Coppell Fire Department

Patient Care Guidelines

Medical Control Physician

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Eric Pearlman MD

Effective January 1, 2014 Coppell Fire Department - EMS Division
Expire December 31, 2016
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Delegation of Practice

Delegation is defined as "the transfer of responsibility of one individual to another while retaining accountability for the outcome." A physician that provides the medical supervision of an EMS system is referred to as a Medical Director and the supervision provided is known as Medical Direction. The Texas Health and Safety Code require that the provision of basic and advanced life support must be under the medical supervision and control of a licensed physician.

All Coppell Fire Department clinicians provide care under the approval and supervision of the Medical Director, who is ultimately accountable for all care rendered by the clinicians.

Coppell Fire Department clinicians operating under the governance of these Clinical Operating Guidelines, will be allowed to operate within their designated Scope of Practice. The Scope of Practice will be determined and set forth by the Medical Director. A provider may not operate outside of their designed Scope of Practice without contacting Online Medical Control. The Scope of Practice will be defined as EMT-Basic, Paramedic, Advanced Paramedic.

- The Medical Crew will not perform any steps in a protocol they are not authorized, educated or trained to do.
- Protocols in the Variance Section supersede any other applicable protocol.
- The max pediatric dose of any drug is the adult dose unless otherwise directed on a specific protocol.
- If a patient is on an infusion drug or other therapy not in protocol but the medic is familiar with it then the crew may continue and adjust it, as necessary, after contacting medical control. If there are any questions about the medication or therapy or the medic is not familiar with it then call medical Control. At a minimum, it is expected that all paramedics will be proficient in the administration of the medications listed in these clinical operating guidelines.
- Paramedics may follow the orders of a referral or receiving physician if the orders are not in conflict with these protocols or it could potentially put the patient at risk (because of patient condition or lack of knowledge, skill, or equipment by the crew). Any conflict not immediately resolved by clarification of the order should be referred to Medical Control.
- Those patient encounters involving unusual circumstances, errors in patient care, unexpected and potentially life-threatening responses to treatments, etc. will be reviewed by the Medical Director as soon as possible after the transport. Crews need to initiate this process by contacting the Medical Director with the information as soon as possible after the transport. Failure to make these reports is a violation of protocol and will be handled as such.
Scope of Practice

EMS Providers are allowed to perform the following skills based on their level of practice.

EMT - Basic

- Patient Interview
- Patient Assessment
- Automated External Defibrillator
- Non-Invasive Vital Signs
- Oxygen Administration
- Nasal Cannula
- Nebulizer
- Non-Rebreather Mask
- Bag Valve Mask
- CPAP
- Combitube
- All Bandaging and Splinting
- Blood Glucose Monitoring
- Spinal Immobilization
- Cardio-Pulmonary Resuscitation

- Approved Medications
  - Oxygen
  - Albuterol
  - Epinephrine Injector
  - Oral Glucose

- Any BLS skill deemed necessary by the paramedic, that does not exceed the EMT-Basic’s ability to properly complete.

Paramedic

- ALL EMT-BASIC SKILLS
- Manual Defibrillation
- Manual Cardioversion
- Intravenous Access
- Intraosseous Access
- 3 Lead and 12 Lead ECG
- ETCO2 Monitoring
- Cricothyroidotomy
- Nasal Intubation
- Mucosal Atomization Device
- Oral Intubation
- Needle Decompression
- Transcutaneous Pacing
- Sedation for Procedures
- Central Line Access
- Dialysis Shunt Access

- Approved Medications
  - Acetaminophen Suspension
  - Adenosine
  - Amiodarone
  - Anectine
  - Aspirin
  - Atropine
  - Dextrose
  - Dilaudid
  - Diphenhydramine
  - Diltiazem
  - Dopamine
  - Enalapril
  - Epinephrine
  - Etomidate
  - Fentanyl
  - Furosemide
  - Glucagon
  - Haldol
  - Ketamine
  - Labetalol
  - Lidocaine
  - Lorazepam
  - Magnesium Sulfate
  - Methylprednisone
  - Metoclopramide
  - Midazolam
  - Morphine
  - Narcan

- Any ALS skill deemed necessary by Medical Control, that does not exceed the Paramedics ability to properly complete.

Advanced Paramedic

Advanced Paramedic are authorized to transport and titrate medications that are not maintained on the DSHS minimum equipment list. These medications will be indicated by the presence of (**).
General Patient Care

Age Definitions:

<table>
<thead>
<tr>
<th>Category</th>
<th>Age Definition</th>
<th>Weight Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult</td>
<td>&gt;12 years</td>
<td>&gt;37kg</td>
</tr>
<tr>
<td>Pediatric</td>
<td>1-12 years</td>
<td>&gt;10kg and &lt;37</td>
</tr>
<tr>
<td>Infant</td>
<td>28 d – 1 yr</td>
<td>&gt;5kg and &lt;10</td>
</tr>
<tr>
<td>Neonate</td>
<td>&lt;28 days</td>
<td>&lt;5kg</td>
</tr>
</tbody>
</table>

Patient Care Guidelines
General Patient Care

Scene secure?

No

Contact Police. Do NOT expose crews to the scene until it has been secured.

Yes

Primary Survey:
A · Airway c-spine precautions
B · Breathing
C · Circulation
D · Disability (Neuro Exam)
E · Expose and Examine

Detailed Assessment:
- Vital Signs
  - Minimum of every 15 minutes on stable patients.
  - Minimum of every 5 minutes on critical patients.
- History
  Age, Chief Complaint, Medical history, Allergies, Current Medications

Monitor when appropriate:
- Cardiac Rhythm
- ETCO2
- SpO2
- Blood Glucose Level

Apply appropriate protocols based on assessment

Contact Medical Control as indicated by protocols and when you have a question or a complication arises

Maintain patient confidentiality at all times

Transport to appropriate hospital

Document:
- ABCs
- Detailed Assessment
- Vital Signs
- Cardiac Rhythm
- SpO2, ETCO2
- Neurologic Findings
- Glasgow Coma Scale
- Medical History
- Current Medications
- Allergies
- Treatment Prior to Your Arrival
- Treatment You Provide
- Response to Treatment
- Communication with Medical Control

Maintain patient confidentiality at all times
Coppell Fire Department

Patient Care Guidelines

Airway
ETCo2 Monitoring will be required for the following patients:

- Respiratory Distress
- Chest Pain / Cardiac Complications
- Unresponsive Patients
- Altered Mental Status
- Any condition where crew believes ETCo2 monitoring might be of assistance

### Waveform - Quantitative

- **Spontaneously Breathing – Nasal Cannula Device**
  - Normal ETCo2 Range – 35-45 mmHg
  - **ETCo2 <35 ventilate pt. @ 10-12 bpm**
  - **ETCo2 >45 ventilate pt. @ 14-16 bpm**
Oral Intubation

Preparation

- Inspect laryngoscope, ETT, Stylet, Securing Device, Suction
- Pre-Oxygenate patient with 100% Oxygen
- Monitor ETCo2 / SPo2

Technique

- Open patients mouth, remove OPA, insert laryngoscope blade
- Move the blade toward midline, displacing the tongue to the left
  - Macintosh Blade: advance blade tip into the vallecula
  - Miller Blade: advance the blade tip under the epiglottis
- Suction as needed
- Advance ET tube through the vocal cords until the cuff is past the vocal cords
- Successful intubation confirmed by: Bilateral Breath Sounds, ETCO2 detector, absence of epigastric sounds and positive SpO2
- Inflate cuff with 5-10 cc of air
- Secure ET tube and note depth of insertion at the lips
- Ventilate with 100% Oxygen

Frequently Auscultate breath sounds while continuously monitoring ETCo2 / SPo2

2 Attempts without success – Refer to Failed Intubation Protocol

Indications:

- Patient unable to protect airway.
- GCS <8
- Coma
- Respiratory Arrest
- Cardiac Arrest

1 Maintain strict c-spine precautions if potential for c-spine injury exists.
2 Use oral route instead of nasal insertion if facial or head injury exists.
Nasal Intubation

**Indications:**
- Patient unable to protect airway
- Impending Respiratory Arrest
- Coma
- Respiratory Arrest

**Preparation**
- Choose ET tube 1 mm smaller than optimal for orotracheal intubation
- Inspect Equipment, ETT, Stylet, Securing Device, Suction, BAAM
- Pre-Oxygenate patient with 100% Oxygen
- Monitor ETCO2 / SPo2
- Place BAAM device on selected ETT
- Insert lubricated Nasal Airway to dilate nostril

**Technique**
- Remove Nasal Airway – gently insert ETT – Bevel against septum
- Never Force against resistance
- If impassable, try the other naris
- Gently advance the ETT while listening for high pitched BAAM whistling
- Swiftly advance ETT when BAAM whistle is at its highest peak
- Once Intubated, quickly remove BAAM and begin ventilating patient
- Successful intubation confirmed by: Bilateral breath sounds, ETCO2 detector, absence of epigastric sounds and positive SpO2
- Inflate cuff with 5-10 cc of air
- Secure ET tube and note depth of insertion at the naris
- Ventilate with 100% Oxygen
- Frequently Auscultate breath sounds while continuously monitoring ETCO2 / SPo2
Indications:
- Critical Need for Airway
- Hypoxia refractory to O2
- Cannot protect airway
- Brain Injury
- Acute Respiratory Distress

Prepare:
- Assure patent IV
- Connect to ECG / SPo2 / ETCO2
- Calculate and prepare medications

Pre-oxygenation:
- 100% O2 - BVM
- 100% O2 - NRB Mask
- Allow 2 min. to build oxygen reserve

Premedication:
- Head Injury?
- Child <8 years old?
- Over >8 and bradycardic?

Lidocaine 1mg/kg IVP
- Atropine 1mg IVP

Adult and Pediatric Sedation:
- Etomidate
  - Adult = 30mg IVP
  - Small Adult = 20mg IVP
- or
- Midazolam
  - Adult 0.1mg/kg IVP
  - Children less than 4 years old refer to Broselow for dose
  - Caution: Midazolam is contraindicated in the presence of hypotension.
- or
- Ketamine
  - Adult and Pediatric 2mg/kg IVP
  - Caution: Ketamine is contraindicated in the presence of suspected head injury.

Atropine
- Dose: Refer to Broselow

Intubate
- YES - Is the tube patent?
- NO

Tracheal Intubation:
- Visualized tube passing the cords?
- Bi-lateral lung sounds?
- No epigastric sounds?
- Colormetric ETCO2?
- Waveform ETCO2?
- Negative Bulb Check?
- SPo2 > 90%

Fill ETT bulb with air.
- Secure tube.
- Document depth at lips

Go to post-intubation protocol

Esophageal Intubation:
- Did not visualize the cords.
- No lung sounds
- Epigastric sounds
- No Colormetric change
- No ETCO2 waveform
- SPo2 < 90%

Ventilate with 100% O2
- >1 attempts go to failed airway

Note: The dose may be repeated if paralysis is not achieved within 1-2 minutes. Once achieved, paralysis will typically last 2-3 minutes.
Continuous Assessment:
Continue to assess chest for equal and bilateral lung sounds
Use continuous LifePak 12 Capnography to assess ETCO2
Use continuous pulse oximetry to assess SPO2
Use continuous ECG to assess heart rate and rhythm

YES - Does pt. require cont. sedation? - NO

Adult Dose: **Fentanyl 100mcg**
Pediatric Dose: Contact Medical Control

SBP > 90mmHg

Adult Dose: **Midazolam 0.1mg/kg**
Pediatric Dose: Refer to Broselow

Continued Paralysis Required?

**Vecuronium 0.1mg/kg IVP**
Note: Continuous waveform capnography must be utilized while ventilating the patient.

Continue to ventilate. Monitor for changes in mental status

Tachycardia is considered an early sign that the patient is awakening.

If your patient is hypotensive: Give small doses every 3-5 min.

**Versed 1mg**
**Fentanyl 20mcg**
Failed Airway

Definition: 2 attempts to intubate without success

- Can the patient be ventilated with a BVM? - NO
  - Insert King LT
    - Can the patient be ventilated with a BVM? - NO
      - Reposition Head - Can you ventilate with BVM - NO
        - Immediate Cricothyroidotomy
  - King LT - SPO2 >85 - NO
    - Continue Ventilations
      - Transport Immediately

Effective January 1, 2014
Coppell Fire Department - EMS Division
Expire December 31, 2016
Indications:
Unconscious patient in whom ETT intubation cannot be obtained after 2 attempts
Gag Reflex must be absent for insertion.

