T R A U M A P R O T O C O L S

TRAUMA – 1.0

ROUTINE TRAUMA CARE

✱ STANDING ORDERS

1. Initiate Routine Medical Care **(a)**.
2. Maintain airway **(a, b)**.
3. Initiate transport to the closest appropriate facility **(c)**.
4. If evidence of **HEMORRHAGIC SHOCK**, initiate fluid resuscitation **(a)**.
5. Provide **ANALGESICS** as appropriate for pain management **(d)**.
6. For **TRAUMATIC CARDIAC ARREST**, initiate CPR and transport to the closest 911 receiving facility.

☑ NOTE

a. Do not allow procedures to delay transport. If transport is unavoidably delayed, IV therapy may be started prior to transport.

b. Refer to **Protocol M - 2.0: Airway Management Protocol.**

c. Refer to **Appendix A - 2.0: Trauma Transport Algorithm.**

d. Refer to **Protocol S – 1.0: Pain Management.**

S P E C I A L P R O T O C O L S

SPECIAL – 1.0 PAIN MANAGEMENT

✱ STANDING ORDERS

1. For patients presenting with need for pain management **(a)** with a SBP greater than 110 mmHg:
    a. **MORPHINE** 0.1 mg/kg IV or IO (maximum 5 mg) **(b)**; For continued pain, repeat once (maximum total dose 10 mg)
2. **CONTACT MEDICAL CONTROL.**

☎ MEDICAL CONTROL OPTIONS

- **MORPHINE SULFATE** 0.1 mg/kg IV or IO; can be repeated up to a maximum of 20 mg.

☑ NOTE

a. Pain management is **CONTRAINDICATED** for patients presenting with (including but not limited to):
    - Altered Mental Status
    - Moderate or Severe Head Trauma
    - Overdoses
    - Hypotension

b. If **HYPOVENTILATION** develops:
    - in the **ADULT PATIENT**, administer **NALOXONE** up to 2 mg IV, IO or IN.
    - in the **PEDIATRIC PATIENT**, administer **NALOXONE** 0.1 mg/kg IV, IM, IO or IN

SPECIAL – 2.0 RAPID SEQUENCE INTUBATION

Credentialed Paramedics Only

! INDICATIONS

- Any patient who requires emergency airway control who may be difficult to intubate by conventional methods **AND** with the presence of qualified personnel to assist the EMT-P.

⊘ CONTRAINDICATIONS:

- Operator concern that both intubation and mask ventilation may not be successful due to major laryngeal trauma, upper airway obstruction, and/or distorted facial or airway anatomy.

☠ CAUTION

- If patient presents with the following, **CONTACT MEDICAL CONTROL** to discuss the substitution of **VECURONIUM** for **SUCCINYLCHOLINE**:
    - Penetrating eye injuries
    - Hyperkalemia or renal failure
    - Neuromuscular disorders (paraplegia, muscular dystrophy, etc.)
    - Pseudocholinesterase deficiency
    - Four (4) days or more since crush injury or burn

✱ STANDING ORDERS

1. **PREPARATION** - Assemble all equipment and medications.
2. **PRE-OXYGENATION -** (T -5 minutes) **(a)**
    a) Pulse oximetry is applied.
3. **PRE-MEDICATION I -** (T -3 minutes) **(a)**
    a) **LIDOCAINE** 1 mg/kg slow IVP if head injury or suspected elevated ICP.
    b) **ATROPINE** 0.5 mg IVP if pulse is less than 60 BPM.
4. **PRE-MEDICATION II -** (T -1 minute) **(a)**
    a) **ETOMIDATE** 0.3 mg/kg IVP.
    b) Apply Sellick maneuver.

✱ STANDING ORDERS

4. **PARALYTIC -** (T -0 minutes) **(a)**
    a) **SUCCINYLCHOLINE** 1.5 mg/kg IVP.

5. Once jaw laxity is demonstrated:
    a) **INTUBATE**, ventilating with a BVM and 100% **OXYGEN (b)**.
    b) May use **ATROPINE** as per **Protocol M - 4.3 : Cardiac (General) – Bradycardia**.
    c) May repeat **SUCCINYLCHOLINE** 1.5 mg/kg IVP if paralysis is not adequate.

