The “Denver Metro EMS Medical Director Protocols” have been implemented for all levels of EMTs, AEMTs, EMT-Is and Paramedics. Any reference in the protocols to the medical acts allowed, procedures, or operations at any level is not to be construed as authorization to act beyond the scope of certification of any provider.

Specific protocols and polices for St. Anthony agencies are included in this section and are to be followed by all St. Anthony agencies. These protocols are polices to supplement the Denver Metro EMS Medical Director Protocols.

W. Peter Vellman, MD
Medical Director
TABLE OF CONTENTS

ADMINISTRATIVE PROTOCOLS & FORMS:

- Alcohol Emergency Evaluation Form 3
- Field Pronouncements 4
- Heat Illness Evaluation Form 5
- Reportable Diseases and Conditions 6
- Security and Storage of Controlled Drugs 7-8
- Special Events Treatment/Documentation Requirements 9
- Unusual Circumstance Reports (UCR) 10-11
  - UCR Requirement in Absence of Base Contact 12
  - Sample UCR Form 13-14

OPERATIONAL/PROCEDURAL PROTOCOLS:

* Adult IO – Including authorization for EMT-IV 15-16
  - Humeral Head IO 17
- Helicopters: Guidance for Use of Helicopters 18
- King 2.0 and 2.5 – Airway Management Procedural Protocol 19-20
- Pediatric Fever 21

MEDICATIONS:

- Acetaminophen (Tylenol) 22
- Cyano-Kits: Hydroxocobalamin for Cyanide Poisoning 23
- Diphenhydramine 24
- Droperidol (Inapsine) 25-26
* Epinephrine -- IM Administered by EMTs for Allergy/Anaphylaxis 27
- Ibuprofen (Advil) 28
* Ketamine -- Excited Delirium/Extremely Combative (Protocol 6010) 29-30
- Nitroglycerine Paste 31
- Ondansetron (Zofran) for EMTs 32

*Note: * denotes Waiver-Specific Protocols.
# ALCOHOL EMERGENCY EVALUATION FORM

The exam of the intoxicated **ADULT** party must reflect all “NO” boxes to allow the patient to be released to a sober competent adult.

<table>
<thead>
<tr>
<th>Patient Name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOB:</strong> ______</td>
<td>(if legal minor, not emancipated nor legally married, transport party or release to sober, competent legal guardian, family member or police, BASE CONTACT REQUIRED)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Yes</strong></th>
<th><strong>No</strong></th>
<th>Description</th>
<th><strong>Yes</strong></th>
<th><strong>No</strong></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>Non-Ambulatory - <em>wheelchair excluded</em></td>
<td>Yes</td>
<td>No</td>
<td>Unexplained Seizure within 48 hrs</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Unable To Stand From Seated Position</td>
<td>Yes</td>
<td>No</td>
<td>Significant Trauma within 24 hrs</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Not Responsive</td>
<td>Yes</td>
<td>No</td>
<td>Tuberculosis within 3 months</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Combative</td>
<td>Yes</td>
<td>No</td>
<td>Surgery within Last 2 wks</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Chest Pain</td>
<td>Yes</td>
<td>No</td>
<td>Allergic Reaction</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Difficulty Breathing or On Oxygen</td>
<td>Yes</td>
<td>No</td>
<td>Recent GI Bleed within 24 hrs</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>SpO2 &lt; 90%</td>
<td>Yes</td>
<td>No</td>
<td>Trachea, Feeding Tube, Colostomy</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Abdominal Pain</td>
<td>Yes</td>
<td>No</td>
<td>Current Poly Pharmacological Abuse</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Hemorrhage or Hematemesis</td>
<td>Yes</td>
<td>No</td>
<td>Ingested Large Quantities of ETOH within 1hr</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Suicidal/Homicidal Ideation</td>
<td>Yes</td>
<td>No</td>
<td>On Coumadin or Other Anticoagulant</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Obvious Dehydration</td>
<td>Yes</td>
<td>No</td>
<td>Pregnant</td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>BGL (&lt;60 or &gt;250) _____mg/dl</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Yes</td>
<td>No</td>
<td>Unstable Vitals (&lt; 80 or &gt;200 Systolic &gt;110 Diastolic or HR &gt; 130 &lt; 60 or Resp. &gt;30 &lt; 10)</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Vitals:**

- B/P: / HR: RR: SpO2:

**Released To:** ____________________________

- **Print Name**

**Party Released:** ____________________________

- **Print Name**

**Time Completed:** ____________________________

- **Sign Name**
FIELD PRONOUNCEMENTS

The Denver Metro EMS Medical Director Protocols pertaining to field pronouncements provides for the Medical Director to determine circumstances in which it may be appropriate for the prehospital provider to not establish base station contact (0050 General Guidelines: Termination of Resuscitation and Field Pronouncement Guidelines)

All St. Anthony prehospital agencies are encouraged to contact the base station on any pulseless and apneic patient including those listed on the Termination of Resuscitation and Field Pronouncement Guidelines Protocol. Only in unequivocal circumstances is base station contact not required, including patients found in any of the following conditions:

1. Decapitation
2. Decomposition
3. Full thickness burns over more than 90% of the total body surface area
4. Dependent lividity or rigor mortis
5. A valid CPR directive present with the patient (see 0060 General Guidelines: Advanced Medical Directives)
6. Signs of massive blunt trauma or head trauma

The determination of death is to be accomplished in accordance with accepted medical practice. This means there must be a determination that death is irreversible. In some circumstances, this is obvious to the prehospital provider. Base station contact for “pronouncement” is not necessary and can be performed under standing order in Dr. W. Peter Vellman’s name.

The following principles are to be complied with:

1. To ensure that the prehospital providers make the determination of death in a manner that is not likely to be questioned, base station contact is encouraged in all cases.