Contraindications:
Infant <10kg
Intact Gag Reflex
Known Esophageal Disease

Combitube Sizes
<table>
<thead>
<tr>
<th>Description</th>
<th>Size</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tall Adult (Over 6ft)</td>
<td>5</td>
<td>Purple</td>
</tr>
<tr>
<td>Adult (5-6ft)</td>
<td>4</td>
<td>Red</td>
</tr>
<tr>
<td>Short Adult (4-5ft)</td>
<td>3</td>
<td>Yellow</td>
</tr>
</tbody>
</table>

Procedure

- Prepare equipment for insertion – King LT / Lubricant / Appropriate Syringe
- Apply lubricant to the beveled tip and posterior aspect of the tube.
- Place the patient’s head in a “sniffing” or “neutral” position if c-spine precautions are required.
- Open the patient’s mouth by grasping the tongue and lower jaw and lifting upward.
- Insert the tube angled to the right corner of the mouth; slowly rotating to midline once under the tongue.
- Without excessive force advance the King until base of connector is aligned with teeth or gums.
- Fully inflate the cuff using the maximum volume of the syringe provided in the kit.
- Attach BVM and gently bag the patient to assess ventilation while simultaneously withdrawing the airway until ventilation is easy and free flowing with minimal resistance.
- Confirm proper position by auscultation, chest movement and verify ETCO2
- If lung sounds or ETCO2 are not present after reposition, withdraw the device and use the BVM to ventilate the patient.
- Secure King Airway with tape or commercial advice; continuously assess placement.
Emergency Cricothyroidotomy

Rusch QuickTrach – Adult / Pediatric

Indications:
Situations in which endotracheal intubations cannot be performed such as:
- Excessive oropharyngeal hemorrhage,
- Massive traumatic or congenital deformities,
- Complete airway obstruction precluding ETT placement.

Absolute Contraindications:
- Patients who can be intubated or secured with a combitube.
- Patients who can be ventilated with a BVM.
- Patients less than 2 years of age.

Rusch QuickTrach Sizes
- 12 years - Adult – 4.0mm
- 2 years – 12 years – 2.0mm
- <2 years – Needle Cric

Procedure

Place the patient into a supine position

Palpate the cricothyroid membrane between the thyroid and cricoid cartilages

Firmly hold device and puncture the cricothyroid membrane with the bevel towards the feet

Pull back on the 10cc syringe until air enters, this confirms proper insertion into the trachea

Remove red stopper on needle

Angle the syringe towards the chin in a 60 degree angle, cautiously advance until the flange rests on the neck

Firmly hold the plastic flange in place against the skin and withdraw the syringe and needle assembly

Connect ventilation tube extension and connect the BVM

Ventilate the patient

Confirm placement with: Equal Lung Sounds, ETCO2, Spo2 and chest rise

Secure the plastic flange to the neck with the enclosed neck tape

Continue to ventilate and reassess frequently, use extreme caution while moving the patient
Pediatric Needle Cricothyroidotomy

Indications:
Patients less than 2 years of age in which endotracheal intubations cannot be performed such as: Excessive oropharyngeal hemorrhage, Massive traumatic or congenital deformities, Complete airway obstruction precluding ETT placement.

Absolute Contraindications:
Patients who can be intubated.
Patients who can be ventilated with a BVM.

Procedure

Place the patient into a sniffing position
Palpate the cricothyroid membrane between the thyroid and cricoid cartilages
Prepare two 5 cc syringes with 14g angiocaths (One catheter will serve as exhalation port.)
Firmly hold 5cc syringe with 14g angiocath and puncture the cricothyroid membrane with the bevel towards the feet
Puncture the skin midline, directly over the cricothyroid membrane, aspirating for air
When air enters syringe, direct the syringe towards the chin in a 45 degree angle
Continue to advance plastic catheter while cautiously withdrawing the needle and syringe
Once catheter hub is advanced to the skin, attach 3.0mm tube adaptor and ventilate with BVM
Ventilate the patient

Confirm placement with: Equal Lung Sounds, ETCo2, Spo2 and chest rise
Secure the plastic flange to the neck with the tape
Continue to ventilate and reassess frequently, use extreme caution while moving the patient

1 Needle Cricothyroidotomy Ventilation: Optimal ventilation may be achieved by slowing ventilation rate. Deliver ventilations at a ratio of 1:4. Extended time will be required for proper exhalation. (1 second of oxygen ventilation, 4 seconds off, to allow passive exhalation).

2 If the catheter becomes occluded, irrigate the catheter with 2-3 ml of sterile Normal Saline.

3 The purpose of inserting two needles into the cricothyroid membrane is to allow one catheter to serve solely as an exhalation port due to the high pressures that are experienced during this mode of ventilation.
# Gum Elastic Bougie

**Indications:**

When an intubation may appear difficult due to patient exam.

May be used as a stylet, or tube introducer on the initial attempt.

## Technique

- Insert laryngoscope into patients mouth and attempt to visualize vocal cords
- Advance Bougie with Distal Tip pointed anteriorly past vocal cords
- Clicking should be felt as the Bougie passes down the tracheal rings
- Insert to a depth that the black line on the Bougie is at the patients lips or until the Bougie stops on the Carina
- Continue to maintain laryngoscopy while an assistant passes the ETT over the Bougie and sliding the tube down towards the glottic opening
- Pass the ETT through the glottic opening to a proper insertion depth, using caution not to withdraw the Bougie
- Once the ETT is inserted the proper depth, remove the Bougie and attempt ventilation via BVM
**Indications:**
Emergency administration of medications to the patient who is intubated, however IV / IO access has not been established.

**The Following medications may be administered via the ETT**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lidocaine</td>
<td>2 times the IV dose</td>
</tr>
<tr>
<td>Atropine</td>
<td>2 times the IV dose</td>
</tr>
<tr>
<td>Naloxone</td>
<td>2 times the IV dose</td>
</tr>
<tr>
<td>Epinephrine</td>
<td>2 times the IV dose</td>
</tr>
</tbody>
</table>

**Procedure**

1. Disconnect BVM from ETT tube
2. Administer Medication down the ETT Tube
3. Instill no more than 10cc in the intubated adult patient
4. Instill no more than 5cc in the intubated pediatric patient
5. Re-connect the BVM to the ETT
6. Ventilate with 12 full breaths prior to administration of another drug via the ETT
Continuous Positive Airway Pressure

Designation of Condition:
The patient will typically have a history of respiratory disease and will be suffering from dyspnea. Physical exam reveals respiratory distress, decreased air movement and often signs and symptoms of impending respiratory failure. Patients may suffer from an acute Asthma Attack, Pulmonary Edema, or Congestive Heart Failure.

Indications:
Respiratory Distress associated with:
- Asthma
- COPD
- Pulmonary Edema
- Congestive Heart Failure

Contraindications:
- Patients <12 years of age
- Patients with GCS <10
- Patients with Chest Trauma
- Patient in respiratory arrest
- Patients with a pneumothorax
- Patients with Nausea/Vomiting

Monitor the Following Continuously:
- ABC’s – Mental Status
- SpO2
- ETCO2
- ECG

Procedure

Explain the procedure to the patient.

Connect CPAP device to oxygen source; connect CPAP circuit to device and patient mask.

Turn on oxygen flow to 15lpm

Adjust flow to 5-10cmH20

Place the mask over the patients mouth and nose.

Secure mask with straps and check for leaks.

Adjust flow as required for patient compliance and improvement.

CPAP flow may be adjusted by 2.5cmH20 increments, if required to a Max of 15cmH20

Continuously assess and document patients response to treatment.

Upon arrival at the receiving facility, ensure the faculty understands the patient is on C.P.A.P., and should not be removed from the system until a suitable alternate therapy is in place.
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Trauma

Patient Care Guidelines
Attention:

Pain management is no longer a luxury; but, imperative that we address in the field. The inability to assess, identify and properly treat pain is an essential skill for the practicing paramedic. Lack of treatment of pain has become one of the highest percentage of successful malpractice claims.

Indications:

- Trauma patients in which pain cannot be controlled through repositioning, ice, splinting, traction etc...
- Medical / Cardiac patients in which pain cannot be controlled through specific protocol treatment.

Contraindications:

- Hypotension
- Depressed Respiratory Drive

Adult Pain Management

- **Fentanyl** 1-2 mcg/kg Slow IVP/MAD (Max Single dose 100mcg)
  - or
- **Morphine** 5mg Slow IVP
  - or
- **Dilaudid** 1mg Slow IVP

Pediatric Pain Management

- Patients 2 – 12 years

- **Pediatric Fentanyl** 1mcg/kg Slow IVP / MAD
  - or
- **Morphine** 0.1mg/kg Slow IVP

- Contact Medical Control additional doses

- Contact Medical Control for additional doses

Pediatric Patients <2 years – Contact Medical Control

Reassess @ 10 min

YES - Additional meds required? - NO

Continuous Assessment

Effective January 1, 2014 Coppell Fire Department - EMS Division Expire December 31, 2016
**Major Trauma**

- ABCs
- C-spine immobilization
- **Oxygen 100%**
- Assist ventilations, if needed
- Control Bleeding
- 2 – Large Bore IV’s – Normal Saline
- Maintain SBP > 90mmHg
- Consider Air Medical Transport

---

**Penetrating Trauma**

- Secure objects in place, unless airway involved
- Cover open chest/neck wounds with Vaseline Gauze
- Cover eviscerated abdominal contents with warm moist sterile trauma dressings
- Aggressive airway control may be required in patients suffering neck injuries. Refer to RSI protocol

---

**Blunt Trauma**

- Rapid Transportation is priority
- Aggressive airway control may be required in patients suffering neck injuries. Refer to RSI protocol
- Establish IV’s and other advanced skills while en-route to hospital. Minimize scene time
- Crews should be cautious waiting more than 15 min. for air medical transport to arrive

---

**Impaled Objects**

- Secure objects in place, unless airway involved
- Stabilize objects in place so they do not move around and create further harm
- Contact Medical Control for guidance on patients who are impaled on an object and extrication may be delayed

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**Revised Trauma Score**

<table>
<thead>
<tr>
<th>Respiratory Rate</th>
<th>Glasgow Coma Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-29 = 4</td>
<td>13-15 = 4</td>
</tr>
<tr>
<td>&gt; 29 = 3</td>
<td>9-12 = 3</td>
</tr>
<tr>
<td>6-9 = 2</td>
<td>6-8 = 2</td>
</tr>
<tr>
<td>1-5 = 1</td>
<td>4-5 = 1</td>
</tr>
<tr>
<td>NONE = 0</td>
<td>3 = 0</td>
</tr>
</tbody>
</table>

| Systolic BP mmHg | | | |
|------------------|------------------|------------------|
| > 89 = 4 | Spontaneous = 4 |
| 76-89 = 3 | To Voice = 3 |
| 50-75 = 2 | To Pain = 2 |
| 1-49 = 1 | None = 1 |
| NO PULSE = 0 | |

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**Glasgow Coma Scale**

<table>
<thead>
<tr>
<th>Eye</th>
<th>Opening</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous</td>
<td>To Voice</td>
<td>Oriented</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Confused</td>
<td>Inappropriate words</td>
<td>Incomprehensible words</td>
</tr>
<tr>
<td>Oriented</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response</th>
<th>Motor</th>
<th>Best</th>
</tr>
</thead>
<tbody>
<tr>
<td>Withdraws (Pain)</td>
<td>Localizes Pain</td>
<td>Obey Command</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Flexion</td>
<td>Extension</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Traumatic Arrest

Designation of Condition:
The patient will be in cardiac arrest due to a traumatic injury.

Treatment

- Ensure patient does not have injuries incompatible with life
- Apply monitor – If Asystole – Strongly consider withholding Resuscitative Efforts
- If crew elects to treat patient, follow protocols according to rhythm
- Intubate the patient
- Adult - Establish IV and administer 500cc NS bolus. Consider EZIO if peripheral access is difficult
- Pediatric - Establish IV and refer to Broselow for appropriate bolus. Consider EZIO if peripheral access is difficult
- Blunt Force Trauma >12 years – Bi-lateral Needle Decompression per protocol
- Transport patient to closest appropriate medical facility
- Contact Medical Control at any time for questions / concerns
- Contact Medical Control for permission to stop resuscitative efforts once started
Designation of Condition:
Trauma to the face or head resulting in injury to the brain. Patients may present with changes in mental status including confused, combative or comatose.

