# Revision Packet

This packet represents the changes to the Marble Falls Area EMS Clinical Operating Guidelines.

The significant changes to the COGs include, but are not limited to:

- The addition of "overarching care goals" as the general philosophy for care providers
- The establishment of standards for the "Community First Responder" for improved community response
- Additional information provided as "Knowledge Points", "Performance Guidelines / Compliance Elements", and "Transport / Destination Considerations"
- The addition of intranasal ("IN") as a route for delivery of medications
- The addition of auto-injector medications to First Responder level providers
- The addition of Atrovent as an EMT-Basic level intervention
- The addition of PO Benadryl (diphenhydramine) for the allergic reactions for both adults and children
- The addition of glucagon as an EMT-Basic medication administered by the intranasal route
- The addition of repeat glucagon administration
- The addition of Zofran (ondansetron hydrochloride) for nausea
- The removal of intravenous administration of Phenergan (promethazine)
- Addition of "Anxiety" as a treatable condition under the Pain and Anxiety Management protocol
- Updated dosing and aggressive management standards for seizures

The pages listed below were changes submitted to Texas Department of State Health Services to be implemented December 15, 2008.

| Page | Description |
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## Document Variances and Expected Variances from Document

**ALL PROVIDERS**

This section is considered the prescriptive part of these medical practice guidelines known as the Marble Falls Area EMS Clinical Operating Guidelines. In this section there are updated pages that represent a transition from a previous format to a new, more detailed layout. The updated pages will have a different format that includes 3 additional sections. Each section is outlined below:

### *Knowledge Points / Considerations*

The section is intended to offer educational point for the treatment of the patients. This information is intended to guide clinical decision making and should be considered when providing care to a patient under this protocol

### *Performance Guidelines / Compliance Elements*

These points are intended to help guide documentation and provide decision elements to the care provider. Consistent application of these points are the goal for all providers, however, it is recognized that circumstances may prevail that require alteration or deviation from these suggested points and standards. Every effort should be made to follow these suggestions but conditions may present where it is not possible. Documentation of variances is encouraged.

### *Transport / Destination Considerations*

The recommendation or consideration for mode of transport and destination is identified in this section. As above, consistent application of these points are the goal for all providers, however, it is recognized that circumstances may prevail that require alteration or deviation. Every effort should be made to follow these suggestions but it is understood that conditions may present where it is not possible. Documentation of variances is encouraged.

## Overarching Care Goals

**ALL PROVIDERS**

Reverse Life Threatening States
Slow the Progression of Time Sensitive Illness and Injury
Alleviate Fear and Minimize Pain
Inform and Educate the Patient
Be Respectful of the Needs of all of the People Involved
Maintain the Dignity of the Patient, Family and Bystanders

## Community First Responder

**Authorization of System Trained and Credentialed Non-DSHS Certified Responders**

**Non-certified First Responder Credentials for Affiliated Organizations of Marble Falls Area EMS**

- Infection control measures and procedures
- Patient assessment consistent with AHA Healthcare Provider CPR/First Aid
- Manual spinal movement restriction
- CPR/AED application
- Pocket mask (with 1 way valve) and Bag-Valve-Mask device
- First aid management consistent with AHA First Aid training (Adult/Child Choking, Bad Allergic Reactions, Shock, Wounds, etc.)
- Assisting with epinephrine auto-injector
- Pulse oximetry
- Blood glucose assessment
- Patient lifting and moving
- Stretcher operations
- START Triage

## Violent / Uncontrollable Patient
## Chemical Restraint / Sedation

### ALL DSHS Credentialed Providers

Evaluate and treat under Altered Mental Status Protocols
Initiation any part of this protocol mandates the request for law enforcement presence, if not already at scene

### Paramedic & Paramedic/RN Providers

| ADULT | PEDIATRIC (over the age of 8) |
| --- | --- |
| Midazolam 2.5 - 5 mg q 5 mins IV, IM or IN with peripheral pulses present<br>• IN is preferred, when possible<br>• do not exceed 20 mg in any 60 min period | Midazolam 0.02 mg/kg IN or Midazolam 0.02-0.05 mg/kg IV or IM with peripheral pulses present<br>• IN is preferred, when possible<br>• do not exceed 0.4 mg/kg in any 60 min period |