2. Only if it is obvious that a prolonged period of time has elapsed (such as decomposition, gross lividly or rigor) may base station contact be deferred.
HEAT ILLNESS EVALUATION FORM

Patients complaining of heat related issues that have been treated with non-invasive therapies (cooling, oral fluids and monitoring) and answering ‘NO” to all of the below signs and symptoms prior to release to the following questions do not require base contact or a PCR.

Patient Name: ___________________________ Date: ________________

DOB: ______________________

<table>
<thead>
<tr>
<th>NO</th>
<th>YES</th>
<th>Description</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Heavy sweating</td>
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<td>Fatigue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Syncope</td>
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<tr>
<td></td>
<td></td>
<td>Dizziness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Muscle cramps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Headache</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nausea with vomiting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confusion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clinically intoxicated or any intoxicants other than alcohol</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pale skin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Abdominal cramping</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thirst</td>
</tr>
<tr>
<td></td>
<td>YES</td>
<td>Obvious signs of dehydration with unstable vital signs (&lt;80 or &gt; 200 systolic), (&gt;110 diastolic), (HR &gt;130 bpm or &lt; 60 bpm)</td>
</tr>
</tbody>
</table>
REPORTABLE DISEASES & CONDITIONS

Scope

This policy applies to Infection Prevention with regard to the process and procedure for follow-up for EMS agencies that transport patients to Centura hospitals in the Mountain North Denver Operating Group. These include: St. Anthony Hospital, St. Anthony North Hospital, St. Anthony North Medical Pavilion, Avista Adventist Hospital, and St. Anthony Summit Medical Center.

Purpose

To Comply with State and Federal laws mandating the reporting of specific communicable diseases or situations, including those involving potential exposure of first responders.

PROCEDURE

Emergency Services Designated Officer (DO)

1. Respiratory
   a. When Infection Prevention is alerted to a respiratory communicable disease in a patient that was transported by an Emergency Medical Services Agency (EMS) (e.g. Flight For Life Colorado, municipal / county / private ambulance service or Fire department, etc.), Infection Prevention will notify the Director of PreHospital Services, facility EMS Coordinator, or designee.
   b. The Director of PreHospital Services, facility EMS Coordinator or their designee will determine which EMS agency / agencies were involved and make an initial notification to the agency Emergency Services DO. The DO will investigate and proceed with notification and follow-up with their staff per agency policy.

2. Blood and Body Fluids
   a. Documented exposure to blood, body fluids, or other potentially infection material (OPIM) will be handled via Centura policy ____________.
SECURITY AND STORAGE OF CONTROLLED DRUGS

General Principles

EMS agencies that utilize ALS providers are required to have an approved policy regarding security and storage of controlled medications. In the event that an agency does not have an approved internal policy this one shall be utilized.

ALS providers may be authorized to administer Controlled Substances to include: Morphine Sulfate, Diazepam, Midazolam, Ketamine and Fentanyl only within the established indications of the Medical Directors protocols. The EMS Agency is responsible for the storage and security measures. This is an extension of the Medical Director, because the drugs are stored on ambulances, rescue/fire response vehicles or agency premises rather than at the office of the Medical Director. All controlled drugs must be obtained from an authorized Centura facility.

Procedure Requirements for Storage and Security

A. The ALS provider, as an extension of the Medical Director and the EMS Agency, must provide effective controls to guard against theft or diversion of controlled drugs.

B. Any ALS provider or Agency which has reasonable cause to believe that any amount of controlled drugs have been diverted, stolen, or that an amount was administered outside the scope of protocols (including standing orders) must report this to the Medical Director or his designee immediately. An Unusual Circumstances Report must be completed and submitted within 24 hours. Included in this UCR should be information detailing the date of the loss, the individuals involved in identifying the loss, a police or law enforcement case number if applicable and available, the details surrounding the loss, and measures taken to prevent further loss.

C. All controlled drugs must be stored in a securely locked, substantially constructed case or cabinet.

D. Under no circumstances may the controlled drugs be handled by any person who has been convicted of a felony relating to controlled drugs.

E. It is the policy of the Federal Drug Enforcement Administration (DEA) that employers determine if any employee has been convicted of a crime or unauthorized use of controlled drugs. The DEA also expects that any person, who engages in illicit use of controlled drugs, be investigated by the employer regarding continued employment.

F. The adequacy of storage and security of controlled drugs are determined by the:

1. Location the controlled drugs are stored (ambulance, locked cabinet).
2. Type of enclosure (substantially constructed: plastic or metal, tamper-proof).
3. Type of closure, key system, or lock.
4. Limitation of access to the drugs by non-paramedics (patients, students, others). The ALS provider on duty is to be the only person to have access.

5. Each agency needs to establish a sign-in/sign-off system that monitors use, security, and the amounts available at any given time. These systems MUST be submitted in writing and approved by the Medical Director.

6. Written documentation is required for any controlled drug administered during patient care by the ALS provider. Documentation must, at minimum, include the following information: trip/call number, patient name, amount given, time administered, the administering paramedic’s signature, and the name of the physician ordering the drug or if the drug was administered according to standing orders.

7. Written documentation is required for any controlled drug that is wasted and must, at minimum, include the following information: trip/call number, patient name, amount given, amount wasted, time, and two signatures. Wasted amount must be witnessed.

G. All documentation, as outlined above, must be retained for a minimum of two (2) years and be made available to the Medical Director or his/her designee at any reasonable time.

H. The storage and security system implemented by an Agency, including any modifications, must be in writing and approved by the Medical Director.
SPECIAL EVENTS TREATMENT & DOCUMENTATION REQUIREMENTS

It is the purpose of this protocol to provide guidance and outline documentation and base contact requirements for agencies and personnel that oversee medical coverage for special events.