- ABCs
- C-spine immobilization
- Oxygen 100%
- Assist ventilations, if needed

Calculate Glasgow Coma Scale

< 8
Intubation / RSI Protocol

> 8
Monitor ETCo2
Respiratory Status

Seizures
Yes
Seizure Protocol

No
Transport Patient to Appropriate Facility

Monitor:
- Vital Signs
- Respiratory Status
- Blood Glucose
- Cardiac Rhythm
- SpO2, ETCo2

Calculate:
- Revised Trauma Score

Glasgow Coma Scale

<table>
<thead>
<tr>
<th>Eye</th>
<th>Spontaneous</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening</td>
<td>To Voice</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>To Pain</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>Verbal</td>
<td>Oriented</td>
<td>5</td>
</tr>
<tr>
<td>Response</td>
<td>Confused</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Inappropriate words</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Incomprehensible words</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>1</td>
</tr>
</tbody>
</table>

| Best          | Obeys Commands | 6 |
| Motor         | Localizes Pain | 5 |
| Response      | Withdraws (Pain) | 4 |
|              | Flexion       | 3 |
|              | Extension     | 2 |
|              | None          | 1 |

Revised Trauma Score

<table>
<thead>
<tr>
<th>Respiratory Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-29</td>
</tr>
<tr>
<td>&gt; 29</td>
</tr>
<tr>
<td>6-9</td>
</tr>
<tr>
<td>1-5</td>
</tr>
<tr>
<td>NONE</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Systolic BP mmHg</th>
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</thead>
<tbody>
<tr>
<td>&gt; 89</td>
</tr>
<tr>
<td>76-89</td>
</tr>
<tr>
<td>50-75</td>
</tr>
<tr>
<td>1-49</td>
</tr>
<tr>
<td>NO PULSE</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<td>13-15</td>
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</tr>
<tr>
<td>6-8</td>
</tr>
<tr>
<td>4-5</td>
</tr>
<tr>
<td>3</td>
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</table>
Spinal Immobilization is Required for the following patients:

- Patients suffering an incident with significant mechanism of injury.
- Trauma patients with altered levels of consciousness.
- Trauma patients who appear intoxicated.
- Trauma patients who complain of neck and/or back pain.
- Trauma patients with possible distracting injuries.
- Trauma patients with blunt trauma above the clavicles.
- Trauma patients with neurological deficit after a traumatic incident.
- Trauma patients with tenderness to palpation of the spine.
- Anytime the crew believes it would be in the patients benefit.

Immobilization Field Treatment:

Extrication collars, long backboards and cervical immobilization devices should always be used in conjunction.

KED’s and pediatric immobilization devices may be used as supplements.

Spinal Immobilization may not be required in the following trauma patients:

Patient is conscious, alert, oriented able to perceive pain, and is neurologically intact.

- Pt. Intoxicated? - YES
  - NO
  - Neck Pain? - YES
    - NO
    - Neck Tender ? - YES
      - NO
      - Pain with movement ? - YES
        - NO
        - Immobilization not necessary

  - Immobilize

Glasgow Coma Scale

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Revised Trauma Score

| Respiratory Rate | 10-29 = 4 |
|                 | > 29 = 3  |
|                 | 6-9 = 2   |
|                 | 1-5 = 1   |
|                 | NONE = 0  |
| Systolic BP mmHg| > 89 = 4  |
|                 | 76-89 = 3 |
|                 | 50-75 = 2 |
|                 | 1-49 = 1  |
|                 | NO PULSE = 0 |
| Glasgow Coma Scale | 13-15 = 4 |
|                   | 9-12 = 3  |
|                   | 6-8 = 2   |
|                   | 4-5 = 1   |
|                   | 3 = 0     |
Consider Intubation with Inhalation Injury

Start 2 large-bore IVs
Normal Saline

ABCs
- Airway
- Breathing
- Circulation
- Oxygen 100%
- IV Normal Saline
- Detailed Assessment

Resp distress?
Yes
Oxygen 100%
Assist Ventilations
Consider Intubation with Inhalation Injury

No
Evaluate degree of burn and % body surface area involved

Major burn?
Yes
Air Medical Transport
If weather / availability permits
Start 2 large-bore IVs
Normal Saline

No
Dress burns with dry, sterile dressings

Treat associated injuries

Types of Burns:
- Thermal
  Remove from environment and extinguish fire
- Chemical
  Brush off and/or dilute chemical without exposing rescuer.
  Consider need for HAZMAT team.
- Electrical
  Make sure victim is de-energized and suspect internal injuries

Definition of Major Burns:
- 25% or greater BSA
- 3rd degree >10%
- Hands, Feet, Genitalia Involved
- Circumferential Burns
- Burns with Major Trauma
- Electrical or Chemical Burns
- Significant Medical History
- Less than 12 years old
- Greater than 50 years old

Adults – Morphine 10mg IVP (Max Dose 20mg)
Pediatrics – Morphine 0.1mg/kg IVP (Max Dose 0.2mg/kg)
Contact Medical Control for additional pain meds.

1 Consider Carbon Monoxide poisoning if victim was within a confined space. If potential for CO poisoning exists administer Oxygen 100% regardless of SpO2.

2 Start IVs within unburned areas if possible. Burned areas may be used if needed.
Amputations

Designation of Condition:
The patient will have suffered a partial or complete amputation of part of his/her anatomy.

- ABC's
- 100% Oxygen
- Prepare for immediate transport
- Frequent Vital Signs

- Active Bleeding? Yes
  - Control bleeding with direct pressure and/or pressure points

- No

- Consider Tourniquet

- Start large-bore IV NS TKO or as needed

- Major Amputation? YES
  - Air Medical Transport
  - If weather/availability permits

  - No

  - Refer to Adult Pain Management Protocol

- Pain? YES
  - Refer to Pediatric Pain Management Protocol

  - No

- Stump: cover with a moist sterile dressing, covered by a dry dressing.

- Severed portion: wrap in moist, sterile dressing and place in plastic bag.

- Major Amputations:
  - Amputated Arm
  - Amputated Leg
  - Amputation involving thumb
  - Amputation proximal to the wrist
  - Amputation proximal to the ankle
  - Genitals and facial structures

- Transport to appropriate facility
- Reassess Pain Continuously
Ocular injuries usually occur when the eye is exposed to high sources of high intensity light or ultraviolet radiation such as with tanning booths. Also, corneal injuries may be produced by prolonged wearing of contact lenses and trauma.

- ABC's
- Oxygen 2-4 LPM NC
- Consider C-spine precautions
- Identify source of trauma

Assesses and document vision in eyes during all phases of treatment.

- Chemical burn? Yes
  - Flush affected eyes with sterile normal saline until patient is asymptomatic
- Impaled object? Yes
  - Do not remove
    - Dress affected eyes & secure object
  - Patch unaffected eye
    - Offer reassurance & orientation as needed
    - Encourage patient to limit movement of eyes
- Blunt trauma? Yes
  - Look for: Blow out fracture of orbit, and hyphema

Transport to appropriate facility
Designation of Condition:
Female patients greater than 20 weeks gestation involved in a traumatic situation, most commonly blunt trauma.

- ABCs
- C-spine immobilization
- **Oxygen 100%**
- Assist ventilations, if needed
- Assess Gravida/Para
- Assess approx. Weeks Gestation

Average maternal heart rate will **increase** 10-15 bpm

Average maternal blood pressure will **drop** 10-15mmHg

Pregnant Trauma patients can lose 30-40% circulating volume prior to shock symptoms

Tilt the backboard 20-30% to the left side when pregnant patients are immobilized

Do not perform internal vaginal exams in the field to assess fetal viability

**Follow appropriate trauma protocol according to type of event**

Contact Medical Control for pain medications or other questions regarding care
Coppell Fire Department

Medical

Patient Care Guidelines
Designation of Condition:
The patient will have an altered mental status for an unknown reason.

- ABC’s
- Oxygen 100%
- Assist ventilations, if needed
- Determine Possible Cause
- Detailed Head to Toe Exam
- Monitor ETCO2
- Blood Sugar Level
- 12-Lead ECG

Diabetic Emergency → Refer to Diabetic Emergency Protocol
Possible Overdose → Refer to Overdose / Poisoning Protocol
Possible Stroke → Refer to Stroke Protocol
Head Injury → Refer to Traumatic Head Injury Protocol

GCS >10? YES → Pt. Cooperative?
YES → Continue to monitor for changes
NO → Refer to Psychiatric Emergency Protocol

Gag Reflex?
YES → Transport to appropriate facility
Ventilate with 100% O2 with appropriate device
Continue to monitor for changes
NO → Intubate Patient → Refer to Oral Intubation Protocol

Transport to appropriate facility
Ventilate with 100% O2 with BVM
Continue to monitor for changes
Monitor ETCO2 and SPo2
Asthma / Bronchospasm

**Designation of Condition:**

The patient will typically have a history of asthma and will be suffering from dyspnea. Physical exam reveals respiratory distress, decreased air movement and often bilateral wheezing. Wheezing may be absent prior to respiratory arrest.

- ABC’s
- Oxygen 100%
- Assist ventilations, if needed
- Monitor ETCo2
- 15-Lead ECG

### Mild Distress
- Mild Wheezes
- Non-Labored Work of Breathing
- Patient speaks easily
- **Adult:** Albuterol 2.5 mg and/or Atrovent 500 mcg Nebulized Updraft may repeat once at 5 minutes
- **Pediatric:** Albuterol 2.5 mg and/or Atrovent 250 mcg Nebulized Updraft may repeat once at 5 minutes
- **Adult:** Terbutaline 0.25 mg SQ

Transport to appropriate facility
Continue to monitor for changes
Monitor ETCo2 and SpO2 and HR

Use caution when administering Albuterol, Atrovent, or Epinephrine to patients with a cardiac history or active tachycardia. Contact Medical Control for orders in these clinical presentations.

### Moderate Distress
- Moderate – Audible Wheezes
- Heavy Work of Breathing
- 2 or 3 word Dyspnea
- Tri-Pod Position
- **Adult:** Albuterol 5 mg and/or Atrovent 500 mcg Continuous Nebulized Updraft Monitor for Tachycardia
- **Pediatric:** Albuterol 2.5 mg and/or Atrovent 250 mcg Continuous Nebulized Updraft Monitor for Tachycardia
- **Consider:** C.P.A.P. In-Line Nebulizer
- **Adult:** Magnesium Sulfate 2 Grams IVP
- **Pediatric:** Magnesium Sulfate 50mg/kg IVP
- **Adult:** Terbutaline 0.25 mg SQ
- **Adult:** Solu-Medrol 125mg IV/IM

Use caution when administering Albuterol, Atrovent, or Epinephrine to patients with a cardiac history or active tachycardia. Contact Medical Control for orders in these clinical presentations.

### Major Distress
- Altered Mental Status
- Severe Respiratory Distress
- Tri-Pod Position
- Accessory Muscle Use
- Peripheral Cyanosis
- **Consider rapid trial of medications**
- **Administer:** C.P.A.P. In-Line Nebulizer
- **Adult:** Epinephrine IM 1:1000 .3mg IM
- **Pediatric:** Epinephrine IM 1:1000 .01mg/kg IM – (Max .3mg)

Use caution when administering Albuterol, Atrovent, or Epinephrine to patients with a cardiac history or active tachycardia. Contact Medical Control for orders in these clinical presentations.

Transport to appropriate facility
Continue to monitor for changes
Monitor ETCo2 and SpO2 and HR

**Contact Medical Control for orders in these clinical presentations.**
Designation of Condition:
When severe, the patient will be stridorous and in respiratory distress. Remember to consider foreign body aspiration in your differential diagnosis.

Croup / Epiglottitis

- ABC's
- Oxygen 100%
- Assist ventilations, if needed
- Monitor ETCo2
- Monitor SPo2

Croup

Viral Infection
Typically nighttime presentation
Respiratory Stridor
Barking Cough

Epiglottitis

Bacterial Infection
Respiratory Stridor
Drooling

Stridor at Rest?
YES

Epinephrine 1:1000
1mg/2ml Nebulized Updraft

Calm patient
Continuous monitoring of HR Spo2
Consider Positive Pressure Ventilation with BVM 100% O2
Transport to appropriate facility
Continue to monitor for changes
Monitor ETCo2 and SPo2

If patient requires ventilatory support, one intubation attempt will be allowed.

Transport to appropriate facility
Continue to monitor for changes
Monitor ETCo2 and SPo2

Calm patient
Administer Blow-by O2
Do not examine the Mouth
**Seizure**

- ABC's
- **Oxygen 100%**
- Assist ventilations, if needed
- IV – Normal Saline Lock
- Protect Patient from Injury
- C-Spine Precautions if warranted
- Patient History – Possible Causes?
  - Head Injury
  - Epilepsy
  - Overdose
  - Hypoxia
  - Febrile

**Designation of Condition:**

Patients will usually present with uncontrolled involuntary muscle spasms. Patients will typically present with altered mental status and could have transient hypoxia depending on seizure duration.

- Blood sugar?
  - < 60 mg/dl
    - Refer to Diabetic Emergency Protocol
  - > 60 mg/dl
    - Begin active cooling efforts.