### *Knowledge Points / Considerations*

- Crew members should avoid any circumstance that can result in bodily harm any of the providers and the patient
- Any restraint must be used with caution
- Law Enforcement should be requested if chemical sedation for a violent patient is necessary for medic safety
- Intravenous access should be accomplished as soon as possible after chemical sedation

### *Performance Guidelines / Compliance Elements*

Documentation Points:

- Initial BGL for patient and subsequent BGLs
- Neurological assessment
- Trauma assessment including injuries to the patient during restraint
- Positioning of patient during restraint process and transport
- Status of distal circulation if peripheral restraints are used

Compliance Elements:

- Serial assessment to include:
  - $ETCO_2$
  - Level of Consciousness and GCS
- Presence of Law Enforcement during restraint process and transport, PRN
- Dosing of medications and sequencing of events
- Appropriate transport decision

### *Transport / Destination Considerations*

For crew safety, transport to closest facility even though a facility may not be able to maintain sedation
Transport with law enforcement present is strongly encouraged. Transport with law enforcement is **required** if the decision to restrain or if restraint was initiated by law enforcement.

## Anaphylaxis / Allergic Reaction

### ALL PROVIDERS

Safely and rapidly eliminate the source of exposure as required
Cold pack to bite or sting site as necessary

### EMT-Basic Providers

| ADULT | PEDIATRIC |
|---|---|
| • 0.3 mg Epinephrine 1:1000 by auto-injector IM for anaphylaxis | • Epinephrine 1:1000 by auto-injector for anaphylaxis<br>○ If <30 kg - 0.15 mg IM (pediatric auto-injector)<br>○ If ≥30 kg – 0.3 mg IM (adult auto-injector) |
| • Administration of prescribed medication per patient dosing instructions if responder meds are unavailable<br>○ Repeat dosing for the patient's MDI/HFA at 15 mins PRN, unless otherwise prescribed | • Administration of prescribed medication per patient dosing instructions if responder meds are unavailable<br>○ Repeat dosing for the patient's MDI/HFA at 15 mins PRN, unless otherwise prescribed |
| • Albuterol 2.5-7.5 mg via nebulization for bronchospasm/wheezing PRN | • Albuterol 2.5-7.5 mg via nebulization for bronchospasm/wheezing PRN |
| • Ipratropium Bromide 0.5 mg mixed with initial Albuterol nebulized for bronchospasm/wheezing. | • Ipratropium Bromide mixed with initial Albuterol nebulized for bronchospasm/wheezing.<br>○ Patient ≤33 lbs/15 kg 0.25 mg (1/2 unit dose)<br>○ Patient >33 lbs/15 kg 0.5 mg |

### EMT-Intermediate Providers

| ADULT | PEDIATRIC |
|---|---|
| Epinephrine (1:1000) 0.3 mg IM q 3-5 mins max 3 doses | Epinephrine (1:1000) 0 .01 mg/kg IM (max single dose of 0.3 mg) q 3-5 mins max 3 doses |
| Diphenhydramine 25–50 mg PO for mild to moderate allergic reaction | Diphenhydramine 0.5 mg/kg - 1 mg/kg (max 50 mg) PO for mild to moderate allergic reaction |
| Diphenhydramine 50 mg IV (preferred) or IM for severe allergic reaction and anaphylaxis | Diphenhydramine 1 mg/kg (max 50 mg) IV (preferred) or IM for moderate to severe allergic reaction and anaphylaxis |

### Paramedic & Paramedic/RN Providers

| ADULT | PEDIATRIC |
|---|---|
| Epinephrine at 2–10 mcg/min IV titrated for persistent hypotension.<br>Mix 1 mg (1 mL) Epi 1:1 in 100 mL NS (Yields 10 mcg/mL) | Epinephrine 0.1–1 mcg/kg/min IV titrated for persistent hypotension<br>Mix 1 mg (1 mL) Epi 1:1 in 100 mL NS (Yields 10 mcg/mL) |
| Methylprednisolone 125 mg IV over 1 minute | Methylprednisolone 2 mg/kg (max single dose 125 mg) IV over 1 minute |

### *Performance Guidelines / Compliance Elements*

Documentation Points:
- Assessment of breath/lung sounds prior to and after administration of medications

Compliance Elements:
- Accurate time tracking
- Continuous monitoring of pulse oximetry, capnography, and ECG

### *Transport / Destination Considerations*

- Medication administration is an indication for transport. Credentialed providers may alter this standard for any reason that is necessary for the appropriate management of the patient.