I. PATIENT TRACKING:

A. Patient Contact Log: All patient contacts and first aid assists will be entered in the Event Patient Contact Log.

B. Patient Care Report (PCR). PCR’s are not required for the following:
   a. Intoxicated adults that meet the criteria for the Alcohol Evaluation Form
   b. Adults experiencing heat illness that meet the criteria for the Heat Illness Evaluation Form
   c. Soft tissue injuries in the adult and minor
   d. OTC medication administration

C. BASE CONTACT is required for the following:
   a. Refusals that don’t meet the Standing Order refusal criteria as defined in the Denver Metro Protocols (General Guidelines 0080)
   b. Intoxicated minors
   c. Unattended minors with a medical complaint

II. ALCOHOL EVALUATION FORMS:

a. The exam of the intoxicated adult party must reflect all “NO” boxes to allow the party’s release to a sober, competent adult.
b. Intoxicated minors with no medical or trauma complaints may be released to the following only:
   a. Parent
   b. Legal guardian
   c. Police
UNUSUAL CIRCUMSTANCE REPORTS (UCR):

(Emergency Department/Field Agency Incident Report)

Purpose

The purpose of this protocol is to provide a guideline for prehospital providers and field instructors to:

A. Inform the Medical Director or his/her staff about an unusual incident.
B. Initiate an inquiry into an event or incident.
C. Report patient encounters to the Medical Director in which base station contact could not be made as required by protocol.
D. Any concern relating to the quality of care of a patient in the St. Anthony system.
E. Any additional documentation required regarding Medical Director waivers that are in effect for the EMS agency.

The Unusual Circumstance & Emergency Department/Field Agency Incident Report is intended to provide a uniform reporting form for the St. Anthony system. It should be used for both positive reporting of commendable conduct as well as problems or difficult encounters because all of these are considered important for quality improvement of the EMS system. Documentation of an unusual circumstance does not equate to a complaint or necessarily reflect a negative criticism of an event (the implications and result of a report are to be determined by the Medical Director). It serves as a means to resolve issues, identify areas for system improvement and commendation, and avoid the ineffectiveness of verbal complaints, statements and compliments.

Procedure

A. INCIDENTS REQUIRING UCR. The following are instances when an unusual circumstance report is required to be submitted to the Medical Director or his / her designee:

- **ABSENCE OF BASE CONTACT:** When the prehospital provider has a patient encounter in which base station contact could not be made as required by protocol. In such cases, the run report must accompany the report. Note: See Specific System Protocol for “UCR REQUIREMENT IN ABSENCE OF BASE CONTACT” – which immediately follows this protocol.

- **Cricothyrotomy:** In the event a cricothyrotomy is performed a UCR must be submitted, with the run report, to the office of the Medical Director within 48 hours of patient encounter. The Paramedic who performed or attempted to perform the procedure is responsible for completion of the UCR form and reporting.

- **Ketamine:** In the event Ketamine is administered, a UCR must be submitted, with the run report, to the office of the Medical Director within 48 hours of patient encounter.
hours of patient encounter. The Paramedic who administered the Ketamine is responsible for completion of the UCR form and reporting.

B. The UCR should not be submitted with the copy of the run report that is left with the Emergency Department when a patient is transported.

C. The UCR may be submitted to the Medical Director or EMS Coordinator via email or at the following address according to department policy:

St. Anthony PreHospital Services
34 Van Gordon
Lakewood, Colorado 80228

D. The sample form/format appended to this protocol is available for use. This can be substituted with any written or electronic correspondence that includes all of the information contained in section E, noted below.

E. It is important that any UCR include the following:
   1. A copy of the pertinent run report/PCR must be attached to the UCR.
   2. Reporting person’s name, agency, and telephone number(s).
   3. Identification of the data, time, location, and agency/agencies and personnel involved.
   4. The receiving facility, if the patient was transported.
   5. In cases of deviation from protocol, such as an emergency when base station contact could not be established, an explanation of the events which prevented base station contact.
   6. The reporting person’s source of information (personal observation or from person who has first hand knowledge.)

F. All UCRs will be reviewed, and where appropriate, the author of the report will be provided feedback from the Medical Director, EMS Coordinator, or the PreHospital staff.

G. Examples of the types of incidents or events that should be documented on an UCR include the following:
   - Physician/other intervener calls in which patient care may have been effected
   - Complimentary reports of agencies or personnel.
   - Anytime base station communication is not possible regardless of the emergent nature of the call, or radio or geographical problems.
   - Medication or procedure errors or complications.
   - Difficulties encountered with hospital staff of a transferring or receiving facility.
UCR REQUIREMENT IN ABSENCE OF BASE CONTACT

Indications:

A. This procedure is to be utilized in the event that online medical control (when required by protocol) cannot be utilized due to operational difficulties with communications.

Technique

A. Reasonable attempts MUST be made to make base station contact with online medical control prior to an EMT, AEMT, EMT-Intermediate or Paramedic administering medication to a patient that requires BASE CONTACT per protocol.

B. In the event that online medical control cannot be made, the EMT, AEMT, EMT-Intermediate or Paramedic shall provide patient care and medication administration in accordance with the appropriate written protocol and fill out an Unusual Circumstance Report (UCR), to be submitted to the Medical Director or Their representative within 48 hours of the call.
   a. A copy of the patient care report must accompany the UCR

C. During transport, as soon as online medical contact can be made, the EMT, AEMT, EMT-Intermediate or Paramedic should call report and confirm medication administration.
SAMPLE UCR FORM

UNUSUAL CIRCUMSTANCE REPORT (UCR)
(for Emergency Room/Field Incidents)

Note: If this UCR is being submitted to report a Protocol Violation (deviation) it must be completed and sent within 48 hours of the incident.

Patient Name: ________________________________________________________________

Date: _______________________________ Time:____________________________

Persons involved: ____________________________________________________________

____________________________________________________________

Description of incident:
_____________________________________________________________________
_____________________________________________________________________
___________________________________________________________________________________________
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Please attach any additional documentation
(i.e.: ER report, Nurse’s notes, EMS field report, Flight record, etc.)