- Pedi Febrile Seizure?
  - YES
    - Adult Female – Magnesium Sulfate 4Gm – Slow IVP
  - NO

- Poss. Eclampsia Seizures?
  - YES
    - Adult – Ativan 2mg - IV Bolus
      - Pediatric – Ativan
      - Refer to Broselow
      - Maximum Dose : 2mg
      - Poss. Eclampsia
  - NO

- Active Seizures?
  - YES
    - IV Established?
      - YES
        - Adult – Versed 5mg - M.A.D.
      - NO
        - Pediatric – Versed 2.5mg – M.A.D.
  - NO

Transport to appropriate facility
Continue to monitor for changes

---

1. When using the M.A.D. device you may not administer more than 1cc of medications per nostril.
2. Monitor for respiratory depression and be prepared to ventilate patients.
3. Use caution to protect the skin from direct contact with cooling devices.

If seizures do not stop:
Repeat one dose through established route of access; - IV Ativan preferred.
Designation of Condition:
The patient will typically present with abdominal pain. The pain can be caused by many different illnesses or trauma. Recognition of the acute abdomen is the key.

- ABC's
- Oxygen 100%
- Assist ventilations, if needed
- 15-Lead ECG
- Patient History – Possible Causes?
- IV – NS

Pregnant > 20 weeks → YES → Refer to OB/GYN Protocols

Traumatic Pain → YES → Refer to Trauma Protocols

Detailed Physical Exam:
Pulsating Masses?
Rigid Abdomen?
Present or Absent Bowel Sounds?
Tenderness with palpation?
Pain Retroperitoneal?
Consider Rapid Transport for Acute Abdomen

SBP >90 mmHg?

YES → Adult Only: Consider pain medications if suspected kidney stone with acute flank pain. Refer to pain management protocol for dose.

NO → Maintain SBP 90mmHg
IV – Normal Saline

Transport to appropriate facility
Continue to monitor for changes
Raise the head of the bed 45 degrees if possible

**Blood sugar?**

- **< 60 mg/dl**
  - **Dextrose 50% 25G IVP**
  - Reassess BSL @ 5 min.
  - Possible Stroke?
    - Contact ER – Activate “Code Stroke”

- **> 60 mg/dl**
  - Transport to appropriate facility

Designation of Condition:

New onset Signs/Symptoms:
- Extremity Weakness
- Facial Paralysis
- Difficulty Speaking
- Altered Mental Status
- Vision Difficulties
- Headache

Consider History:
- TIA’s
- A-Fib
- Anticoagulants

Cerebral Vascular Attack

Facial Droop – Pt. smiles or tries to show teeth.
Normal: Both sides of face move equally
Abnormal: One side of face does not move

Arm Drift – Pt. closes eyes; holds arms equally in front.
Normal: Both arms move equally
Abnormal: One arm does not move; or drifts.

Speech: Have the patient repeat a short sentence.
Normal: Normal speech
Abnormal: Slurred Speech, Mumbling, Mute

1. If onset of symptoms within the last 3 hours the patient may be eligible for thrombolytic therapy so consider risk of multiple IV attempts.
**Nausea & Vomiting**

**Designation of Condition:**
Patients will usually present with nausea and active vomiting. Treatment of nausea should not be delayed in anticipation of active vomiting.

- ABC’s
- Oxygen
- Assist ventilations, if needed
- IV – Normal Saline / Lock
- Protect Patient from Aspiration
- Patient History – Possible Causes?
  - Head Injury
  - Recent Illness
  - Poisoning
  - Overdose

**Nausea – Active Vomiting**

Establish IV Access if possible
If IV access can not be established, use ODT

**Adult**
*Zofran 4mg Slow IVP (>30sec) – Max 8mg*
*or Zofran 8mg Oral Dissolving Tablet*

**Pediatric Age 2 – 12 yo**
*Zofran 0.1mg/kg Slow IVP*
*or Zofran 4mg Oral Dissolving Tablet*

*< 2yo – Contact Medical Control*

Transport to appropriate facility
Continue to monitor for changes
Designation of Condition:
Patients will present with a varying degree of symptoms as mild as a rash or severe as shock.

Mild Reaction
- Isolated Urticaria
- Isolated Itching

Moderate Reaction
- Urticaria
- Mild Facial or Extremity Swelling
- Mild Shortness of Breath
- Non-Isolated Itching

Severe Reaction
- Altered Mental Status
- Moderate – Severe Dyspnea
- Hemodynamic Instability
- Flushed - Urticaria

Transport to appropriate facility
Continue to monitor for changes
Monitor ETCO2 and SPo2

Wheezes?
NO

YES

Adult : Albuterol 5mg Nebulized
Pediatric : Albuterol 2.5mg Nebulized

Adult : Magnesium Sulfate
2 Grams IVP (Contraindicated in Hypotension)

Pediatric : Magnesium Sulfate
50mg/kg IVP (Contraindicated in Hypotension)

Condition Worsening?
NO

YES

Adult : Epinephrine 1:1000 - .3mg IM
Pediatric : Epinephrine 1:1000 - .01mg/kg IM

1. If the patient has Cardiac History, Hypertension, significant tachycardia, Contact Medical Control prior to administration of Epinephrine

Effective January 1, 2014
Coppell Fire Department - EMS Division
Expires December 31, 2016
Diabetic Emergency

- ABC’s
- Oxygen 100%
- Assist ventilations, if needed
- Consider ETCO2
- Consider ECG
- Patient History – Possible Cause

Finger stick Blood Glucose

**Hypoglycemia**

Blood Glucose < 60 mg/dl
Altered Mental Status

Consider Oral Glucose if patient is capable and willing to participate.

Pt. Alert?

YES

Establish IV or Normal Saline Lock

Adult – Oral Glucose 15 Gm - PO
Pediatric – Oral Glucose 7.5 Gm - PO

NO

Establish IV Normal Saline
Administer 250cc Fluid Bolus
- Administer cautiously with CHF

Transport to appropriate facility
Continue to monitor for changes

**Hyperglycemia**

Blood Glucose > 150 mg/dl
Altered Mental Status
Polydipsia
Polyuria
Polyphagia
S/S of Ketosis

Establish IV Normal Saline
Administer 250cc Fluid Bolus
- Administer cautiously with CHF

Transport to appropriate facility
Continue to monitor for changes

1. To create D25 – Dilute D50 – 1:1 with Normal Saline – Dose 2ml/kg
**Psychiatric Emergency**

- Scene Safety
- ABC’s
- **Request PD if not present**
- Patient History – Possible Cause
- Explain movements and procedures
- Encourage the patient to talk
- Be patient, individuals may need to develop trust of medical crew

### Designation of Condition:

Patients will present with abnormal behavior that is dangerous to the patient, public, or responders. Patients can be agitated, violent or display psychosis. These changes may be psychological, emotional, or physiologic.

#### Non-Violent Patient

- Panic Attack?
  - **YES**
    - Adult – Ativan 1mg - IV Only
    - Responds to crew commands
    - Transport to appropriate facility
    - Continue to monitor for changes
    - Check Blood Glucose Level
    - O2, IV, ECG – as needed
  - **NO**

#### Violent Patient

- Will not comply to verbal commands
- Danger to themselves or others
  - Adult – Versed 5mg - M.A.D. / IM
  - Pediatric – Versed 2.5mg – M.A.D. / IM
  - < 1 years of Age – Contact Medical Control
  - Versed Calm Pt. ?
    - **YES**
      - Transport to appropriate facility
      - Soft Restraints if required
      - Continue to monitor for changes
      - Check Blood Glucose Level
      - O2, IV, ECG – as needed
    - **NO**
      - Adult – Haldol – 5mg – M.A.D – Monitor ECG
      - Adult – Ativan – 2mg – IV Only
      - Pediatrics – Contact Medical Control

 1. When using the M.A.D. device you may not administer more than 1cc of medications per nostril.
2. Use caution while applying soft restraints to ensure pulses and capillary refill are present distal from the device. Reassess continuously while transporting the patient. Practices such as “Hog-tie”, “Backboard Sandwich” or sitting on patients are not acceptable.
3. Rarely patients may have a dystonic reaction to Haldol characterized by non-rhythmic muscle spasm. Dystonic reactions may be treated with Benadryl – Contact Medical Control for dose if reaction occurs.
4. Patients who have been treated with chemical or soft restraints require constant monitoring of airway status and vital signs.
Scene Safety
ABC’s
Manage airway as required
Request PD if suicide attempt
Patient History – Possible Cause
Identify Toxin
Identify route of exposure entry
Identify time of exposure
If safe, bring toxin with pt. to hospital

Designation of Condition:
The patient will have ingested, inhaled, absorbed or injected an unknown quantity of one or more substances.

Blood sugar?
< 60 mg/dl
Refer to Diabetic Emergency Protocol
> 60 mg/dl
Respiratory Depression?
YES
Adult – Narcan 2mg IV, MAD, IM, SQ, ETT
CONTACT MEDICAL CONTROL
NO
Pediatric – Contact Medical Control

Tricyclic Ingested?
YES
Contact Medical Control
Possible Sodium Bicarb Administration
NO

Organo - Phosphate?
YES
SLUDGEM?
YES
Contact Medical Control
Possible Atropine Administration
NO

Transport to appropriate facility
Continue to monitor for changes
Check Blood Glucose Level
O2, IV, ECG – as needed

Tricyclic Examples:
Amitriptyline (Elevail, Endep, Tryptanol)
Clomipramine (Anafranil)
Desipramine (Norpramin, Pertofrane)
Dothiepin Hydrochloride (Prothiaden)
Doxepin (Adapin, Sinequan)
Imipramine (Tofranil)
Iofepramine (Gamanil, Lomont)
Nortriptyline (Pamelor)
Protriptyline (Vivactil)
Trimipramine (Surmontil)

Organophosphate Exposure:
S: Salivation
L: Lacrimation
U: Urination
D: Defecation
G: Gastric Emptying
E: Emesis
M: Miosis

1. The only purpose of administration of Narcan is to reverse respiratory depression.
2. Tricyclic Antidepressant Ingestion
High Quality CPR:

When CPR is required the following should always be followed:

1. Push hard and fast
2. Allow for full chest recoil
3. Minimize ineruptions in compressions
4. Rotate compressors often
**Designation of Condition:**

The patient will be unconscious, unresponsive, pulseless and apneic. The patient's ECG will exhibit asystole.

- ABC's
- CPR – Continuous Compressions @ 100 bpm
- O2 100% - BVM
- Intubate
- Initial IV Access – EZIO – Cold Normal Saline
- ECG
- Consider Possible Causes
- Confirm Asystole in two ECG leads

---

**Establish EZIO – Normal Saline Bolus – 500cc**

**Epinephrine IV / IO**
1:10,000
1mg every 3-5 minutes

**Epinephrine ETT**
1:1000
2mg every 3-5 minutes
Dilute to volume 10cc with each dose

**OR**

**Vasopressin**
40u IV / IO
Repeat in 20 minutes
No Epinephrine required if Vasopressin used.

Transport to closest facility
Continue to monitor for changes
Reassess pacing efforts en-route

---

**Consider potentially reversible causes**

- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hyper/Hypokalemia
- Hypothermia

- Tablets (overdose)
- Tamponade
- Tension Pneumothorax
- Thrombosis (cardiac)
- Thrombosis (pulmonary)
Pulseless V-Fib & V-Tach

Designation of Condition:
The patient will be unconscious, unresponsive, pulseless and apneic. The patient’s ECG will exhibit organized Ventricular Fibrillation or Ventricular Tachycardia.

- ABC’s
- CPR – Continuous Compressions @ 100 bpm
- O2 100% - BVM
- Intubate
- Initial IV Access – EZIO – Cold Normal Saline
- ECG
- Consider Possible Causes

Defibrillation – One Shock – 360 Joules

Epinephrine IV / IO
1:10,000
1mg every 3-5 minutes

Epinephrine ETT
1:1000
2mg every 3-5 minutes
Dilute to volume 10cc with each dose

OR

Vasopressin 40u IV / IO
Repeat in 20 minutes
No Epinephrine required if Vasopressin used.

Defibrillation – One Shock – 360 Joules

Amiodarone – IV / IO
300mg
May repeat 150mg IV / IO

Note: If ROSC occurs:
Amiodarone – IVPB
100mg/100ml – Over 10min

Defibrillation – One Shock – 360 Joules

Continue Defibrillation after each medication administration

Downtime >10 min? YES

Sodium Bicarbonate
1 mEq/kg IVP

Transport to closest facility
Continue to monitor for changes

1. Continue chest compressions as rapidly as possible following defibrillation.
Ventricular Tachycardia

- ABC’s
- Oxygen 100%
- IV – Normal Saline
- 15 Lead ECG
- i-STAT – Chem 8 / Troponin

Designation of Condition:
The patient will present with Ventricular Tachycardia on the ECG.