## Reactive Airway

### EMT-Basic Providers

| ADULT | PEDIATRIC |
|---|---|
| • Assist patients with Epinephrine 1:1000 (0.3 mg) IM by auto-injector | • Assist patients with prescribed Epinephrine 1:1000 IM by auto-injector<br>o If <30 kg - 0.15 mg IM (pediatric auto-injector)<br>o If ≥30 kg - 0.3 mg IM (adult auto-injector) |
| • Administration of prescribed medication per patient dosing instructions if responder meds are unavailable<br>o Repeat dosing for the patient's MDI/HFA at 15 mins PRN, unless otherwise prescribed | • Administration of prescribed medication per patient dosing instructions if responder meds are unavailable<br>o Repeat dosing for the patient's MDI/HFA at 15 mins PRN, unless otherwise prescribed |
| • Albuterol 2.5-7.5 mg via nebulization for bronchospasm/wheezing PRN | • Albuterol 2.5-7.5 mg via nebulization for bronchospasm/wheezing PRN |
| • Ipratropium Bromide 0.5 mg mixed with initial Albuterol nebulized for bronchospasm/wheezing. | • Ipratropium Bromide mixed with initial Albuterol nebulized for bronchospasm/wheezing.<br>o Patient ≤33 lbs/15 kg 0.25 mg (1/2 unit dose)<br>o Patient >33 lbs/15 kg 0.5 mg |

### EMT-Intermediate Providers

| ADULT | PEDIATRIC |
|---|---|
| Epinephrine (1:1000) 0.3 mg IM q 3-5 mins max 3 doses | Epinephrine (1:1000) 0 .01 mg/kg IM q 3-5 mins max 3 doses |

### Paramedic & Paramedic/RN Providers

| ADULT | PEDIATRIC |
|---|---|
| Methylprednisolone 125 mg IV over 1 minute | Methylprednisolone 2 mg/kg (max single dose 125 mg) IV over 1 minute |
| Magnesium Sulfate 50% 2 gms IV in 100 mL NS infused wide open for severe bronchospasm and SBP >90 mmHg | Magnesium Sulfate 50% 50 mg/kg IV in 100 mL NS infused over 20 minutes (max 2 gms) for severe bronchospasm and SBP >70 mmHg + 2 X age (years) |

### *Knowledge Points / Considerations*

### *Performance Guidelines / Compliance Elements*

Documentation Points:

- Assessment of breath/lung sounds prior to and after administration of medications

Compliance Elements:

- Accurate time tracking
- Continuous Monitoring of Pulse Oximetry, Waveform Capnography, and ECG
- Dosing of medications and sequencing of events
- Appropriate transport decision

### *Transport / Destination Considerations*

- Medication administration is an indication for transport. Credentialed providers may alter this standard for any reason that is necessary for the appropriate management of the patient.

## Altered Mental Status
## Hypoglycemia - Diabetic Emergency

### Community First Responders

Do NOT administer any medications.

### ALL DSHS Credentialed Providers

- Blood glucose assessment (heel stick is preferred in newborns or infants)
- Hypoglycemic patient with altered mentation and **insulin pump in place**
  - Care is directed at treating hypoglycemia first, then stopping administration of insulin
  - Turn off insulin pump, if able
  - If no one familiar with the device is available to assist, disconnect pump from patient by:
    - Using quick-release where tubing enters dressing on patient's skin OR completely removing the dressing, thereby removing the subcutaneous needle and catheter from under patient's skin

### EMT-Basic Providers

| ADULT | PEDIATRIC |
|---|---|
| 15 g oral glucose q 5 mins PRN | 7.5 g oral glucose q 5 mins PRN |
| Glucagon 2 mg IN (1 mg/nostril); repeat 1 time p 15-25 mins | Glucagon 0.2 mg/kg IN (divide dose between each nostril) to a max dose of 2 mg; repeat 1 time p 15-25 mins |