Reported by: _____________ Agency or Department _____________ Date _________

Disposition - See reverse side

Note: All reports and supporting documentation should be forward to:
EMS Field Coordinator.
St. Anthony Hospital Protocols
Operational Protocols

Disposition: __________________________________________

________________________________________________________________________

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ADULT INTRAOSSEUS (IO) PLACEMENT: EMT-IV AUTHORIZATION
WHEN SUPERVISED BY EMT-I OR PARAMEDIC

Note: This protocol authorizes a trained EMT with IV authorization (EMT-IV) to perform/place an IO when directly supervised (actively present) by an EMT-I or Paramedic.

Indications (must meet all criteria):
A. Rescue or primary vascular access device in a patient with critical illness defined as:
   1. Cardiopulmonary arrest or impending arrest
   2. Profound shock with severe hypotension and poor perfusion
B. Utilization of IO access for all other patients requires base station contact
   1. E.g.: Hypoglycemia with severe symptoms (e.g. unresponsive) and no venous access
C. IO placement may be considered prior to peripheral IV attempts in critical patients without identifiable peripheral veins

Technique:
A. Site of choice – tibial plateau: 2 fingerbreadths below the tibial tuberosity on the anteromedial surface of tibia.
   1. Alternative sites (e.g. humeral head in adults) are device-specific and require authorization from the agency Medical Director.
B. Clean skin with povidone-iodine.
C. Place intraosseous needle perpendicular to the bone.
D. Follow manufacturer’s guidelines specific to the device being used for insertion.
E. Entrance into the bone marrow is indicated by a sudden loss of resistance.
F. Flush line with 10 cc saline. Do not attempt to aspirate marrow
   a. If patient conscious, administer lidocaine for pain control before infusing any other fluids
G. Secure line
   1. Even if properly placed, the needle will not be secure. The needle must be secured and the IV tubing taped. The IO needle should be stabilized at all times.
H. Observe for signs of limb swelling, decreased perfusion to distal extremity that would indicate a malpositioned IO catheter or other complication. If limb becomes tense or malperfused, disconnect IO tubing immediately and leave IO in place.
I. A person should be assigned to monitor the IV at the scene and en route to the hospital.
J. Do not make more than one IO placement attempt per bone.
K. Do not remove IO needles in the field.
L. Notify hospital staff of all insertion sites/attempts and apply patient wristband included with kit to identify IO patient.

Complications:
A. Fracture
B. Compartment syndrome
C. Infection

Contraindications:
A. Fracture of target bone
B. Cellulitis (skin infection overlying insertion site)
St. Anthony Hospital Protocols
Operational Protocols
   C. Osteogenesis imperfecta (rare condition predisposing to fractures with minimal trauma)
   D. Total knee replacement (hardware will prevent placement)

Side Effects and Special Notes:
   A. Some authorities recommend aspiration of marrow fluid or tissue to confirm needle location. This is not recommended for field procedures, as it increases the risk of plugging the needle.
   B. Expect flow rates to be slower than peripheral IVs. Pressure bags may be needed. Any drug or IV fluid may be infused.
   C. Some manufacturers recommend the use of lidocaine for the treatment of pain associated with fluid administration. Check with your manufacturer and Medical Director for further guidance
HUMERAL HEAD INTRAOSSEUS (IO) CATHETER PLACEMENT

Indication (must meet all criteria) – EMT-I & Paramedic

A. Rescue or primary vascular access devise in a patient with critical illness defined as:
   1. Cardiopulmonary arrest
   2. Profound shock with severe hypotension and poor perfusion

B. Utilization of IO access for all other patients requires base station contact
   1. E.g.: Hypoglycemia with severe symptoms (e.g. unresponsive) and no venous access

C. IO placement may be considered prior to peripheral IV attempts in critical patients without identifiable peripheral veins

Technique:

A. Place the patient’s hand on the patient’s abdomen near the umbilicus.
B. Expose the shoulder and adduct the humerus.
C. Locate the humeral head (greater tubercle).
D. Clean the skin with povidone-iodine.
E. Place intraosseous needle perpendicular to the bone.
F. Follow manufacturer’s guidelines specific to the device being used for insertion.
G. Entrance into the bone marrow is indicated by a sudden loss of resistance
H. Flush line with 10 cc saline. Do not attempt to aspirate marrow.
   a. If patient conscious, administer lidocaine for pain control before infusing any other fluids
I. Secure line.
J. Observe for signs of limb swelling.
K. A person should be assigned to monitor the IV at the scene and en route to the hospital.
L. Do not make more than one IO placement attempt per bone.
M. Do not remove IO needles in the field.
N. Notify hospital staff of all insertion site/attempts and apply patient wristband included with kit to identify IO patient.

Contraindications:

A. Fractures
B. Previous orthopedic procedures near insertion sight
C. Infection at the insertion site
D. Inability to locate landmarks or excessive tissue
HELICOPTERS - GUIDANCE FOR USE OF HELICOPTERS

The use of a medical helicopter should be considered:

A. When the helicopter can, in an appropriate time frame, arrive at the scene and provide necessary medical care not already available from the first responding agency.

B. When the helicopter can transport the patient to the appropriate hospital in less time than a ground ambulance.

C. To provide additional prehospital care givers to the scene of multiple patients.

D. For effective dispersal of multiple patients to tertiary care centers.

E. For prolonged extrication of patients.

F. When the level of care provided by a flight crew will be the best benefit to the patient.

NOTE: Medical helicopters can be a life-saving resource when utilized properly. The decision to request, or not request, a medical helicopter may be the most important decision made at a scene. Understand your agency, systems and resources, understand the helicopter system, and make the decision that is in the best interests of your patient.
**KING AIRWAYS 2.0 & 2.5—PROCEDURAL PROTOCOL**

**Indications - for EMT, AEMT, EMT-I, and Paramedic**

A. To secure a patent airway and deliver ventilations as an alternative to endotracheal intubation in patients over 35 inches tall.
B. To be used as an adjunct airway after 2 unsuccessful oral intubation attempts.
C. Size 2 and 2.5 to be used in cardiac arrest only.