Stable V-Tach

Patient conscious and alert
Systolic B/P > 90 mmHg
Denies Chest Pain
Denies Shortness of Breath

- **Adenosine 6mg Rapid IVP Follow with 20cc Flush**
  
  YES
  
  Rhythm Change?
  
  NO
  
  **Adenosine 12mg Rapid IVP Follow with 20cc Flush**

  YES
  
  Rhythm Change?
  
  NO
  
  **Amiodarone 150mg Slow IVP Administer over 10 min.**

  If Pt. becomes Unstable

  Stable

  Transport to closest facility
  Continue to monitor for changes

Unstable V-Tach

Pt. only needs to exhibit one of the following:
Unconscious or altered mental status
Hypotension
Chest Pain
Significant Shortness of Breath

- Manage airway if GCS <8
  
  If Sedation Required: **Versed – IV / M.A.D. 2mg – Increments Max of 10mg**

  **Synchronized Cardioversion**
  
  100 Joules
  
  200,300,360J as needed

  Transport ASAP

  Transport to closest facility
  Continue to monitor for changes

Unstable

Note: Conversion with Amiodarone

- **Amiodarone – IVPB**
  
  100mg/100ml – Over 10 min

Consider:

- **Suspected A/Fib with RVR**
  
  Cardizem 0.25mg IVP Single Dose

Effective January 1, 2014  
Coppell Fire Department - EMS Division

Expire December 31, 2016
**Symptomatic Bradycardia**

- ABC’s
- Oxygen 100%
- IV – Normal Saline
- 15 Lead ECG
- i-STAT – Chem 8 / Troponin

---

**Designation of Condition:**
The patient will present with unstable bradycardia. HR ≤60 bpm with one of the following:

- Unconscious or altered mental status
- Hypotension
- Chest Pain
- Shortness of Breath

---

**Symptomatic?**

- NO → Patient Age >40?
  - YES → 2nd or 3rd Degree HB?
    - YES → Sedation Required?
      - YES → Versed – IV / MAD
        - 2mg – Increments
        - Max of 10mg
      - NO → Morphine for Pain 5mg IVP / MAD
        - may repeat at 5 minutes as required
    - NO → Atropine 1 mg IVP
      - Repeat: 3-5 min
      - Max Dose: 3mg
  - NO → Response to Atropine
    - NO → Transport to appropriate facility
    - YES → Continue to monitor for changes
  - YES → Transcutaneous Pacing
    - Initial Settings: 80 bpm – 5mA
    - Increase mA until mechanical capture
    - Continue Sedation and Pain Management as Required
    - Dopamine Drip - 400mg / 250cc NS
      - Start: 2 mcg/kg/min
      - Max: 20 mcg/kg/min
    - Transport ASAP
---
Supraventricular Tachycardia

- ABC’s
- Oxygen 100%
- IV – Normal Saline
- 15 Lead ECG
- i-STAT – Chem 8 / Troponin

Designation of Condition:
The patient will present with a HR >150 bpm. The complex will be narrow and atrial in origin.

Stable PSVT

- Patient conscious and alert
- Systolic B/P > 90 mmHg
- No - Chest Pain
- No - Shortness of Breath

Attempt Vagal Maneuvers

Adenosine 6mg Rapid IVP
Follow with 20cc Flush

- Rhythm Change?
  - YES
  - NO

Adenosine 12mg Rapid IVP
Follow with 20cc Flush

- Rhythm Change?
  - YES
  - NO

Suspected A/Fib with RVR
Cardizem 0.25mg Slow IVP
Single Dose

Unstable PSVT

Pt. only needs to exhibit one of the following:

- Unconscious or altered mental status
- Severe Hypotension
- Severe Chest Pain
- Severe Shortness of Breath

Sedation Required?

- YES
  - Versed – IV / MAD
  - 2mg – Increments
  - Max of 10mg

- NO

Synchronized Cardioversion 50J
Repeat at 100,200,300,360 J
If required.

YES

NO

Transport ASAP

If at anytime, the patient becomes unstable, immediately refer to Synchronized Cardioversion

Transport to appropriate facility
Continue to monitor for changes
**Chest Pain (Non-STEMI)**

- ABC’s
- Oxygen 100%
- IV – Normal Saline
- Score Pain – 1-10
- i-STAT – Chem 8 / Troponin

**Aspirin 324mg PO**

**Complete 15 Lead ECG**

**Refer to Cardiogenic Shock Protocol**

- NO
- YES

**SBP> 100? HR > 70?**

**Nitroglycerine .4mg SL**

Every 5 min.

Maximum of 3 Doses

Monitor B/P between doses

**Pain Continues?**

- YES
- NO

**Morphine 2mg IVP**

Repeat every 5 min.

Maximum 10mg

If required for persistent chest pain or critical care transport:

**Nitroglycerine Drip**

50mg / 250ml NS

Start: 10 mcg/min

Max: 50 mcg/min

Maintain SBP >100mmHg

CMC for doses > 50 mcg/min

**Transport to appropriate facility**

Continue to monitor for changes

---

**Designation of Condition:**

Patient will complain of chest discomfort, pain, pressure or other symptoms that could lead crew to believe pain could be cardiac in origin.

The pain may radiate or remain in one location, and may also be accompanied with shortness of breath, nausea, and diaphoresis.

---

**Effective January 1, 2014**

Coppell Fire Department - EMS Division

**expire December 31, 2016**
Chest Pain - Code STEMI

**Designation of Condition:**
Patient will complain of chest discomfort, pain, pressure or other symptoms that could lead crew to believe pain could be cardiac in origin. The pain may radiate or remain in one location, and may also be accompanied with shortness of breath, nausea, and diaphoresis.

- ABC’s
- Oxygen 100%
- IV – Normal Saline
- Score Pain – 1-10
- Rapid 15 Lead ECG
- i-STAT – Chem 8 / Troponin

**Contact ER ASAP**
Activate “Code STEMI”
Transmit ECG

**Aspirin 324mg PO**

**ST Elevation II,III,aVF ?**

- **YES**
  - **ST Elevation Right Side?**
    - **YES**
      - **Morphine 2mg IVP**
        - Repeat until pain resolved or Maximum 10mg
        - TRANSPORT – NO Nitro
        - NS IV Fluid Bolus – 500ml
    - **NO**
  - **NO**

**SBP> 100? HR> 70?**

- **YES**
  - **Nitroglycerine .4mg SL**
    - Every 5 min.
    - Maximum of 3 Doses
    - Monitor B/P between doses
- **NO**

**Pain Continues?**

- **YES**
  - **Morphine 2mg IVP**
    - Repeat every 5 min.
    - Maximum 10mg
- **NO**

**Transport to appropriate facility**
Continue to monitor for changes

**Refer to Cardiogenic Shock Protocol**
Designation of Condition:
The patient will have a return of spontaneous circulation following an event of respiratory and cardiac arrest.

- Continuously Assess ABC’s
- **Oxygen 100%**
- Continue to assist ventilations if needed
- Continuously Assess ETCo2
- 12 Lead ECG
- Monitor Vital Signs
- i-STAT – Chem 8 / Troponin

**DO NOT HYPERVENTILATE**
Maintain ETCo2 @ 40mmHg

---

**Ectopy**
Consider possible causes:
Ensure adequate O2
Verify ECG and 12-Lead

**Hypotension**
Fluid Bolus
Normal Saline 1000cc

**Bradycardia**
Refer to Bradycardia Protocol

**DO NOT HYPERVENTILATE**
Maintain ETCo2 @ 40mmHg

**Dopamine Drip**
- 800mg / 500cc NS
- Start: 5 mcg/kg/min
- Max: 20 mcg/kg/min
- Goal = SBP = or > 90mmHg

**Norepinephrine Drip**
- 4mg / 250cc NS
- Start: 2 mcg/kg/min
- Max: 30 mcg/kg/min
- Goal = SBP = or > 90mmHg

---

If hypotension refractory to fluid bolus and Dopmanine then continue Dopamine and start Norepinephrine

Transport to appropriate facility
Continue to monitor for changes
**Hypertensive Crisis**

**Designation of Condition:**

Patient will often present with a complaint of headache, blurred vision, dizziness or general fatigue. The patient may, or may not have a history of hypertension. A Hypertensive Crisis is only considered therapeutic when Hypertension is combined with End Organ Dysfunction with a MAP >120mmHg.

The treatment of a potential Hypertensive Crisis must be handled with great delicacy. The Hypertensive response may be a patient's only protective reflex during a cerebrovascular accident. Reduction of blood pressure in this patient population may lead to an immediate deterioration in the patient's condition, or death.

**Contraindications:**

- Patients with Hx of Asthma
- Patients with Hx of Heart Block
- Patients with Bradycardia

**Mean Arterial Pressure (MAP)**

\[
\text{MAP} = \frac{[(\text{Diastolic} \times 2) + \text{Systolic}]}{3}
\]

**Labetalol**

- 20mg Slow IVP over 2 min.
- Wait 5 min, if MAP still >120 – Labetalol 40mg Slow IVP
- Wait 5 min, if MAP still >120 – Labetalol 80mg Slow IVP
- Wait 5 min, if MAP still >120 – Labetalol 80mg Slow IVP
- Max Dose 300mg

***Keep the patient in the supine position because the upright position can result in precipitous drops in blood pressure.***

- ABC’s
- Oxygen 100%
- IV – Normal Saline
- 12 Lead ECG
- i-STAT – Chem 8 / Troponin

**Transport to appropriate facility**

**Continue to monitor for changes**
**Congestive Heart Failure**

- **ABC’s**
- **Oxygen 100%**
- IV – Normal Saline
- 12 Lead ECG
- i-STAT – Chem 8 / Troponin

### Designation of Condition:

Patient will usually present with shortness of breath, crackles or rales on lung exam, and possibly pink frothy sputum. Patients will typically have a cardiac history and also show pedal / peripheral edema.

**Elevated Temp?**

- **YES**
  - Consider Pneumonia or Septic Shock

- **NO**

**SBP > 90?**

- **YES**
  - Nitroglycerine .4mg SL every 5 min.
  - Maximum of 3 Doses
  - Monitor B/P between doses
  - Continue Treatment

- **NO**

**SBP > 90?**

- **YES**
  - Enalapril 1.25mg over 5 min.
  - Administer C.P.A.P.
  - Refer to C.P.A.P. Protocol

- **NO**

**Refer to Cardiogenic Shock Protocol**

**Pulmonary Edema**

- **YES**
  - Lasix 1mg/kg Slow IVP
  - Max single dose: 80mg
  - Dose may be repeated once if required

  - Morphone 5mg IVP
  - Maximum 10mg

  - Transport to appropriate facility
  - Continue to monitor for changes

**SBP > 90?**

- **YES**
  - Continue Treatment

- **NO**

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**Cardiogenic Shock**

- **ABC's**
- **Oxygen 100%**
- **IV – Normal Saline**
- **12 Lead ECG**
- **i-STAT – Chem 8 / Troponin**

**Designation of Condition:**

Patient will usually present with shortness of breath, crackles or rales on lung exam, and possibly pink frothy sputum. Patients will be **Hypotensive = SBP < 90 mmHg**

- **Manage airway if GCS <8**

**Fluid Bolus – 250cc Normal Saline**

**SBP < 90 mmHg**

**YES**

- **Dopamine Drip - 800mg / 500cc NS**
  - Start: 5 mcg/kg/min
  - Max: 20 mcg/kg/min
  - Goal = SBP = or > 90mmHg

If hypotension refractory to fluid bolus and Dopmanine then continue Dopamine and start Norepinephrine

- **Norepinephrine Drip - 4mg / 250cc NS**
  - Start: 2 mcg/kg/min
  - Max: 30 mcg/kg/min
  - Goal = SBP = or > 90mmHg

**NO**

- **Transport ASAP**

- Transport to appropriate facility
  - Continue to monitor for changes
Coppell Fire Department

Environmental

Patient Care Guidelines
**Hypothermia**

- ABC’s
  - Oxygen 100%
  - Remove from Environment
  - Remove wet clothing
  - Wrap patient in warm blanket
  - Avoid rough handling
  - Blood Glucose Level
  - IV – Normal Saline X 2
  - 12 Lead ECG

### Designation of Condition:
The patient will have experienced a prolonged exposure to a cold environment. Patients can present cool to touch, with altered mental status, or in cardiac arrest.

- Manage airway if GCS <8
  - C.P.R. ?
  - YES → Follow appropriate ECG protocol.