### EMT-Intermediate Providers

| ADULT | PEDIATRIC |
|---|---|
| Glucagon 2 mg IV or IM (if IN is not indicated); repeat 1 time after 15-25 mins | Glucagon 0.2 mg/kg IV or IM (if IN is not indicated) to a max dose of 2 mg; repeat 1 time after 15-25 mins |
| Dextrose 50% 12.5-25 grams IV PRN<br>IV Dextrose 50% should be administered via an 18g catheter when possible<br>IO admin of Dextrose 50% is acceptable if appropriate IV access is not available | Newborn up to 3 kg<br>• Dextrose 10% 2 mL/kg IV<br>• To mix: add 40 mL NS to 10 mL Dextrose 50%<br>□ Infants and children (>3 kg to 34 kg)<br>• Dextrose 25% 2 mL/kg IV<br>• To Mix: add 25 mL NS to 25 mL of Dextrose 50% |

### *Knowledge Points / Considerations*

- Clinical presentation of signs and symptoms of hypoglycemia, with or without history, merit the use of glucose in the absence of other indicators. This is to include a reading on the glucometer that would otherwise be considered in the normal range.
- Blood Glucose Level <60 mg/dL (or <40 mg/dL for neonates) with signs and symptoms should be treated with medications regardless of other underlying conditions, including presentation consistent with TBI/CVA

### *Performance Guidelines / Compliance Elements*

Documentation Points:
- Initial BGL for patient and subsequent BGLs
- History of diabetic medication administration
- Neurological assessment
- For refusals: documentation of care plan, including witness instructions, as given to patient.

Compliance Elements:
- Dosing of medications and sequencing of events
- Appropriate transport decision

## Nausea / Emesis

### Community First Responders

Nothing given by mouth
Upright or lateral recumbent positioning

### ALL DSHS Credentialed Providers

Blood glucose assessment

### Paramedic & Paramedic/RN Providers

| ADULT **(> 40kg)** | PEDIATRIC **(≤40 kg)** |
|---|---|
| Zofran 4mg IV or IM; dose may be repeated x 1 p 10 mins<br>OR<br>Zofran 4 mg IN; dose may be repeated x 1 p 10 mins | Zofran 0.1 mg/kg IV or IM to a max dose of 4.0 mg ; dose may be repeated x 1 after 10 mins |
| ***If Allergic to Zofran:*** Promethazine 12.5 - 25 mg IM titrated to effect if SBP >90 mm Hg | ***If Allergic to Zofran:*** Phenergan 0.25-0.5 mg/kg IM to a max dose of 12.5 mg titrated to effect if SBP >70 mmHg + 2 X age (years) |

| INTRAVENOUS ADMINISTRATION OF PROMETHAZINE (PHENERGAN) IS NOT AUTHORIZED |
|---|
| IV administration of Promethazine (Phenergan) is not to be performed. |

### *Knowledge Points / Considerations*

- Fluid resuscitation should be considered as in the Hypovolemia Guideline
- Administration of the medications under this protocol is warranted for any patient with emesis or nausea with the possibility of emesis
- Oxygen, by nasal cannula, may help in reduction of nausea and emesis

### *Performance Guidelines / Compliance Elements*

Documentation Points:

- Level of consciousness
- If Phenergan is used, the rational for use of Phenergan vs. Zofran

Compliance Elements:

- Accurate time tracking
- Dosing of medications and sequencing of events
- Appropriate transport decision

### *Transport / Destination Considerations*

- Transport to any receiving facility is appropriate

## Respiratory Depression / Overdose

### EMT-Intermediate Providers

| ADULT | PEDIATRIC |
|---|---|
| • Naloxone 0.4–2 mg IV or IN for suspected narcotic overdose with respiratory depression. (Titrate to improved respiratory status)<br>  • Naloxone 0.8 mg IM for suspected narcotic overdose when venous or intranasal access is unavailable | • Naloxone 0.1 mg/kg IV, IN, or IM for suspected narcotic overdose. Titrate to improved respiratory status. |
| • Diphenhydramine 25-50 mg IV for patient with evidence of dystonic reaction<br>  • Diphenhydramine 25-50 mg IM for patient with evidence of a dystonic reaction when vascular access is unavailable | • Diphenhydramine 0.5 mg/kg - 1 mg/kg (max of 50 mg) IV or IM for patient with evidence of dystonic reaction |