**Contraindications**

A. Patients with an intact gag reflex.
B. Patients with known esophageal disease (e.g., varices, hx of Mallory-Weiss tear)
C. Any patient that has ingested a known caustic substance.
D. Patients who are less than 35 inches tall.

**Technique**

A. Use BSI including gloves, mask, and eye protection. Assemble the equipment while continuing BVM ventilations.
   1. Choose correct tube size based on the patient’s height.
      a. 35-45 inches tall = size 2 (green)
      b. 41-51 inches tall = size 2.5 (orange)
      c. 48-60 inches tall = size 3 (yellow)
      d. 60-72 inches tall = size 4 (red)
   2. Check inflatable cuffs for leaks.
   3. Apply water soluble lubrication to posterior aspect of both distal and proximal cuffs
   4. Prepare and turn on suction.
B. Apply chin lift and introduce the King airway into either corner of the mouth.
C. Advance tip behind the base of the tongue while rotating the tube until the blue orientation line faces the chin.
D. Without excessive force, advance the tube until the base of the colored connector is aligned with the patient’s teeth or gums.
E. Inflate cuff based on tube size.
   1. Size 2 = 25-35 ml
   2. Size 2.5 = 30-40 ml
   3. Size 3 = 45-60 ml
   4. Size 4 = 60-80 ml
F. Attach BVM. While gently bagging slowly withdraw the tube until ventilation is easy to administer (a large tidal volume with minimal airway pressure).
G. Adjust cuff inflation if necessary to obtain an airway seal at peak ventilation pressure.
H. Assess for proper tube placement.
   1. Assess breath sounds.
   2. Assure chest rise and fall.
   3. End tidal CO₂ monitoring.
4. Continue to reassess that tube is properly placed and that patient ventilation is easy and free-flowing with chest rise and adequate breath sounds.
5. Note proper placement and secure with tube tie.
6. If at any time the provider is unsure of proper placement – deflate cuff, remove and use BVM for ventilation.

**Complications**

A. Hypoxia due to prolonged insertion attempt.
B. Unrecognized tracheal placement will result in an inability to successfully ventilate the patient.
C. Higher airway pressures may divert air into the stomach.

**Special considerations**

A. Lubricate only the posterior aspect of the King airway to avoid blockage of the ventilation ports or aspiration of lubricant.
B. The King airway does not protect against aspiration and its use in the presence of a gag reflex may result in an airway emergency.
C. Medications cannot be administered through this airway.
D. Utilization of a tongue depressor may be utilized to facilitate control of the tongue during insertion.
PEDIATRIC FEVER

Indications & Specific Information Required

A. Age: Patients must be **minimum age 6 months**.
B. Patient must have the ability to swallow or suckle without assistance and have an age-appropriate mental status.
C. History: Accurate temperature with fever of 38.3°C (101F) or higher noted with duration of fever, time frame since last dose, accurate weight in kilograms and what, if any, medications were administered prior to EMS arrival.
D. Past history: previous seizures, current medications, chronic illness specifically liver or renal disease, oncologic diagnosis, history of transplant, ulcers or gastritis, post-operative within two weeks, bleeding, asthma, drug sensitivity or allergy.

Treatment

A. Consider one of the two medications for patients with fever with no relief from previous administrations of anti-pyretics:
   1. Ibuprofen
   2. Acetaminophen

   **OR**

B. Document completely on PCR.
C. Any deviations require base contact.

Specific Precautions

A. Febrile seizures occur in normal children between 6 months and 6 years. Such seizures are usually short, lasting less than 5 minutes, generalized, and usually do not require anti-seizure drug therapy.
B. Oncology patients should not receive Ibuprofen or other NSAIDS due to the risk of increased bleeding associated with these medications.
C. Fever may be the result of a toxic ingestion such as Benadryl and other anticholinergics. Risk of toxic ingestion should be considered in all febrile pediatric patients.
Acetaminophen is a clinically proven analgesic/antipyretic. Acetaminophen is thought to produce analgesia by elevation of the pain threshold and antipyresis through action on the hypothalamic heat-regulating center. Acetaminophen is similar to aspirin in analgesic and antipyretic effectiveness and it is unlikely to produce many of the side effects associated with aspirin and aspirin-containing products.

**Indications**
- Fever

**Adverse Reactions**
- Severe liver damage may occur if more than 5 doses are administered in 24 hours, which is the maximum daily dose.

**Contraindications:**
- If patient has had medication containing acetaminophen within last four (4) hours.
- If patient is allergic to acetaminophen

**Dosage and Administration**

**Pediatrics**
- Oral dose of 16 mg/kg not to exceed 1000 mg. Dosing must be four (4) hours apart.

<table>
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<th>Weight in KG</th>
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<tr>
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**Specific Precautions**

D. Febrile seizures occur in normal children between 6 months and 6 years. Such seizures are usually short, lasting less than 5 minutes, generalized, and usually do not require anti-seizure drug therapy.

E. Fever may be the result of a toxic ingestion such as Benadryl and other anticholinergics. Risk of toxic ingestion should be considered in all febrile pediatric patients.

F. Acetaminophen should not be utilized to facilitate treat and release situations. Administration should only be performed if transport is initiated.