#### Adult – Warm Fluid Bolus – 500cc
- Pediatric – Warm Fluid Bolus
- Refer to Broselow for Dose
- Apply warm packs to the groin and axilla

- Transport ASAP
- Continue aggressive warming efforts
  - Transport to appropriate facility
  - Continue to monitor for changes

1. If defibrillation is indicated, do not attempt more than 3 times, until patient is warm.
2. If the patient is severely hypothermic (Temp < 86 F) do not administer IV medications until the patient has shown return of color to the peripheral extremities.
Hyperthermia

- ABC’s
- Oxygen 100%
- Remove from Environment
- Remove clothing and moisten skin
- IV – Normal Saline X 2
- Blood Glucose Level
- 12 Lead ECG

Designation of Condition:
The patient will have experienced a prolonged exposure to a hot environment, or established excessive body heat due to physical activity. Patients could also be suffering from a drug overdose or chemical exposure.

Manage airway if GCS <8

C.P.R. ?

YES ➔ Follow appropriate ECG protocol.

Adult – Cool Fluid Bolus – 500cc

Pediatric – Cool Fluid Bolus
Refer to Broselow for Dose

Apply cold packs to the groin and axilla

Transport ASAP

Continue aggressive cooling efforts
Transport to appropriate facility
Continue to monitor for changes
Drowning & Near Drowning

Designation of Condition:
The patient will have been a victim of drowning or near-drowning situation. Resuscitation should be attempted in all cold water drowning unless submersion time can be reliably documented as greater than one hour.

- Remove victim from water
- ABC’s
- **Oxygen 100%**
- Remove wet clothing
- IV – Normal Saline
- Blood Glucose Level
- 12 Lead ECG

**Flowchart:**
- Fall or diving accident?
  - Yes: Suspect head and spinal injuries → Full-Spine Immobilization
  - No: Manage airway if GCS <8
  - C.P.R.?
    - Yes: Follow appropriate ECG protocol.
    - No: Possible Hypothermia?
      - Yes: See Hypothermia protocol
      - No: Transport to appropriate facility

Note: During management of the intubated drowning patient, or upon ROSC of a suspected drowning patient:

- Add PEEP – 5 cmH2O
- BVM Ventilations

All near drowning patients, no matter how well they appear, must be transported. A percentage of these patients will develop complications with secondary drowning within 24 hours. Contact Medical Control for assistance when attempting to persuade patients or guardians.
Designation of Condition:

Patient will present with a complaint of a snake bite. Two puncture wounds will normally be visible with pit viper bites. Not all cases of snake bites result in venom being injected.

Do not apply tourniquets, ice or attempt to make any incisions to extract venom.
Coppell Fire Department

OB / GYN

Patient Care Guidelines

Effective January 1, 2014

Coppell Fire Department - EMS Division

Expires December 31, 2016
**Childbirth**

- Prepare for Field Delivery
- ABC’s
- Oxygen 100%
- Patient History
  - Gravida / Para?
  - Multiple Gestation?
  - Color of Amniotic Fluid?
  - IV – Normal Saline

### Normal Delivery

- Slowly guide the infants head out of the vagina with a gloved hand during each contraction. (Slow Progress)

- If umbilical cord is wrapped around infants neck, you may attempt to slip it gently over the head, or clamp and cut if necessary

- After delivery of the head, suction the mouth and then the nose with a bulb syringe.

- When the infants shoulders are passing, gently pass the head downwards in an attempt to deliver the anterior shoulder.

- Once the shoulders pass the rest of the infant should deliver rapidly with gentle contractions.

- Double clamp the umbilical cord, leaving at least 4cm of cord with the infant and cut the cord.

- Warm, dry, and clean the newborn. Cover the head and refer to Neonatal Resuscitation Protocol.

- Score APGAR at 1 and 5 minutes

- If the mother delivers the placenta, do not tug or pull on umbilicus, transport the placenta to the hospital for inspection by physician

- Massage of the uterine fundus may be required en route to the hospital to control bleeding.

### Breech Delivery

- Begin immediate transport to the hospital with two paramedics in the back of the MICU.

- Support infants extremities or buttocks until the back appears.

- Grasp the iliac wings and apply gentle downward traction to deliver to the level of the scapula.

- Gently rotate the infants body until the right shoulder is beneath the symphysis.

- Reach up and locate the humerus, apply downward traction until the arm is delivered. Rotate the infants body until the shoulder is below the symphysis pubis and deliver the other arm.

- Gently rotate the infants body so the spine is below the symphysis pubis.

- To deliver the head lift the infants body upward and apply fundal pressure to keep the neck flexed. The head should delivery spontaneously.

- If the infant will not deliver, attempt to keep the airway open while placing two fingers in the vagina to create an airspace for the infants face.

- Transport Code 3 to nearest hospital

### Prolapsed Cord

- Place mother in trendelburg position and also rotate her onto the left side. The patient may also use the knee-chest position.

- Place saline moistened gauze over the prolapsed cord.

- If the infants head is compressing the cord, place a gloved hand on the head of the infant and keep it from compressing the cord.

- Transport Code 3 to nearest hospital

---

Apgar Score

<table>
<thead>
<tr>
<th>Sign</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Rate</td>
<td>0</td>
</tr>
<tr>
<td>Respiratory Effort</td>
<td>1</td>
</tr>
<tr>
<td>Muscle Tone</td>
<td>2</td>
</tr>
<tr>
<td>Reflex Irritability</td>
<td>3</td>
</tr>
<tr>
<td>Color</td>
<td>4</td>
</tr>
</tbody>
</table>

- 0 = absent
- 1 = present
- 2 = good
- 3 = very good
- 4 = completely pink

- 0 = less than 100
- 1 = 100-120
- 2 = over 120

- 0 = no response
- 1 = grimace
- 2 = cough/sneeze

- 0 = blue
- 1 = pale
- 2 = pink

---

Effective January 1, 2014

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Expire December 31, 2016
Designation of Condition:
Patient will present as a newborn that requires resuscitative intervention. The extent and level of intervention is patient condition dependent.

Immediately following delivery of the infant's head:
- Meconium Present? YES → Vigorously suction the mouth then nose. Suction infant with meconium aspirator and ETT after delivery.

- Aggressively warm and dry the infant
- Place supine and in sniffing position
- Stimulate the infant by rubbing or touching the feet or back to encourage ventilations

HR, breathing, color?
- pink, HR>100, breathing → Supportive care
- Apnea or HR<100 → Positive-pressure ventilation

HR, breathing, color?
- pink, HR>100, ventilating → Supportive care
- HR<60 → Blood Glucose Level

HR?
- HR<60 → Positive-pressure ventilation
- HR>60 → Epinephrine IV, IO, ETT 1:10,000 Refer to Broselow Repeat q 3-5 min.

Blood Glucose Level
Attention:
All Pediatric Drug Dosages within the Pediatric Cardiac section apply to ages 0-12.

Refer to Broselow Luten Tape for appropriate resuscitation dosages and equipment
Pediatric Asystole / PEA

Designation of Condition:
Patients Age 0-12
Patient Weight: Less than 37kg

The patient will be unconscious, unresponsive, pulseless and apneic. The patient's ECG will exhibit asystole or PEA.

- ABC's
- CPR – Continuous Compressions @ 100 bpm
- O2 100% - BVM
- Intubate or LMA
- Initial IV – EZIO – Normal Saline
- ECG
- Consider Possible Causes
- Confirm Asystole in two ECG leads

IV – Normal Saline Bolus – 20cc/kg

Epinephrine IV / IO
1:10,000
Dose: Refer to Broselow every 3-5 minutes

Epinephrine ETT
1:1000
Dose: Refer to Broselow every 3-5 minutes Dilute to volume 5cc

Transport to closest facility
Continue to monitor for changes

Consider potentially reversible causes
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hyper/Hypokalemia
- Hypothermia
- Tablets (overdose)
- Tamponade
- Tension Pneumothorax
- Thrombosis (cardiac)
- Thrombosis (pulmonary)
**Designation of Condition:**

**Patients Age 0-12**
Patient Weight : Less than 37kg

The patient will be unconscious, unresponsive, pulseless and apneic. The patients ECG will exhibit organized Ventricular Fibrillation or Ventricular Tachycardia

- ABC’s
- CPR – Continuous Compressions @ 100 bpm
- O2 100% - BVM
- Intubate or LMA
- Initial IV – EZIO – Normal Saline
- ECG

---

**Defibrillation – One Shock – Refer to Broselow for initial setting**

- **Defibrillation** – One Shock – Refer to Broselow for repeat setting

---

**Defibrillation – One Shock – Refer to Broselow for repeat setting**

---

**Defibrillation – One Shock – Refer to Broselow for repeat setting**

---

**Continue Defibrillation after each medication administration**

---

**Extended Downtime?**

- **YES**
  - **Sodium Bicarbonate**
    - 1 mEq/kg IVP

---

**Transport to closest facility**

- Continue to monitor for changes

---

1. Continue chest compressions as rapidly as possible following defibrillation.
**Designation of Condition:**
Patients Age 0-12
Patient Weight : Less than 37kg
The patient will present with Ventricular Tachycardia on the ECG.

### Stable V-Tach
- Patient conscious and alert
- Denies Chest Pain
- Denies Shortness of Breath

#### Adenosine
Dose : Refer to Broselow
Follow with 10cc Flush

- **Rhythm Change?**
  - **YES**
  - **NO**

- **Adenosine**
  Dose : Refer to Broselow
  Follow with 10cc Flush

- **Rhythm Change?**
  - **YES**
  - **NO**

- Transport ASAP

### Unstable V-Tach
- Pt. only needs to exhibit one of the following:
  - Unconscious or altered mental status
  - Hypotension
  - Chest Pain
  - Significant Shortness of Breath

- Manage airway if GCS <8

#### If Sedation Required:
- Versed – IV / IO / MAD
- CONTACT MEDICAL CONTROL

#### Synchronized Cardioversion
- .5 Joules/kg
- .5/kg – 1/kg – 2/kg as needed

- Transport ASAP

- Transport to closest facility
- Continue to monitor for changes

Transport to closest facility
Continue to monitor for changes
Pediatric Symptomatic Bradycardia

- ABC’s
- Oxygen 100%
- IV – Normal Saline
- 12 Lead ECG

Infant or Neonate HR<60 – Start CPR

Epinephrine
Dose: Refer to Broselow

Response to Epi?

YES

Atropine
Dose: Refer to Broselow

Response to Atropine

YES

Sedation Required?

YES

Versed – IV / MAD / IO
CONTACT MEDICAL CONTROL

NO

Transcutaneous Pacing
Initial Settings: 100 bpm – 5mA
Increase mA until mechanical capture

Continue Sedation as required

Transport ASAP

Transport to appropriate facility
Continue to monitor for changes

Designation of Condition:

Patients Age 0-12
Patient Weight: Less than 37kg

The patient will present with unstable bradycardia. HR <60 bpm with one of the following:

- Unconscious or altered mental status
- Hypotension
- Chest Pain
- Shortness of Breath

Effective January 1, 2014 Coppell Fire Department - EMS Division

Expire December 31, 2016
Pediatric PSVT

Designation of Condition:
Infant: HR Greater than 220
Child: HR Greater than 180
The complex will be narrow and atrial in origin.

Stable PSVT

- Patient conscious and alert
- No - Mild Chest Pain
- No - Mild Shortness of Breath

Attempt Vagal Maneuvers

Adenosine
Dose: Refer to Broselow
Follow with 10cc Flush

Rhythm Change?

YES

Adenosine
Dose: Refer to Broselow
Follow with 10cc Flush

NO

Rhythm Change?

YES

NO

Transport to appropriate facility
Continue to monitor for changes

Unstable PSVT

Pt. only needs to exhibit one of the following:
- Unconscious or altered mental status
- Severe Hypotension
- Severe Chest Pain
- Severe Shortness of Breath

Sedation Required?