4. **IF <u>UNABLE</u> TO INTUBATE:**
    a) BLS airway or other Advanced Airway methods **(b).**

5. If tube placement is confirmed and the patient shows signs of increasing consciousness, administer **MIDAZOLAM** in 2 mg slow IVP increments to sedation then **VECURONIUM** 0.1 mg/kg IVP.

☎ MEDICAL CONTROL OPTIONS

- Repeat of any of the above standing orders.
- **DIAZEPAM** 5 - 10 mg slow IVP.
- **MIDAZOLAM** 2 mg slow IVP.
- **VECURONIUM** 0.1 - 0.3 mg/kg IVP.

☑ NOTE

a. "**T**" indicates time prior to intubation attempt measured in minutes.

b. Once medication is used to facilitate intubation, whether or not it is successful, the patient's respiratory effort **MUST** be monitored with **CONTINUOUS WAVEFORM CAPNOGRAPHY**.

SPECIAL – 3.0 NERVE AGENT ANTIDOTE ADMINISTRATION

! INDICATIONS

1. Commercially available DuoDote™ auto-injectors, or the previously manufactured Mark I kits, may be possessed / used by a paramedic only under the following conditions:
    a) The paramedic is working in the capacity of a paramedic for an EMT-P agency that has received WREMAC authorization to carry nerve agent antidote auto-injectors.
    b) The paramedic has received the minimum required training.
    c) There has been a **KNOWN** exposure to the release of a nerve agent confirmed by a local competent authority (i.e. HAZMAT Team, WC DOH, NYS DOH, on-line Medical Control, regional poison control center, WMD trained Paramedic).
    d) When specific signs and symptoms of exposure are present (i.e. SLUDGEM). Nerve agent antidote auto-Injectors **ARE NOT** to be used as a prophylactic.

2. Patients exposed to other toxic parasympatholytic agents may be treated in compliance with the **Protocol M – 8.0: Toxic Exposure / Poisoning**. ALS agencies may carry additional doses of Atropine during periods of heightened Federal threat levels **(a).**

3. Patient triage will be initiated in the "Hot Zone and continued in the "Warm Zone" by HAZMAT or other similarly trained responders wearing appropriate Personal Protective Equipment (PPE), as determined by the Incident Commander. Patient treatment should be conducted by EMS in the "Cold Zone", but nerve agent antidote auto-Injectors may be administered simultaneous with and / or prior to decontamination by properly trained and PPE equipped personnel in the "Warm Zone" if severe exposure symptoms are present. Children should be decontaminated and have expedited transport off scene especially if they are demonstrating any signs and symptoms of exposure **(a, b).**

✱ STANDING ORDERS

1. Initiate routine medical care

2. If basic life support airway management cannot maintain adequate ventilation and oxygen saturation, airway control with advanced airway management, **100% OXYGEN with BVM**.

3. Follow the appropriate sub-protocol:
    a) **Adult Administration Protocol: S – 3.1**
    (≥ 15 years of age)
    b) **Pediatric Administration Protocol: S – 3.2**
    (≤ 14 years of age)

☑ **NOTE**

a. If exposed to a nerve agent, a Paramedic must leave the scene and seek medical attention as soon as possible. **THERE IS TO BE <u>NO</u> SELF-ADMINISTRATION OF THE ANTIDOTE**. All use of nerve agent antidote auto-Injectors will be in compliance with the following protocols.

b. Personnel operating in the "Cold Zone" should be aware of the potential for "off- gassing" of vapors from chemically contaminated clothing. Emergency responders assisting evacuated victims of nerve agent exposure should avoid exposing themselves to cross-contamination by ensuring that they do not come into direct contact with the patient's clothing.