*Note: This St Anthony-specific protocol authorizes EMTs to administer Acetaminophen as an antipyretic in accordance with the St-Anthony specific protocol for PEDIATRIC FEVER.*
CYANO-KITS: HYDROXOCOBALAMIN FOR CYANIDE POISONING

Mechanism of Action:
- Vitamin
- Hydroxocobalamin (Vitamin B12a) is an effective antidote in the treatment of cyanide poisoning based on its ability to bind cyanide ions. Each hydroxocobalamin molecule can bind one cyanide ion to form cyanocobalamin (B12), which is then excreted in the urine.
- Cyanide is an extremely toxic poison. In the absence of rapid and adequate treatment, exposure to a high dose of cyanide can result in death within minutes due to inhibition of cytochrome oxidase resulting in arrest of cellular respiration

Indication – EMT-I and Paramedic
Known or suspected cyanide poisoning including smoke inhalation with serious signs and symptoms. Serious signs and symptoms are defined as altered mental status, seizures, coma, and cardiovascular collapse.

Contraindications
Known hypersensitivity to Hydroxocobalamin or Cyanocobalamin.

Dosage and Administration

Adult:
- Blood should be drawn (specifically with a purple topped tube) prior to administration.
- 5g IV/IO infused over 15 minutes.
- If signs and symptoms persist, a repeat dose can be administered with base physician approval and dosage recommendations.

Pediatric:
- Blood should be drawn (specifically with a purple topped tube) prior to administration.
- 70mg/kg, up to 5g IV/IO infused over 15 minutes.
- If signs and symptoms persist, a repeat dose can be administered with base physician approval and dosage recommendations

Each 2.5g vial needs to be reconstituted with 100mL of normal saline. Total volume prior to administration is 200mL and contains 5g of the drug.

Special Considerations
- Administer Hydroxocobalamin through its own IV line to avoid incompatibilities with other medications.

Note: This St Anthony-specific protocol allows EMT-Is and PARAMEDICS to administer Hydroxocobalamin when indicated in accordance with the Denver Metro Protocol 4110 SUSPpected CARBON MONOXIDE EXPOSURE.
DIPHENHYDRAMINE (BENADRYL)

**Description**
Diphenhydramine blocks action of histamine released from cells during an allergic reaction. Direct CNS effects, which may be stimulant or, more commonly, depressant, depending on individual variation. Also has anticholinergic, antiparkinsonian effects, which is used to treat acute dystonic reactions to antipsychotic drugs (Haldol, Thorazine, Compazine, etc.) These reactions include oculogyric crisis, acute torticollis, and facial grimacing.

**Indications**
Moderate allergic reactions
Second line for anaphylaxis and severe allergic reactions
Control extrapyramidal effects

**Precautions**
Lower respiratory diseases such as asthma or COPD
Narrow-angle glaucoma
Bladder obstruction

**Side effects**
Dose-related drowsiness
Dilated pupils
Dry mouth and throat
Flushing
May potentiate with alcohol usage

**Drug Interactions**
CNS depressants and alcohol may have additive effects.
MAO inhibitors may prolong and intensify anticholinergic effects of antihistamines.

**Dosage and Administration**
Adults: 50 mg, IV bolus, or IM if vascular access has not been obtained
<8 years: 1-2 mg/kg slow IV bolus/IM (not to exceed 50 mg), 1-8 years 1mg/kg oral liquid (12.5mg/5ml)

**Protocol**
Allergic Reaction
DROPERIDOL (INAPSINE)

Description
- Droperidol is a butyrophenone derivative closely related to haloperidol. Droperidol produces a dopaminergic blockage, a mild alpha-adrenergic blockage, and causes peripheral vasodilation. Its major actions are sedation, tranquilization, and potent anti-emetic effect.

Onset & Duration
- Onset: 3-10 minutes after IV or IM administration.
- Duration: 2-3 hours

Indications
- Primary use for management of agitated/combative patients.
- Second line medication for management of intractable vomiting requiring base contact.
- Combative head injured patients.

Contraindications
- Any patient with:
  - Suspected acute myocardial infarction/ACS
  - Systolic blood pressure under 100 mm/Hg, or the absence of a palpable radial pulse
  - Signs of respiratory depression

Side Effects
- Due to the vasodilation effect, droperidol can cause a transient hypotension that is usually self limiting and can be treated effectively with leg elevated position and IV fluids. Droperidol may cause tachycardia which usually does not require pharmacologic intervention.
- Some patients may experience unpleasant sensations manifested as restlessness, hyperactivity, or anxiety following droperidol administration. Diphenhydramine 50 mg IV may be co-administered with the 1.25 mg dose one time.
- Extra-pyramidal reactions have been noted hours to days after treatment. (Treat with Diphenhydramine)
- Rare instances of neuroleptic malignant syndrome have been known to occur following treatment using droperidol.

Dosage and Administration

Agitation/Combative
Adult: IV/IM route: 5.0 mg slow IV/IM administration, after 10 minutes if desired effect is not achieved contact base to consider a second dose.
Pediatric: Under the age of 12 Contact Base

Antiemetic
IV/IM route:
Adult: 1.25 mg slow push.
Pediatric: Contact Base, 0.05 mg/kg slow push.
Contact base for additional dose.
St. Anthony Hospital Protocols
Operational Protocols
Special Considerations

- Due to droperidol's potential effect on QT interval prolongation, all patients receiving droperidol should be placed on the cardiac monitor. Though it is understood that obtaining an ECG on the combative or agitated patient may be difficult, every effort should be made to do so.

- Avoid droperidol in frail or elderly patients (>65) due to increased risk of prolonged and oversedation as well as increased risk of hypotension and prolonged QT. If it must be given, administer ½ typical dose.

