance of the equipment necessary for their staff to communicate effectively with the Poweshiek County Dispatch Center.

Subject to the limitations of HIPAA and other federal and state privacy laws, Midwest agrees to provide the City the following reports on an annual basis: Statistical Data. Data including, the average response time from time of dispatch until the ambulance arrives on-scene, the average response time from the time of the dispatch until the ambulance is en-route, and the average time the ambulance is on-scene until the ambulance is departing the scene. All information provided to the City is subject to HIPAA and other federal and state privacy laws.

Information maintained in Midwest's records pertaining to the identity, condition, or treatment of patients is confidential and not subject to inspection by non-Midwest personnel.

In providing EMS services under this Agreement, the City's Fire Department Personnel shall use their own reporting software but shall share such information as is necessary for Midwest to bill for the services provided.

8. RENT AND TERMS OF OCCUPANCY.

Both the City and ~~Ambulance Service~~Midwest agree to work in good faith to locate ~~Ambulance Service~~Midwest in the Grinnell Public Safety Building. Midwest will pay the City \$1 annually for rent and utilities. A building site plan showing the areas of joint occupancy and sole occupancy by ~~Ambulance Service~~Midwest is made part of this Agreement as Attachment C.

All employees or representatives of Midwest must submit to a fingerprint background check conducted by the Grinnell Police Department. These background checks will be reviewed by the Grinnell Chief of Police. The City shall solely determine, based on the findings of the check, whether or not a particular Midwest employee shall be allowed to work in the Grinnell Public Safety Building. It is understood and agreed that Midwest shall be allowed to have employees work within the Grinnell Public Safety Building temporarily until a determination is made on the findings of the background check. A guidance policy regarding this matter is included as Attachment D for reference.

Midwest shall be responsible to keep all areas it occupies solely in a clean and orderly manner consistent with the standard of care established throughout the Grinnell Public Safety Building. The care and cleaning of the following joint occupancy areas shall be the responsibility of Midwest:

- Female locker rooms.
- All hallways on the fire department side of the building.
- Exercise room, cleaned daily, in exchange for Midwest employee ~~entry~~access.

The City shall provide all necessary cleaning supplies and equipment.

As allowed by City Code, Midwest may install up to one sign on the property with their company designation. This sign size, design, location, and style must be approved in advance by the City Manager.

All conflicts related to co-location of Midwest in the Grinnell Public Safety Building should first be discussed between the City Manager and the Midwest Chief Operating Officer or Chief Executive Officer. The City Manager shall review the matter and order action appropriate to resolve the matter. No employee of the City or Midwest shall talk negatively about any others' performance unless a complaint has been submitted in writing to the City Manager and Midwest Chief Operating Officer. This would not pertain to discussions taking place as part of official city meetings.

Midwest will have the right to install security monitoring systems in all locations in which Midwest has rented space. It is understood that Midwest has leased the areas defined in this Agreement contract and that such monitoring, reports, supplies, equipment, and all other property of Midwest is owned solely by Midwest and is not subject to public record requests, or other inspections not permitted under the law. All installations must be pre-approved by the Police Chief or Fire Chief to ensure that there is no harm to the City's security system or the integrity of the building.

Midwest employees are expected to be in uniform while on duty or responding to calls for service. Midwest employees shall also be expected to be in uniform while using joint occupancy or common areas of the Public Safety Building at all times with the exception of the exercise room, visits to the restrooms and other trips of short duration. Even these exceptions require good judgment.

9. RENEGOTIATION.

In order to enable Midwest and the City to make arrangements for the continuation of EMS, it is agreed that the parties will renegotiate and execute any new Agreement no less than six (6) months in advance of the expiration of this Agreement, unless both the City and Midwest mutually agree to other timelines.

Midwest and the City agree that this Agreement may be extended, modified, or renegotiated at any time subject to mutual agreement of the parties. The City shall have unilateral authority to cancel this Agreement under the provisions set forth in Paragraph 11 below.

If no action is taken by either party to this Agreement to cancel, extend, modify or renegotiate this Agreement as described in this Agreement, this Agreement shall terminate January 31, 2025.

Midwest designates their company President as their representative on whom notice shall be served and who shall be notified of any breaches or deficiencies in this Agreement and the City designates the Grinnell City Manager as their designee on whom notice shall be served and who shall be notified of any breaches or deficiencies in this Agreement. City shall be notified at the City Offices of Grinnell, Iowa attention City Manager, 520 4th Avenue, Grinnell, Iowa 50112. Midwest shall be notified at 1229 Ohio St, Des Moines, Iowa 50314.

10. LIABILITY.

Employees or volunteers of either Party acting pursuant to this Agreement shall be considered as acting

under the lawful orders and instructions pertaining to their employment or volunteer status with such Party. Under no circumstances are employees or volunteers of one Party to be considered employees or volunteers of the other Party.