YES

Versed – IV / MAD / IO
CONTACT MED CONTROL

NO

Synchronized Cardioversion
.5 Joules/kg
.5/kg – 1/kg – 2/kg as needed

Transport ASAP
Patients on a vent upon arrival

- Copy the current settings and make adjustments as needed

Initiating invasive vent management

- Either SIMV or A/C can be used
- Volume or Pressure ventilation may be used
  - For volume ventilation, set the **Tidal Volume** to
    - An initial TV of **5-8 mL/kg** of ideal body weight
    - Use lower values in the presence of obstructive airway disease and ARDS
    - The goal is to adjust the TV so that plateau pressures are less than 35 cm H2O
    - In volume ventilation, monitor and document peak inspiratory pressures
  - For pressure ventilation, set the **Pressure Control** to
    - **enough pressure to generate chest rise**
    - and then a measured tidal volume of **5-8 mL/kg**
    - In pressure ventilation, monitor and document tidal volumes

- **Respiratory Rate (RR)**
  - **Set at or just below the low end of appropriate for age and condition**
    - For example 8-12 breaths per minute for an adult not requiring hyperventilation for the treatment of respiratory or metabolic acidosis, or intracranial injury.
    - High rates allow less time for exhalation, increase mean airway pressure, and cause air trapping in patients with obstructive airway disease.
    - The initial rate may be as low as 5-6 breaths per minute in asthmatic patients when using a permissive hypercapnic technique.
  - **Set FiO2**
    - The lowest FiO2 that produces an arterial oxygen saturation (SaO2) greater than 90% and a PaO2 greater than 60 mm Hg is recommended
  - **Set the Inspiration/Expiration ratio and or iTime**
    - The normal Inspiratory time is **0.8-1.2 seconds**
    - The normal inspirationexpiration (I/E) ratio to start is **1:2**.
      - This is reduced to 1:4 or 1:5 in the presence of obstructive airway disease in order to avoid air-trapping (breath stacking) and auto-PEEP or intrinsic PEEP (iPEEP).
      - Use of inverse I/E may be appropriate in certain patients with complex compliance problems in the setting of ARDS
  - **Set the Positive end-expiratory pressure (PEEP)**
    - Start with physiologic PEEP of **3-5 cm H2O** to prevent decreases in functional residual capacity in those with normal lungs.
    - Increase PEEP as needed to improve oxygenation and to reduce the FiO2 to nontoxic levels (FiO2 < 0.5) if possible.
    - The level of PEEP must be balanced such that excessive intrathoracic pressure (with a resultant decrease in venous return and risk of barotrauma) does not occur
  - **Set the Sensitivity**
    - Set at 5 Lpm and adjust as necessary to keep patient calm and to prevent breath stacking and movement causing erroneous breaths
      - 1 would be most sensitive as it only requires 1 Lpm of flow to initiate a breath
      - 9 would be least sensitive as it requires 9 Lpm flow to initiate a breath

PEARLS

- One benefit of PEEP/CPAP is to shift fluid from the alveoli, such as in cases of cardiogenic as well as noncardiogenic pulmonary edema. It can also help CHF patients by decreasing the venous return to the right side of the heart by increasing intrathoracic pressure.
- Whether in pressure control or volume control, with smaller tidal volumes and lower respiratory rates, it is important to maintain an adequate minute volume
**Indications:** The I-STAT device should be used on cardiac patients, cardiac arrest patients or any other patient deemed necessary to aid in evaluation of patient.

**Contraindications:** None

**Setting up I-STAT:**
- Press the ON button to start unit
- Press the number 2 I-STAT cartridge
- Scan the lot number on the cartridge
- Draw 3cc of blood directly from the hub on the IV catheter
- Place tip of filled syringe over hole of the cartridge, fill to the blue arrow.
- Close the door of the cartridge and insert cartridge until it clicks into place.
- Wait for results (time may vary depending on which test you are running)

**Reading results:**
- Patient’s result will be displayed numerically
- Test results are displayed for two minutes
- To review results, power on I-STAT and press 1 for last results

**Printing results**
- Turn printer on until you see green light
- Align infrared (IR) window on I-STAT with printer
- Select display result’s and press PRT
- Do not remove I-STAT from printer until printing is complete

**Transmitting results**
- Place I-STAT in downloader or downloader/recharger
- Do not move I-STAT until communication in progress message disappears.
Indications:
To be used when signs and symptoms of a tension pneumothorax are present. Will be used in blunt force traumatic arrest in adult patients.

Contraindications:
- Spontaneously Breathing Patient
- Open Chest Wounds
- Severely Obese Patients
- Trauma / Fractured Clavicle

Procedure

Prepare equipment for insertion – 14g 2 Inch Jelco – 10cc Syringe – Fish Valve

Identify 2nd Intercostal space, affected side(s) – Midclavicular line

Puncture skin with needle assembly over the rib into the intercostal space

Aspirate for air during insertion by applying slight back pressure to the syringe plunger

When air enters the syringe, remove needle from Jelco and continue to pass plastic catheter

Place one way valve on plastic catheter and secure in place with tape

Continuously reassess placement, lung sounds, ETCO2, SPo2

Contact Medical Control for use in Pediatrics
18g Jelco catheter will be required for pediatric use.

Patients must be in a state where they are being ventilated with a BVM with a mask or endotracheal tube prior to decompression.
Emergency Vascular Access

Dialysis Shunt

- No Blood Pressures or IV cannulation in the same extremity as the dialysis shunt.
- Accessing dialysis shunts is permitted, however should be a last resort measure.
- Prior to access ensure the shunt is patent by palpating for a thrill or auscultating for a bruit.

Central Line

- Patients with central lines do not automatically indicate difficult IV access. Several of these patients have them placed for extended IV based therapy.
- When access is required, be as sterile as possible. Central line catheters go directly to the heart.
- Select port and clean thoroughly with alcohol prep.
- Unclamp port, connect 10cc syringe and gently aspirate for blood. Do not re-administer to patient once withdrawn.
- If blood returns easily connect IV tubing to port and allow IV fluids to flow at selected rate.
- Secure IV tubing to the patients chest with tape.
- Continuously reassess during patient transport.

Interosseous Access

- IO lines can be placed in patients of any age, they are not restricted to pediatric patients.
- The standard accepted location for placement in both adults and pediatrics will be the proximal tibia.
- Refer to the EZIO Protocol

All patients in Cardiac Arrest will have the EZIO as their initial vascular access. Peripheral vascular access may utilized if EZIO is unsuccessful or if additional IV’s are established.
Indications:
To be used when emergency vascular access is required. The EZIO is indicated in multiple patient scenarios where peripheral access might be difficult or impossible.

Contraindications:
Patients requiring administration of D50
Suspected Fracture of the Tibia / Femur / Humerus
Inability to locate anatomical landmarks
Excessive tissue over the insertion site

procedure

Prepare equipment for insertion – EZIO Driver / Needle, IV, 10cc syringe, gauze, pressure bag

Locate proper insertion site:

Humeral Head:
Place the hand of the patient across the umbilicus with the elbow along the patients side.
Palpate the base of the greater tubercle by sliding your hand up the midline of the humeral shaft.
Insertion site is the greater tubercle.
Stabilize the shoulder and insert at a 90 degree angle.

Proximal Tibia:
Palpate the tibial tuberosity which is the bump or raised area on the anterior surface of the tibia, just below the knee.
Insertion site is two fingers width distal and slightly medial from the midline of the leg.
Stabilize the leg and insert at a 90 degree angle.

Distal Tibia:
Palpate the medial malleous on the medial and anterior surface of the ankle.
Insertion site is two fingers width proximal to the medial malleous on the midline of the shaft.
Stabilize the leg and insert at a 90 degree angle.
After the proper site has been located:

- Cleanse insertion site thoroughly
- Inform conscious patients of procedure and pain, conscious patients have the right to refuse procedure

Begin insertion of EZIO:
- Hold the driver in one hand and stabilize the extremity with the other.
- Position driver at insertion site at a 90 degree angle to the skin surface
- Power the driver through the skin until it makes contact with the bone
- Evaluate the EZIO needle for the 5mm mark
- Continue insertion until flange of EZIO touches the skin, or a sudden lack of resistance is felt indicating insertion into the marrow cavity.

Remove the driver from needle set, remove the stylet from catheter

Confirm proper placement of catheter tip by checking for one of the following:
- Immediately syringe flush with at least 10cc of NS
- IO catheter standing at 90 degrees and firmly seated in tibia
- Blood at tip of stylet
- A free-flow of fluid through the needle with no evidence of extravasation.

**DO NOT ASPIRATE**

Connect IV tubing and begin infusion

Attach pressure bag to IV bag and apply slight pressure to ensure proper flow

**Adult and Pediatric Administer Lidocaine 2% - 1mg/kg Slow IO Push**

Secure IO with roller gauze and continuously reassess for extravasation

Refer to Pain Management Protocol if required for continuous infusion
**Indications:**
To be used when Versed, Haldol, Narcan, Glucagon, Morphine may need to be administered to a patient. *Maximum of 1cc per nostril.*

**Procedure**
- Prepare equipment: Syringe with M.A.D. attached
- Ensure proper medication, dose and amount drawn into syringe
- Place M.A.D. tip in the Nostril, attempt to have a firm seal
- Rapidly inject medication
- Remove M.A.D. from nostril and place into sharps container
- Monitor patient for desired therapeutic effect
- If M.A.D. use is required again for the same patient, you may use the opposite nare.
Designation of Condition:
The patient will be unconscious, unresponsive, pulseless, and apneic. Resuscitation efforts of any kind may be withheld on the deceased who meet one of the following criteria.

Criteria

Obviously deceased:
- Presence of rigor mortis
- Presence of dependent lividity
- Obvious external exsanguination
- Decapitation
- Visible extrusion of brain matter
- Decomposition
- Obvious injuries incompatible with life

Obviously unresuscitatable:
- Entrapped patient who are pulseless and apneic and extrication would be prolonged.

Presence of a valid DNR form:
- Refer to the DNR Protocol
- Contact Medical Control for any concerns of authenticity

Multiple Casualty Incident

- Contact PD to have the Corner / Medical Examiner dispatched.
- Document all findings in the patients narrative, including why patient was not resuscitated.
- Confirmation of death with ECG is not required in patients who are obviously deceased.

CONTACT MEDICAL CONTROL IF ANY QUESTIONS EXIST
Designation of Situation:
The patient will present with a condition that would otherwise require resuscitative efforts and have a DNR directive present.

An Out of Hospital DNR may be issued for patients who have been diagnosed with a terminal medical condition. The directive will be issued by the patients attending physician, who is responsible for completion of the document.

The presence of such a directive does not prohibit the provision of comfort measures.

There are two types of DNR Forms:
Forms used in-hospital or extended care facilities
Texas Out-of-Hospital DNR Form

DNR Scenarios outside of healthcare facilities

Upon arrival at the scene attempt to determine if a DNR directive exists for the patient.

The DNR form must be the original.
A patient may also be wearing the state provided bracelet / necklace.
Presence of the bracelet / necklace is considered the same as having a valid form present.

Out of state DNR forms will be considered valid if there is no reason to question its authenticity.

Upon determination of a valid DNR, the following procedures will be withdrawn or withheld:
Cardiopulmonary Resuscitation
Endotracheal intubation or other advanced airway management
Artificial Ventilation
Defibrillation
Transcutaneous Pacing
Cardiac Resuscitation Medications

If the patient is transported, the form will be kept with the patient.

Documentation of an incident where a DNR form is identified and recognized must include:
An assessment of the patients physical condition
How the DNR form was identified and what confirmed its authenticity
Any problems relating to the implementation of the DNR order
The name of the patient’s attending physician
The full name, address, telephone number and relationship to the patient of any witness used to identify the patient
Any other information that may be valuable in support of the use of a DNR order.

Paramedics will not withhold resuscitative efforts from a patient who is known to be pregnant.

CONTACT MEDICAL CONTROL IF ANY QUESTIONS EXIST
### Designation of Condition:
A physician will present himself or herself at the scene and request to aid in the patient's care at any level.

<table>
<thead>
<tr>
<th>Field Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>The physician must present either a photo ID or their medical license to practice medicine with an unexpired date. The physician's name and license number will be recorded on the EMS run sheet.</td>
</tr>
<tr>
<td>The physician must understand the following rules prior to being allowed to participate or direct your care for a patient in the field.</td>
</tr>
<tr>
<td>If they elect to assist, they become the patient's physician and act as field medical control.</td>
</tr>
<tr>
<td>They must accompany the patient in the ambulance during transport to the hospital. There are no exceptions to this rule.</td>
</tr>
<tr>
<td>Medical Control should immediately be contacted and informed that a physician at the scene would like to provide field medical control. Online Medical Control has the option of coordinating patient care over the phone, or allowing the physician on scene to assume total patient care.</td>
</tr>
<tr>
<td>If there is a disagreement between the on-scene physician and Medical control the paramedics will be held responsible to Online Medical Control not the field physician.</td>
</tr>
<tr>
<td>If Online Medical Control allows the physician to assume care, all orders to the paramedics from the physician will be repeated to Medical Control for documentation.</td>
</tr>
<tr>
<td>The on-scene physician must document his or her interventions in a written manner acceptable to the paramedics attending the call.</td>
</tr>
<tr>
<td>Nothing in this section implies that the paramedics can be required to deviate from system protocols or perform procedures that they are not trained or credentialed in.</td>
</tr>
<tr>
<td>Nothing in this section shall prohibit a physician from assisting EMS personnel if that physician understands and does not want to assume direct medical direction.</td>
</tr>
<tr>
<td>If any conflicts arise CONTACT MEDICAL CONTROL</td>
</tr>
</tbody>
</table>
### Purpose:
To determine where a patient is transported. This protocol does not apply to destination information specifically detailed in any other specific protocol. (i.e. – Burns, Amputation, etc.)

