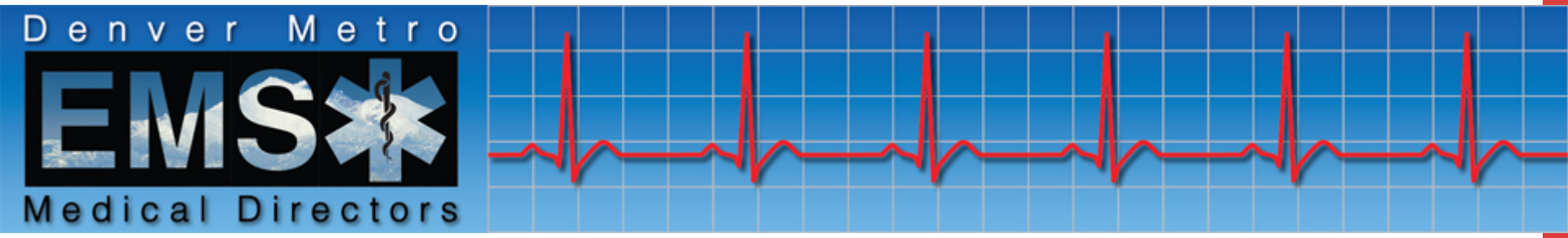
DENVER METRO EMS PROTOCOLS:

JULY 2013 UPDATE



Denver Metro EMS Medical Directors

NEW FOR JULY 2013

- ***New:*** **0121 Procedure Protocol: Bougie-Assisted surgical cricothyroidotomy protocol**
- ***New:*** **7010 Droperidol (*Inapsine*) protocol**
- ***New:*** **5056 suspected spinal injury with athletic equipment**
- **Updated magnesium, naloxone, OB emergencies, tourniquet, peds with special needs and adrenal insufficiency protocols**
- **Added acts allowed for EMTs: CPAP, ODT ondansetron**

Denver Metro EMS Medical Directors

NEW 0121 PROCEDURE PROTOCOL: BOUGIE ASSISTED SURGICAL CRICOTHYROTOMY

- **Simplified surgical approach based on "rapid 4-step technique"**
- **Bougie used as adjunct is suggested**
- **Does not supersede individual agency and Medical Director policy that may apply**

0121 PROCEDURE PROTOCOL: BOUGIE ASSISTED SURGICAL CRICOTHYROTOMY

Paramedic

Introduction:

- Surgical cricothyrotomy is a difficult and hazardous procedure that is to be used only in extraordinary circumstances as defined below. The reason for performing this procedure must be documented and submitted for review to the EMS Medical Director within 24 hours. Surgical cricothyrotomy is to be performed only by paramedics trained in this procedure.
- An endotracheal tube introducer ("bougie") facilitates this procedure and has the advantage of additional confirmation of tube position and ease of endotracheal tube placement. If no bougie is available the procedure may be performed without a bougie by introducing endotracheal tube or tracheostomy tube directly into cricothyroid membrane.
- Given the rarity and relative unfamiliarity of this procedure it may be helpful to have a medical consult on the phone during the procedure. Consider contacting base for all cricothyroidotomy procedures. Individual Medical Directors may mandate base contact before initiating the procedure. Individual agency policy and procedures apply and providers are responsible for knowing and following these policies.

Indications:

- A life-threatening condition exists AND advanced airway management is indicated ***AND*** you are unable to establish an airway or ventilate the patient by any other means.

Contraindications:

- Age < 12 years: for children a percutaneous needle cricothyrotomy with large angiocath is preferred surgical airway for anatomic reasons

Technique:

1. Position the patient supine, with in-line spinal immobilization if indicated. If cervical spine injury not suspected, neck extension will improve anatomic view.
2. Using an aseptic technique (betadine/alcohol wipes), cleanse the area.
3. Standing on the left side of the patient, stabilize the larynx with the thumb and middle finger of your left hand, and identify the cricothyroid membrane, typically 4 finger-breadths below mandible
4. Using a scalpel, make a 3 cm centimeter vertical incision 0.5 cm deep through the skin and fascia, over the cricothyroid membrane. With finger, dissect the tissue and locate the cricothyroid membrane.
5. Make a horizontal incision through the cricothyroid membrane with the scalpel blade oriented caudal and away from the cords.
6. Insert the bougie curved-tip first through the incision and angled towards the patient's feet
   a. If no bougie available, use tracheal hook instrument to lift caudal edge of incision to facilitate visualization and introduction of ETT directly into trachea and skip to # 9.
7. Advance the bougie into the trachea feeling for "clicks" of tracheal rings and until "hangup" when it cannot be advanced any further. This confirms tracheal position.
8. Advance a 6-0 endotracheal tube over the bougie and into the trachea. It is very easy to place tube in right mainstem bronchus, so carefully assess for symmetry of breath sounds. Remove bougie while stabilizing ETT ensuring it does not become dislodged
9. Ventilate with BVM and 100% oxygen
10. Confirm and document tracheal tube placement as with all advanced airways: $ETCO_2$ as well as clinical indicators e.g.: symmetry of breath sounds, rising pulse oximetry, etc.
11. Secure tube with ties.
12. Observe for subcutaneous air, which may indicate tracheal injury or extra- tracheal tube position
13. Continually reassess ventilation, oxygenation and tube placement.