Each Party waives all claims against the other for compensation for any property loss or damage and/or personal injury or death to its personnel as consequence of the performance of this Agreement. Each Party shall bear the liability and/or costs of damage to its equipment and facilities, and the compensation of its employees or volunteers, including injury or death of its personnel, occurring as a consequence of the performance of this Agreement.

Except as provided herein, each Party shall be responsible for the acts or omissions of its own employees, and shall indemnify, defend and hold harmless the other Party, its officers, agents and employees from and against any and all suits, actions, debts, damages, costs, charges and expenses, including court costs and attorney's fees arising from loss of or damage to private property, and/or the death of or injury to private persons, arising from services of response rendered pursuant to this Agreement.

Nothing in this Agreement shall prevent or limit either Party to this Agreement from recovering or attempting to recover costs of services rendered to a third party where such recovery of costs is provided for by law.

The Parties to this Agreement do not waive any defenses, immunities or other limitations applicable to a respective party and nothing herein shall be so construed. Each Party to this Agreement reserves the right to fully defend all claims arising from loss of or damage to private property and/or death of or injury to private persons who are not parties to this Agreement including, but not limited to asserting defenses of immunities available under applicable law.

This Section shall survive the termination of this Agreement where necessary to protect each Party to this Agreement.

11. ~~INSURANCE AND INDEMNIFICATION.~~

Midwest agrees to maintain proper worker's compensation insurance as to any employed personnel. Midwest further agrees to maintain automobile liability and property damage insurance on all of its ambulances or any back-up units used by Midwest in the amount of not less than one million dollars (\$1,000,000.00) per combined single occurrence (each accident). Midwest agrees to maintain general liability insurance and professional liability insurance in the amount of not less than one million dollars (\$1,000,000.00) per occurrence covering the operation of the EMS and its personnel.

~~Midwest does hereby agree to indemnify and hold harmless the City, its Mayor and City Council members, officers, and employees, from any and all claims and liabilities of any type or nature whatsoever, for damages to, loss of, or the destruction of any property or person or persons, which may now or hereafter arise out of, or result from the operations of Midwest and the providing of service incident to or pursuant to this Agreement.~~

~~Likewise, the City shall be solely liable for its own negligence and/or negligence of its employees, agents~~

~~and/or designees. The City agrees to indemnify and hold harmless Midwest, its officers, employees from any and all claims, demands, actions, or causes of action occasioned by the negligence or fault of the City, its contractors, agents, officers, or employees. In rendering services under this agreement; provided however this provision does not abrogate any immunity granted to the City by law.~~

12. PROOF OF INSURANCE.

Midwest shall provide the City a Certificate of Insurance as evidence that the insurance described in Paragraph 10 above is in force and effect upon the City's request. The failure of Midwest to supply the Certificate of Insurance in a timely fashion or failure by Midwest to have the insurance in force and affect at any time during this Agreement for whatever reasons that may have occurred, shall constitute sufficient grounds upon which the City may unilaterally and independently cancel this Agreement by serving written notice of cancellation on Midwest at their business office.

~~10-13.~~ DISCRIMINATION.

Midwest shall not discriminate their provision of service because of race, creed, color, religion, national origin, sex, age, financial status, gender, gender identity, marital status, sexual orientation, military status or physical or mental disabilities in any of its Grinnell activities or operations.

~~11-14.~~ MUTUAL AID.

Midwest may enter into mutual aid agreements or contracts with other EMS providers and shall attempt to initiate said agreements. Any mutual aid or tiering agreements shall be in writing and executed by both parties. Copies of these executed agreements shall be provided to the City.

~~12-15.~~ DISPATCHING.

Midwest agrees that emergency dispatching shall be done via the Poweshiek County Dispatch Center. Midwest shall Install and pay for its own phones, communication systems, and have a business number(s) and accept calls at these numbers. City requires that Midwest advertise, encourage, and promote the use of 911 as the proper number of emergency EMS calls. Midwest agrees to provide the training necessary for their employees to work effectively within the Poweshiek County dispatch system.

~~13-16.~~ TERMINATION.

If either party materially breaches this AgreementContract, the other party may terminate the AgreementContract provided that it notifies the breaching party by certified mail of the specific breach(s) and allows the breaching party the opportunity to cure the breach(s) within sixty (60) days of the receipt of notice. If the breach~~(s)~~ has/have not been cured within (60) days of receipt of notice, the AgreementContract may be terminated without further notice.

Notwithstanding the foregoing, the AgreementContract may be terminated without prior notice If Midwest is unable to provide the level of service required in Section 4 above. Nothing contained herein shall authorize the City to terminate this AgreementContract for any reason other than uncured breach of contractor-Midwest or as stated elsewhere in this Agreement as specified in section 11.

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In the event of a termination of this Agreement due to a breach by the City, the City agrees to pay, as liquidated damages and not as a penalty the following:

If the breach occurs during the first year of the agreement - 100% of all monthly subsidies from the time of the breach through the remainder of the agreement to Midwest.

If the breach occurs during the second year of the agreement - 90% of all monthly subsidies remaining on the agreement to Midwest.