### Field Treatment

| All patients in cardiac arrest or an impending condition will be transported to the closest hospital |
| All patients in respiratory arrest who do not have a patent airway will be transported to the closest hospital. |
| Major Trauma Patients: |
| - Crews may elect air medical transport if weather / availability permits |
| - Crews may elect to transport a patient to the closest hospital if their trauma condition is deteriorating so rapidly they may not survive until the arrival of air medical transport. |
| Outside of the above situations, patients should be transported to the facility of their choice within reason. Contraindications to patient choice include: |
| - Patient whose condition is deteriorating so rapidly that extended transport would result in a increase in their morbidity and mortality. |
| - Crews should consider operational coverage of the city and may Contact Medical Control if resources are extremely limited. |
| Patients not expressing a choice should be transported to the closest facility. |
| In a multiple casualty incident, it will be responsibility of the Transportation Officer to provide destination instructions as multiple facilities may be required to prevent patient overload. |
Purpose:

To provide guidelines for instances where patients are not treated or transported to the hospital.

Field Treatment

Coppell Fire Department service will respond to all calls with the intention of transporting patients to a hospital. Coppell Fire Department will at no time, attempt to talk a patient out of transport, or encourage use of a private vehicle.

If a patient asks if he or she should really go the hospital it is recommended to use the following:

“ We can’t make that determination. If you would like to go to the emergency room to be seen by a doctor we can provide care and transportation for you.”

Requirements for patient refusal

Age Criteria:

- Adult, 18 years of age or older
- Emancipated Minor – 16 years of age and married, minor in the military, court order divorcing minor from the parents, or pregnant.

Patient Assessment Criteria:

- Patient must be alert and oriented
- Patient must be conscious, able to maintain coherent thought and speech
- Patient must be able to reference time, date, place, person, situation
- Patient judgment must not be clouded with confirmed or suspected alcohol or drug use
- Patient must have no evidence of suicidal tendencies or psychiatric disorders
- Patient must have no evidence of danger to himself or others
- Patient vital signs must be within normal limits
- Patient must not present with neurological deficits
- Patient should have their normal coordination or gait
- Patient should have no evidence of life or limb threatening injury or illness.

If the patient meets the above criteria and refuses treatment and/or transport, have the patient sign the patient refusal portion of the run report.

If the patient does not meet the above criteria, attempt to persuade the patient of the need for treatment and transport. If the patient continues to refuse, utilize other resources available including Online Medical Control, or the Involuntary Transport Protocol

Minors:

A minor may not sign a refusal form. The refusal must be signed by:

- Natural Parent - Adopted Parent – Legal Guardian

In all events regarding patient refusal, where the crews believe the patient should seek medical care documentation should include:

- History – Mechanism
- Mental Status
- Physical Exam
- Documentation of reason for refusal
- Steps take to obtain patient compliance
- Signature of refusal by the patient.

Effective January 1, 2014  
Coppell Fire Department - EMS Division  
Expire December 31, 2016
Purpose:
Paramedics may consider air medical transport of patients in the following situations.

- Trauma victims with life threatening or potential life threatening injuries
- Trauma victims with extended extrication times who have significant injuries
- Situations where patient access is limited by terrain, distance, or man made obstacles resulting in extended patient access or transport times
- Multiple Casualty Incidents: Situations with multiple trauma patients where ground resources are overwhelmed and use of air medical transport would benefit expeditious transport of victims
- Consider Air Medical transport for critically injured children, severe burns, amputations or other significant trauma
- EMS crews should utilize Air Medical Transport anytime the crew believes it would benefit the patient’s condition
Designation of Condition:
The patient will have signs or symptoms of serious injury or illness and the patient is refusing transport to the hospital.

Attempt to immediately begin treatment of life-threatening injury or illness

Assess mental status and attempt physical exam, unless such will result in violence

Attempt to determine why the patient does not want to go to the hospital

Attempt to determine if the patient is under the influence of any intoxicating substances

Enlist the aid of friends and family in trying to convince the patient to be transported to the hospital

Contact PD to see if they will place patients into their custody and require transport to the hospital against the patient’s will in the following situations:
- Patients that appear to be under the influence of intoxicating substance
- Patients that may be suffering from a mental disorder
- Patients that may be at danger of hurting themselves

If the patient has altered mental status then he or she should be transported against his or her will as the alteration in mental status may be affecting the patient’s ability to understand the risks of refusing treatment and transport

If none of the above strategies work then Contact Medical Control to discuss the situation

Physical Restraints should be used in a safe and humane manner. At no time should a patient be struck or managed in such a way as to impose pain. Restrain in a position of comfort and safety

Thoroughly document the reasons for restraint, the method of restraint, options attempted to avoid restraint and the continuous assessment performed while transporting the patient
Minor
Position airway
Yes
No
Patient maintains airway?
No
Deceased
Yes
Immediate
Resp present?
No
Ref to Hazmat Protocol
Yes
Minor
Resp rate?
over 30/min
Immediate
under 30/min
Perfusion
Radial pulse present?
No
Control Bleeding
Yes
Immediate
< 2 sec
Capillary refill?
> 2 sec
Mental Status
follows simple commands?
No
Delayed
Yes
Immediate
Exceptions:
1. Co-workers who sustain severe injuries should be tagged as red and removed from the scene ASAP to reduce stress on partners and associates.
2. Emotionally uncontrollable patients should be considered for rapid removal from the scene to avoid an accelerated emotional crisis.

START triage should last no longer than 60 seconds per victim.
Do Not Affix Tags To Clothing
Tags should be affixed to the patients right/left arm or hand, right/left ankle.
Designation of Condition:
The patient will have been exposed, or potentially exposed to chemical, radioactive, or biological substances which have been the cause of the patient's medical condition. This also applies to patients who have no current injuries or signs of illness, but may develop clinical issues due to the exposure and being contaminated.

Field Treatment

Suspect HAZMAT @ scene? Yes No
Assume all scenes have a potential for HAZMAT

Incident Command established? Yes No
Approach cautiously from upwind and uphill
Position vehicle well away from incident and headed away from the scene

You are first on scene? Yes No
Assume Incident Command until HAZMAT arrives

Confirm HAZMAT and Police have been notified
Isolate scene. Keep others away!

Hazardous Materials Patient Care

Attempt to determine Hazardous Material
Contact Medical Control and advise physician of material patient exposed to
Patient must be thoroughly decontaminated prior to EMS care / contact
Receive packaged patients from decon corridor and transfer to a prepared ambulance
Treat patient conditions per protocol and online medical control contact
Contact Medical Control Failure

**Designation of Situation:**

In rare circumstances contact with medical control may not be possible due to a number of circumstances.

**Examples Include:**
- Cellular Phone Failure (Loss of Signal)
- Radio Failure (Loss of Signal)
- Physician Unavailable at Hospital
- Mass Causality Incident
- Patient is in a remote location where communication devices do not work or are not accessible.

**Procedure**

Attempts to Contact Medical Control have failed as mentioned above.

Paramedics should continue patient care within the bounds of their protocols and procedures written as standing orders. Care should not be withheld if it is in the patient’s benefit and the paramedic can provide the logic and requirement for the treatment.

C.M.C. when available or capable and explain the situation and actions taken.

Document thoroughly attempts to C.M.C. and reasons for failure. Document thoroughly all patient care provided, and any information that would be pertinent to justification.
Ambulance Transfer Calls

Designation of Situation:

When the agency is requested to transfer a patient, in either an emergency or non-emergent fashion from one destination to another. The call does not generate through the emergency response 911 system.

Examples Include, Scheduled or Non-Scheduled:
Nursing Facility – Hospital
Hospital – Nursing Facility
Hospital - Hospital
Hospital – Specialty Care Facility (Dialysis, Cancer Therapy, Hyperbaric)
Hospital – Private Residence

Procedure

If a patient has written orders from a physician, the physician’s orders may be followed if they are within the scope of practice for the provider. Medical Control should be contacted for questions or guidance if required, or if conflict arises.

Basic Life Support Transfers

Follow general patient care guidelines for care and documentation.

Advanced Life Support Transfer

Follow general patient care guidelines for care and documentation.
Provide ALS care as applicable per appropriate protocol, CMC for questions.

Critical Care Transports

If the patient is on IV drips outside of the scope of the protocols, an RN from the sending facility should accompany the crew during the patient transfer.
Utilize current ventilator settings and adjust ventilator paraPAC accordingly.
(SMMV) – Synchronized Minimum Mandatory Ventilation mode should always be selected to the “On” position during patient ventilation
Utilize current ventilator settings and adjust ventilator paraPAC accordingly.
Adjust the pressure alarm 5cmH2O above the patients average peak inspiratory pressure
If at anytime the patient appears to be responding poorly to mechanical ventilation; disconnect the ventilator and manually ventilate the patient with a BVM. The crew should divert to the closest appropriate facility capable of providing care.

Crews are strongly encourage to Contact Medical Control at anytime they have questions or concerns regarding the therapy provided, or patient condition. Crews should not initiate the patient transfer from the sending facility until any concerns have been resolved.
Termination of Resuscitation

When there is no response to prehospital cardiac arrest treatment, it is acceptable and often preferable to cease futile resuscitation efforts in the field.

1. In patients with cardiac arrest, prehospital resuscitation is initiated with the goal of returning spontaneous circulation before permanent neurologic damage occurs. Unfortunately, most patients do not respond to an aggressive resuscitation attempt. In most situations ALS practitioners are capable of performing an initial resuscitation that is equivalent to an in-hospital resuscitation attempt, and there is usually no additional benefit to emergency department resuscitation in most cases.

2. CPR that is performed during patient packaging and transport is much less effective than CPR done at the scene. Additionally, EMS personnel risk physical injury while attempting to perform CPR in a moving ambulance while unrestrained. In addition, continuing resuscitation in futile cases increases the time that EMS crews are not available for another call, impedes emergency department care of other patients, and incurs unnecessary hospital charges.

3. When cardiac arrest resuscitation becomes futile, the patient's family should become the focus of the EMS personnel. Families need to be informed of what is being done, and transporting all cardiac arrest patients to the hospital is an inconvenience and inconveniences the grieving family by requiring a trip to the hospital where they must begin grieving in an unfamiliar setting. Most families understand the futility of the situation and are accepting of ceasing resuscitation efforts in the field.

Inclusion Criteria:
Any cardiac arrest patient that has received resuscitation in the field but has not responded to treatment, AND a medical control physician has ordered termination of resuscitation efforts.

1. Consider field termination of resuscitation in the following situations:
   a. There is no response to approximately 20 minutes of ALS care including ventilation with airway and several “rounds” of resuscitation drugs.
   b. During resuscitation, new information related to DNR or terminal medical condition is obtained.
   c. BLS care when AED has advised “no shock” on 3 sequential analyses, and the patient cannot arrive at a hospital or ALS cannot arrive at the patient within 15 minutes.

Exclusion Criteria:
Consider continuing resuscitation and transporting patients with the following conditions (although under certain circumstances, a medical control physician may order termination of resuscitation in these conditions also):

1. Cardiac arrest associated with medical conditions that may have a better outcome despite prolonged resuscitation, including:
   a. Hypothermia
   b. Near-drowning
   c. Lightning strike
   d. Electrocution
   e. Drug overdose
2. Cardiac arrest in infants and children
3. Cardiac arrest in a public place
4. Cardiac arrest in an environment where the bystanders do not accept the idea of ceasing efforts in the field. While most families understand the futility of the situation and are very accepting of field termination, some family members or bystanders can become hostile.
**Termination of Resuscitation**

Procedure:

All Patients:

1. Follow appropriate resuscitation protocol to the point of contacting a medical control physician to consider termination of resuscitation. Verify appropriate patient:
   a. No femoral pulse
   b. No respiratory efforts
   c. Asystole or wide complex PEA at < 60 BPM
2. Contact medical control physician. EMS personnel may terminate resuscitation only after order from a medical command physician.
3. Terminate resuscitation efforts and document time of death.
4. Consider the possibility of a crime scene. If suspected, restrict access (if possible) and notify law enforcement immediately.
5. Inform any family at the scene of the patient’s death and facilitate early grieving.
6. Contact the coroner or medical examiner
   a. Do not move the body or remove any resuscitation adjuncts (e.g. endotracheal tube or IV lines) until given permission by the coroner or medical examiner.
7. Provide for dignity. If the coroner has given permission:
   a. Remove airway devices and IV catheters
   b. Place the patient in a position that appears comfortable
   c. Clean up debris from the resuscitation
8. Assist the family.
   a. Offer to call a friend, pastor, or funeral director.
   b. Consider notifying the patient’s primary care physician.
   c. Do not leave the scene until the family has adequate support.