SPECIAL – 3.1 NERVE AGENT ANTIDOTES

Adult Administration

✱ STANDING ORDERS

1. If the patient has had a **KNOWN** exposure to the release of a nerve agent, depending on the level of exposure symptoms, administer **(a, b)**:

   a) **MILD (a, b)**:

   1 MARK I KIT / 1 DUODOTE™ KIT

   or

   - ATROPINE 2 mg IV, IM or IO every 5 minutes until secretions resolve
   - PRALIDOXIME 1 g IV, IM or IO over 10 minutes

   b) MODERATE (a, b):

   2 MARK I KITS / 2 DUODOTE™ KITS

   or

   - ATROPINE 4 mg IV, IM or IO every 5 minutes until secretions resolve
   - PRALIDOXIME 2 g IV, IM or IO over 10 minutes

   c) **SEVERE (a, b)**

   3 MARK I KITS / 3 DUODOTE™ KITS

   or

   - ATROPINE 6 mg IV, IM or IO every 5 minutes until secretions resolve
   - PRALIDOXIME 2 g IV, IM or IO over 10 minutes

2. If an exposure is suspected, but the patient is asymptomatic, **DO NOT** administer an antidote, but monitor the patient for any changes.

3. Refer to **Protocol M – 11: Seizures** for the treatment of patients presenting with uncontrolled seizures.

4. Monitor the patient for adverse reactions/deterioration and transport the patient to the local emergency room for definitive care.

☑ NOTE

a. **ALWAYS** administer Atropine **BEFORE** Pralidoxime Chloride (2-pam cl).

☑ **NOTE**

b. Acronym for parasympathetic nervous system response to an organophosphate or nerve agent exposure: **S**alivation, **L**acrimation, **U**rination, **D**efecation, **G**astro-Intestinal Aggravation, **E**mesis, **M**uscular Twitching. Response symptoms are proportional to the degree of exposure:

- **Severe** - severe respiratory distress, seizures, altered mental status, unconsciousness
- **Moderate** - respiratory distress, agitation
- **Mild** - agitation

SPECIAL – 3.2 NERVE AGENT ANTIDOTES

Pediatric Administration

✱ STANDING ORDERS

1. If the patient has had a **KNOWN** exposure to the release of a nerve agent, and is exhibiting **MODERATE / SEVERE** exposure symptoms **(a, b)**, administer:

   a) MODERATE (a, b):

   2 MARK I KITS / 2 DUODOTE KITS ***or***
   - ATROPINE 0.02 mg/kg IV, IM or IO every 5 minutes until secretions resolve
   - PRALIDOXIME 40 mg/kg IV, IM or IO over 10 minutes

   b) SEVERE (a, b)

   3 MARK I KITS / 3 DUODOTE KITS ***or***
   - ATROPINE 0.04 mg IV, IM or IO every 5 minutes until secretions resolve
   - PRALIDOXIME 40 mg/kg IV, IM or IO over 10 minutes

2. If the patient is presenting with **MILD** exposure symptoms **(b)**, **CONTACT MEDICAL CONTROL**.

3. If an exposure is suspected, but the patient is asymptomatic, **DO NOT** administer the antidote, but monitor the patient for any changes.

4. Refer to **Protocol P – 11: Seizures** for the treatment of patients presenting with uncontrolled seizures.

5. Monitor the patient for adverse reactions/deterioration and transport the patient to the local emergency room for definitive care.

☎ MEDICAL CONTROL OPTIONS

- Repeat of any of the above standing orders.
- If exhibiting **MILD (a, b)** exposure symptoms:

  1 MARK I KIT / 1 DUODOTE KIT ***or***
  - ATROPINE 0.02 mg/kg IV, IM or IO every 5 minutes until secretions resolve
  - PRALIDOXIME 40 mg/kg IV, IM or IO over 10 minutes

☑ **NOTE**

a. **ALWAYS** administer ATROPINE **BEFORE** PRALIDOXIME CHLORIDE (2-pam cl).

b. Acronym for parasympathetic nervous system response to an organophosphate or nerve agent exposure: **S**alivation, **L**acrimation, **U**rination, **D**efecation, **G**astro-Intestinal Aggravation, **E**mesis, **M**uscular Twitching. Response symptoms are proportional to the degree of exposure:

- **Severe** - severe respiratory distress, seizures, altered mental status, unconsciousness
- **Moderate** - respiratory distress, agitation
- **Mild** - agitation