If the breach occurs during the third year of the agreement - 80% of all monthly subsidies remaining on the agreement to Midwest.

If the breach occurs during the fourth year of the agreement - 75% of all monthly subsidies remaining on the agreement to Midwest.

If the breach occurs during the fifth year of the agreement - 70% of all monthly subsidies from the time of the breach through the remainder of the agreement to Midwest.

In the event of a dispute between the parties in connection with or relating to this Agreement, such dispute shall be resolved as follows:

A. The parties shall first meet and attempt in good faith to resolve the dispute within ten (10) days after written notice to each party.

B. If such meeting is unsuccessful, the parties shall meet in mediation and attempt in good faith to resolve the dispute within ten (10) days after the meeting described above. Each party shall select one mediator and both mediators will select a third mediator. If both parties cannot agree to the selection of the three mediators the matter may be referred to the courts. Unsuccessful mediation may also be referred to the courts.

C. The substantially prevailing party in any court action shall be entitled to reimbursement by the opposing part of its costs and expenses of court action including, but not limited to, reasonable attorney's fees, court fees, and expert witness fees incurred as a result of such proceeding, or action.

Midwest shall have the right to terminate this Contract Agreement upon sixty (60) days written notice due to rate changes by, but not limited to, Wellmark, Medicaid, Medicare or other insurers causing Midwest to operate at a loss for three (3) consecutive months. Midwest shall provide accounting to the City in advance of, and prior to, the sixty (60) days' notice to confirm such losses.

13-17. DISCLOSURE - As required by Public Law 960499 (Omnibus Reconciliation Act of 1980):

A. Until the expiration of four (4) years after the furnishing of such services pursuant to such Agreement Contract, Midwest shall make available, upon written request of the Secretary, or on request of the Comptroller General, any records of Midwest related to Midwest's operations in the city

of Grinnell, Iowa, that are necessary to certify the nature and extent of such costs, and

B. If Midwest carries out any of the duties of the Contract Agreement through a subcontract, with a value of cost of Ten Thousand Dollars (\$10,000.00) or more over a twelve (12) month period, with a related organization, such subcContract shall contain a clause to the effect that until the expiration of four (4) years after the furnishing of such services pursuant to such a Subcontract, the related organization shall make available, upon the request of the Comptroller General, or any of their duly authorized representatives, the Subcontract, books, documents, and records of such organization that are necessary to verify the nature and extent of such costs.

14-18. LAWS.

This agreement shall be construed in accordance with the laws of the State of Iowa.

15-19. AUTHORIZATION.

The signers of this document warrant they are acting officially and properly on behalf of their respective institutions and have been duly authorized and empowered to execute this agreement in accordance with all state laws and requirements. The City shall be responsible for all filing requirements of this agreement with the Secretary of State and any other agency(s) as required by law.

16-20. ENTIRE AGREEMENT.

This Agreement, including any Appendices hereto, constitutes the sole and only agreement of the parties regarding its subject matter and supersedes any prior understandings or written or oral agreements between the parties respecting this subject matter. Neither party has received or relied upon any written or oral representations to induce it to enter into this Agreement except that each party has relied only on any written representations contained herein.

17-21. AMENDMENTS.

No agreement or understandings varying or extending this Agreement shall be binding upon the parties unless it is memorialized in a written amendment signed by an authorized officer or representative of both parties.

18-22. ASSIGNMENT.

This Agreement may be assigned by a party upon the written approval of the other party, which shall not be unreasonably withheld. Written approval is not required in the event a party is sold or acquired by a successor entity or in the event of a change of ownership, although notice of such a transaction shall be given to the other party within thirty (30) days after the effective date of such transaction. This Agreement shall be binding upon all successors and assigns.

19-23. CONSTRUCTION AND COMPLIANCE.

a. Severability. In the event that any one or more of the provisions contained in this Agreement shall for any reason be held by any court or by the Office of Inspector General (OIG) of the United States Department of Health and Human Services to be invalid, illegal, or unenforceable in any respect, such Invalidity, illegality, or unenforceability shall not affect any other provisions and the Agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained in it.

b. Compliance. The parties intend to comply fully with all applicable state and federal laws and regulations, including but not limited to the Balanced Budget Act of 1997, the Social Security Act, the federal Anti-Kickback Statute, the federal False Claims Act, and all applicable state and federal fraud and abuse laws and rules. Insofar as any terms or conditions of this Agreement are determined by any court or by the OIG to be contrary to any such statutes or regulations, the parties will promptly and in good faith confer and resolve any issues so as to make the performance of this Agreement consistent with all applicable statutes and regulations.

c. Notification of Actual or Potential Violation of Law. If either party becomes aware of any actual or potential violations by the other party, whether intentional or inadvertent, of any applicable state or federal statutes or regulations, it shall promptly notify the other party.

THIS ~~EMS~~ AMENDED AND RESTATED AGREEMENT, entered into this _____ day of _____ 2020, by the City and Midwest shall become effective on _____.

Mayor

City Clerk

President – Midwest

Secretary – Midwest