Precautions:

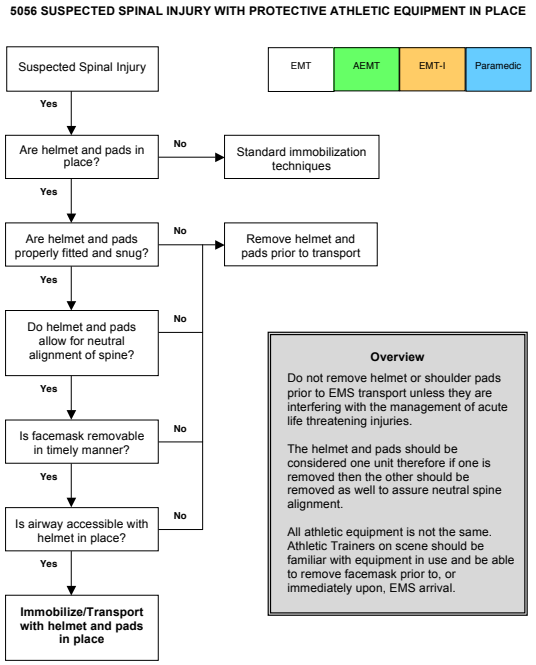
- Success of procedure is dependent on correct identification of cricothyroid membrane
- Bleeding will occur, even with correct technique. Straying from the midline is dangerous and likely to cause hemorrhage from the carotid or jugular vessels, or their branches.

Approved by Denver Metro EMS Medical Directors July 1, 2013. Next review January 2014

Denver Metro EMS Medical Directors

NEW: 5056 SUSPECTED SPINAL INJURY WITH ATHLETIC EQUIPMENT

- **Do not remove helmet or shoulder pads prior to EMS transport unless they are interfering with the management of acute life threatening injuries.**
- **The helmet and pads should be considered one unit therefore if one is removed then the other should be removed as well to assure neutral spine alignment.**
- **All athletic equipment is not the same. Athletic Trainers on scene should be familiar with equipment in use and be able to remove facemask prior to, or immediately upon, EMS arrival.**

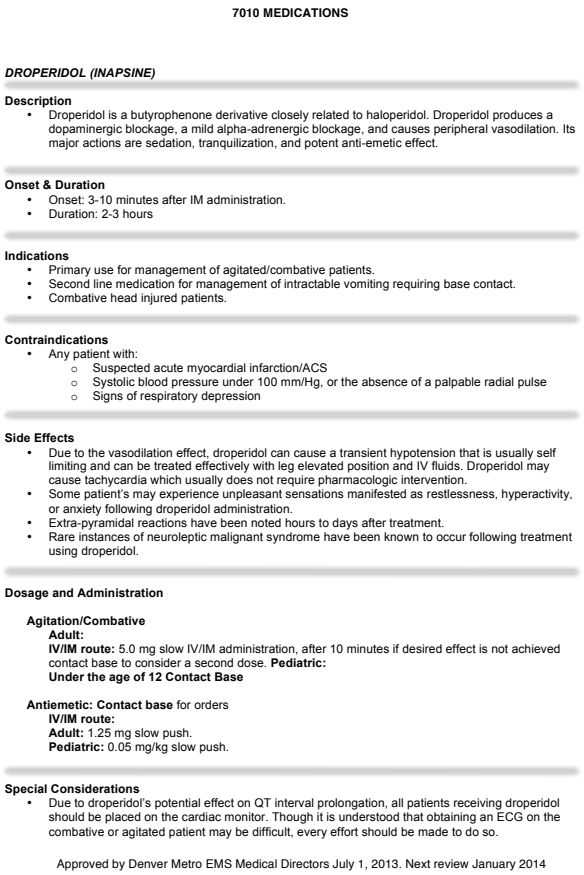


Approved by Denver Metro EMS Medical Directors July 1, 2013. Next review January 2014

Denver Metro EMS Medical Directors

NEW: 7010 DROPERIDOL PROTOCOL

- Droperidol is now included in Colorado Chapter 2 Rules, Acts allowed for EMS
- Drug protocol has been added to DM protocols separately from antiemetic drug protocol, as some agencies will use for sedation
- Not intended as first line antiemetic



7010 MEDICATIONS

DROPERIDOL (INAPSINE)

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

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

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

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

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

Dosage and Administration

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

Antiemetic: Contact base for orders
IV/IM route:
Adult: 1.25 mg slow push.
Pediatric: 0.05 mg/kg slow push.