Protocol

- Agitated/Combative Patient Protocol

6010 AGITATED/COMBATIVE PATIENT PROTOCOL
EPINEPHRINE IM ADMINISTERED BY EMTS FOR ALLERGY/ANAPHYLAXIS

Allergic reaction, anaphylaxis or angioedema
- Assess ABCs, give oxygen
- If possible, determine likely trigger
- Determine PMH, medications, allergies
- Classify based on symptom severity and systems involved
- Other specific protocols may apply: e.g.: obstructed airway, bites & envenomations

**Generalized or Systemic Reaction**
*Multisystem involvement: skin, lungs, airway, etc*

- Does patient have any of the following signs or symptoms?
  - Hypotension
  - Signs of poor perfusion
  - Bronchospasm, stridor
  - Altered mental status

- No
- Consider diphenhydramine if significant discomfort
  - Transport and reassess for signs of deterioration

- Yes
- - Give epinephrine IM, then:
  - Start IV & give IV bolus per medical shock protocol
  - Give diphenhydramine
  - Give methylprednisolone
  - Consider addition of Albuterol if wheezing
  - Monitor ABCs, SpO2, cardiac rhythm
  - Reassess for signs of deterioration

- If persistent signs of severe shock with hypotension not responsive to IM epinephrine and fluid bolus:
  - Contact base
  - Consider IV epinephrine drip

**Localized Reaction**
*Including isolated tongue, airway*

- Airway Involvement?
  - Tongue or uvula swelling, stridor
  - No
  - Impending airway obstruction?
    - Yes
      - Give immediate IM epinephrine & manage airway per Obstructed Airway Protocol
      - Give diphenhydramine
      - Give methylprednisolone

**Definitions:**
- **Anaphylaxis**: severe allergic reaction that is rapid in onset and potentially life-threatening. Multisystem signs and symptoms are present including skin and mucus membranes
  - Mainstay of treatment is epinephrine
- **Angioedema**: deep mucosal edema causing swelling of mucus membranes of upper airway. May accompany hives
  - Mainstay of treatment is methylprednisolone.
  - Epinephrine indicated for any impending airway obstruction.

**Document:**
- History of allergen exposure, prior allergic reaction and severity, medications or treatments administered prior to EMS assessment
- Specific symptoms and signs presented: itching, wheezing, respiratory distress, nausea, weakness, rash, anxiety, swelling of face, lips, tongue, throat, chest tightness, etc.

**Note:** This St Anthony-specific protocol supplements DM Protocol 4090 by authorizing properly trained EMTs operating under St Anthony Medical Direction to administer Intramuscular (IM) Epi in lieu of EpiPen auto injector when indicated.
St. Anthony Hospital Protocols
Operational Protocols

IBUPROFEN

Description
Nonprescription ibuprofen is used to reduce fever and to relieve mild pain from headaches, muscle aches, arthritis, menstrual periods, the common cold, toothaches, and backaches. Ibuprofen is in a class of medications called NSAIDs.

Indications
Fever

Adverse Reactions
Ibuprofen may cause a severe allergic reaction, especially in people allergic to aspirin
Ibuprofen may cause stomach bleeding

Dosage and Administration
Pediatrics- Oral dose of 10mg/kg per dose not to exceed 800 mg. Dosing must be six (6) hours apart.

Specific Precautions
A. Febrile seizures occur in normal children between 6 months and 6 years. Such seizures are usually short, lasting less than 5 minutes, generalized, and usually do not require anti-seizure drug therapy.
B. Oncology patients should not receive Ibuprofen or other NSAIDS due to the risk of increased bleeding associated with these medications.
C. Fever may be the result of a toxic ingestion such as Benadryl and other anticholinergics. Risk of toxic ingestion should be considered in all febrile pediatric patients.
D. Ibuprofen should not be utilized to facilitate treat and release situations. Administration should only be performed if transport is initiated.

Note: This St Anthony-specific protocol authorizes EMTs to administer Ibuprofen as an antipyretic in accordance with the St-Anthony specific protocol for PEDIATRIC FEVER.
St. Anthony Hospital Protocols
Operational Protocols
KETAMINE FOR EXCITED DELIRIUM and EXTREMELY COMBATIVE PATIENTS UNCONTROLLED BY OTHER MECHANISMS (Agitated/Combative Patient Protocol 6010)

**Patient is agitated and a danger to self or others**
- Attempt to reasonably address patient concerns
- Assemble personnel

Assume the patient has a medical cause of agitation and treat reversible causes

Does patient have signs of the Excited Delirium Syndrome?

No

Patient does not respond to verbal de-escalation techniques

Restraint Protocol
Obtain IV access as soon as may be safely accomplished

Still significantly agitated?

Consider Cause of Agitation:
Both benzodiazepines and butyrophenones (e.g. haloperidol) are acceptable options for agitated patients. In certain clinical scenarios individual medications may be preferred
- ETOH (butyrophenone)
- Sympathomimetic (benzo)
- Psych (butyrophenone)
- Head injury (butyrophenone)

Still significantly agitated?

- Repeat sedation dose
- If still significantly agitated 5 minutes after 2nd dose sedative, **Contact Base**

Yes

Excited Delirium Syndrome
These patients are truly out of control and have a life-threatening medical emergency they will have some or all of the following sx:
- Paranoia, disorientation, hyper-aggression, hallucination, tachycardia, increased strength, hyperthermia

For adult patients with profound agitation that poses a risk to the patient and providers:
- **Give ketamine 5 mg/kg IM**
  - **Alternative:** midazolam per protocol

Patient Restraint Protocol

- Reassess ABCs post sedation
- High flow O₂
- Monitor for laryngospasm
- If needed, provide suction and BVM for respiratory support
- Start 2 large bore IVs as soon as may be safely accomplished
- Administer 2 liters NS bolus
  - **Full cardiac, SpO₂, ETCO₂ monitoring and rapid transport**
  - **Start external cooling measures**

**Note:** This St Anthony-specific protocol supplements DM Protocol 6010 by authorizing properly trained PARAMEDICS operating under St Anthony Medical Direction to administer Ketamine when indicated for Excited Deltium and/or Extremely Combative Patients with Profound Agitation and uncontrolled by other mechanisms where required for safety of patients/providers.
KETAMINE FOR EXCITED DELIRIUM & EXTREMELY COMBATIVE PATIENTS UNCONTROLLED BY OTHER MECHANISMS
(Agitated/Combative Patient Protocol 6010 (continued))

Description
Ketamine is a non-competitive NMDA receptor antagonist and dissociative, amnestic, analgesic anesthetic agent.

Onset & Duration
- Onset: 1-5 minutes after IM administration.
- Duration: 10-15 minutes

Indications
- Adult patient with signs of excited delirium or extremely combative patients uncontrolled by other mechanisms and where the safety of patient and/or providers is of substantial concern.

Contraindications
- Relatively contraindicated in penetrating eye trauma

Side Effects
- Laryngospasm: this very rare adverse reaction presents with stridor and respiratory distress. After every administration of ketamine:
  a. Prepare to provide respiratory support including bag-valve-mask ventilation and suction which are generally sufficient in rare cases of laryngospasm.
  b. Institute cardiac monitoring, pulse oximetry and continuous waveform capnography
  c. Establish IV or IO access, check blood glucose
  d. Establish and maintain physical restraint.
- Emergence reaction: presents as anxiety, agitation, apparent hallucinations or nightmares as ketamine is wearing off. For severe reactions, consider benzodiazepine.
- Nausea and Vomiting: always have suction available after ketamine administration. Give antiemetic as needed.
- Hypersalivation: Suction usually sufficient. If profound hypersalivation causing airway difficulty, administer atropine 0.5 mg IV.

Dosage and Administration
Adults:
- 5 mg/kg IM x 1
- If severe agitation persists 5 minutes after ketamine administration, contact base for medical consult.

Pediatric:
- Excited delirium is not reported in children and use of ketamine is not expected in pediatric patients

Special Considerations
- Excited delirium is a medical emergency. Expedite rapid and safe transport.
- Ketamine is provided for IM administration in 100 mg/mL concentration.
- All cases of ketamine use will be reviewed by the Medical Director.
- Submit an Unusual Circumstance Report

Protocol: Agitated/Combative Patient Protocol—St Anthony Specific Protocol 6010
NITROGLYCERINE PASTE

Description, Pharmacology & Actions

A. Nitroglycerine (“Nitro”) Paste delivers nitroglycerin in a slower sustained dose. It is meant as a follow-up to sublingual nitroglycerin.
B. Nitro Paste is absorbed through the skin.
   1. Absorption is much slower than sublingual.
   2. Delivers a lower dose over a long period of time.
   3. Onset of action is delayed due to absorption through the skin (20 to 30 minutes).
C. Cardiovascular effects include:
   1. Decreases venous tone and venous return to heart; causes blood-pooling in peripheral veins.
   2. Decreased peripheral resistance.
   3. Dilatation of coronary arteries (if not already at maximum) and relief of coronary artery spasm.
D. Generalized smooth muscle relaxation.

Indications

A. Cardiac chest pain; AFTER first dose of sublingual nitroglycerine; when nitro called for in accordance with Denver Metro Protocol 2050 ADULT CHEST PAIN

Contraindications

A. Patients taking medication for erectile dysfunction should not receive any nitrate preparations including nitro paste. Contact base if unsure.
B. Systolic BP <100 mm Hg.

Precautions

A. Nitro paste is absorbed through the skin. Prevent nitro paste from contacting caregiver’s skin.
B. Generalized vasodilatation may cause profound hypotension and reflex tachycardia.
C. Use with caution in hypotensive patients.
D. Use with caution in patients that have 12-lead evidence of a RV infarct.

Dosage & Administration

A. 1st Nitro dose is Sub Lingual (spray or tab). Then apply 1” nitro paste on application paper. Place the paper—nitro paste toward patient—on the anterior chest wall of the patient.
B. Contact Base for use without sublingual nitroglycerin.
C. Contact Base for direct physician order to increase dosage for larger patients.
D. Blood pressure to be checked at least every 15 minutes.
E. Remove application paper and wipe the patient’s skin if (a) systolic blood pressure less than 100 mm Hg, (b) signs of hypotension or (c) signs of allergic reaction.

Side effects and special notes

A. Since absorption is through the skin, effects of the drug may continue for 20 to 30 minutes following removal of the application paper.
B. Sublingual nitroglycerin may be used to augment nitro paste. This may be necessary during the first 30 minutes of application.
C. Common side effects are the same as sublingual nitroglycerin. They include headache, orthostatic hypotension, flushing, dizziness, and syncope.
D. The patient’s skin may react to nitro paste with rash or pruritus. Remove nitro paste if necessary.
E. May be used with patients using disks or oral long-acting nitrate preparations.
St. Anthony Hospital Protocols
Operational Protocols

ONDANSETRON (ZOFRAN)

Description
Ondansetron is a selective 5-HT3 receptor antagonist. Mechanism of action has not been fully characterized. It is not certain whether ondansetron’s antiemetic action is mediated centrally, peripherally, or in both sites.

Indications – EMT, AEMT, EMT-I, and Paramedic
Nausea with concern for potential vomiting
Vomiting

Contraindications
Patients with a known hypersensitivity to odansetron.

Precautions
Ondansetron is listed as a category B with regard to use in pregnancy.

Dosage and Administration
Adult:
EMT-IV/AEMT/EMT-I/Paramedic
ODT (EMT Base Contact)
EMT-I and Paramedic
  4 mg undiluted SLOW IV push over 2 to 5 minutes. (may also be given IM), 4 mg
  May repeat x 1 after 15 minutes. For doses after 2nd – contact base.
Pediatric (1 to 8 years of age)
  EMT-IV/AEMT/EMT-I/Paramedic
    1-4 years (8-15kg) 2 mg ODT (EMT Base contact)
  EMT-I/Paramedic
    4-8 years old, over 15kg: 4 mg SLOW IV push over 2 to 5 minutes (may also be given IM), 4 mg ODT (EMT Base contact)
    Contact base for additional doses

Protocol
Antiemetic situation