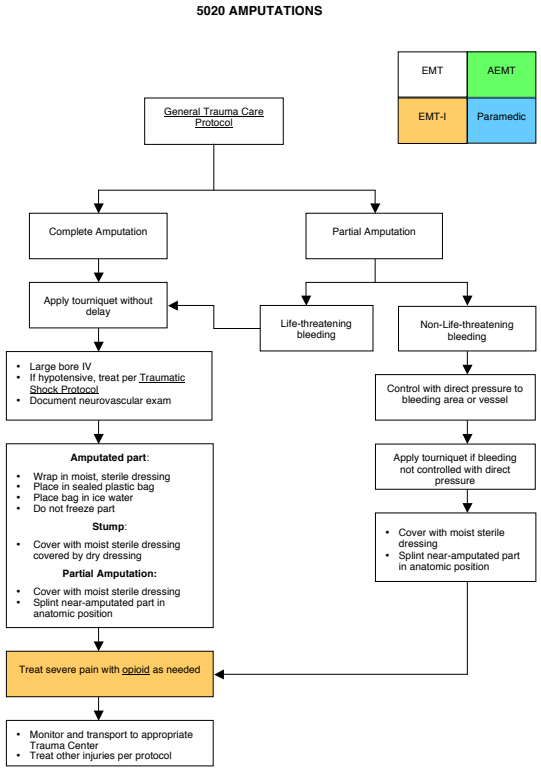
Special Considerations
- Due to droperidol's potential effect on QT interval prolongation, all patients receiving droperidol should be placed on the cardiac monitor. Though it is understood that obtaining an ECG on the combative or agitated patient may be difficult, every effort should be made to do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

Approved by Denver Metro EMS Medical Directors July 1, 2013. Next review January 2014

Denver Metro EMS Medical Directors

UPDATED: 5020 AMPUTATIONS

- **Early application of tourniquet to complete amputations and incomplete amputations with life-threatening bleeding or severe bleeding not controlled by direct pressure**



Approved by Denver Metro EMS Medical Directors July 1, 2013. Next review January 2014

Denver Metro EMS Medical Directors

UPDATED PROTOCOLS

- **7010 Magnesium + 4081 Obstetrical Complications:** Magnesium dosing *changed*:
  - *"Treat seizures with Magnesium Sulfate 2 gm slow IV push followed by 4 gm IV over 15-30 minutes (total 6 gm)"*
    - Rationale: allows for initial bolus of magnesium in critical patient followed by slow infusion.
- **7010 Naloxone:** Added language to Special Considerations to withhold naloxone for patients with suspected opioid toxicity *without* respiratory depression:
  - *"Not intended for use unless respiratory depression or impaired airway reflexes are present. Reversal of suspected mild-moderate opioid toxicity is not indicated in the field as it may greatly complicate treatment and transport as narcotic-dependent patients may experience violent withdrawal symptoms"*

Denver Metro EMS Medical Directors

UPDATED PROTOCOLS

- **4061 Adrenal Insufficiency and 6040 Care of the Child with Special Needs:** Added language from Chapter 2 Rule to allow for patient or family supplied life-saving medication not specified under Denver Metro Protocol to be administered by EMS personnel with a direct verbal order from base station physician:
  - "Under Chapter 2 Rule: specialized prescription medications to address an acute crisis may be given by all levels with a direct VO, given the route of administration is within the scope of the provider. This applies to giving hydrocortisone for adrenal crisis, for instance, if a patient or family member has this medication available on scene. Contact base for direct verbal order"
- **7010 Naloxone:** Added language to Special Considerations to withhold naloxone for patients with suspected opioid toxicity *without* respiratory depression:
  - "Not intended for use unless respiratory depression or impaired airway reflexes are present. Reversal of suspected mild-moderate opioid toxicity is not indicated in the field as it may greatly complicate treatment and transport as narcotic-dependent patients may experience violent withdrawal symptoms"

THANK YOU

NEXT UPDATE: JANUARY 2014

Denver Metro EMS Medical Directors