### Paramedic & Paramedic/RN Providers

| ADULT | PEDIATRIC |
|---|---|
| • Sodium bicarbonate 1 mEq/kg slow IV push for tricyclic antidepressant overdose with sustained HR >120 bpm, QRS >0.10, hypotension unresponsive to fluids, or ventricular dysrhythmias | • Sodium bicarbonate 1 mEq/kg slow IV push for tricyclic antidepressant overdose with sustained HR >120 bpm, QRS >0.10, hypotension unresponsive to fluids, or ventricular dysrhythmias |
| • Calcium Chloride 10% 1-2 grams IV over 5 minutes for calcium channel blocker or beta blocker overdose refractory to standard treatment for bradycardia and hypotension. May repeat dose in 10 minutes | • Calcium Chloride 10% 20 mg/kg IV over 5 minutes up to 2 grams for calcium channel blocker or beta blocker overdose refractory to standard treatment for bradycardia |
| • Diazepam 2.5 – 10 mg IV or IM for significant unrelieved hypersympathetic state from amphetamine, cocaine or PCP use with SBP >90 mmHg. Repeat 1 time<br>  ▪ do not exceed 10 mg in any 30 min period | • Diazepam 0.1-0.3 mg/kg IV or IM for significant unrelieved hypersympathetic state from amphetamine, cocaine or PCP use with SBP >70 mmHg + 2 X age (years)<br>  • Max dose for 0-5 yrs: 4 mg<br>  • Max dose for >5 yrs: 8 mg<br>  • Do not exceed max dose in any 30 min period |

### *Knowledge Points / Considerations*

- These medications are to be used for the indicated reasons above. Use of medications in this protocol are not to be used as diagnostic tools.

### *Performance Guidelines / Compliance Elements*

Documentation Points:

- Neurological assessment including serial GCS

Compliance Elements:

- Serial assessment to include:
  - $ETCO_2$
  - Level of Consciousness and GCS

### *Transport / Destination Considerations*

- Transport to any receiving facility is appropriate

## Pain and Anxiety Management Protocol

### Community First Responders

All responders shall make every effort to reduce discomfort and pain as if it is physical / physiologic in nature

### ALL DSHS Credentialed Providers

Providers shall not withhold any approved treatment under this protocol unless contraindicated for the specific intervention.

- The decision to withhold treatment under this protocol should not be made solely off the presence of ETOH / intoxicating substances and/or prior history of medication usage and questionable abuse.

### Paramedic & Paramedic/RN Providers

| ADULT | PEDIATRIC |
|---|---|
| Fentanyl 0.5–2 mcg/kg IV or IN without evidence of hypoperfusion. Max total dose 400 mcg<br>or<br>Morphine Sulfate 2–20 mg (10 mg max single dose) IV or IM q 15 mins if SBP >90mmHg<br>• do not exceed 20 mg in any 60 min period | Fentanyl 0.5–2 mcg/kg IV or IN without evidence of hypoperfusion. Max total dose 200 mcg<br>or<br>Morphine Sulfate 0.1 mg/kg (5 mg max increments) IV or IM q 15 mins to max dose of 10 mg with SBP >70 mmHg + 2 X age (years)<br>• do not exceed 20 mg in any 60 min period |
| Midazolam 2.5 - 5 mg q 5 mins IV, IM or IN with peripheral pulses present for anxiety<br>• do not exceed 20 mg in any 60 min period | Midazolam 0.02 mg/kg IN or Midazolam 0.02-0.05 mg/kg IV or IM with peripheral pulses present<br>• do not exceed 0.4 mg/kg in any 60 min period |
| Diazepam 2.5 – 10 mg IV or IM for muscle spasms / tremors with SBP >90 mmHg.<br>• do not exceed 10 mg in any 30 min period | Diazepam 0.1–0.3 mg/kg IV for severe muscle spasms with SBP >70 mmHg + 2 X age (years)<br>• Max dose for 0-5 yrs: 4 mg<br>• Max dose for >5 yrs: 8 mg<br>• Do not exceed max dose in any 30 min period |

### *Knowledge Points / Considerations*

- Pain management should be initiated as quickly as possible to minimize the pain during splinting, bandaging, and subsequent packaging / movement of the patient
- Time should be allowed (when appropriate) prior to splinting, bandaging, packaging / movement of the patient to allow pharmacological treatments to decrease pain and anxiety
- Patients given pharmacological interventions should not be ambulated unless absolutely necessary
- Use of other clinical indications for pain such as increasing heart rate, increasing respiratory rate, increasing blood pressure, changes in agitation, etc., should be considered. These tools, however, have been shown to be unreliable in accurately determining the trigger points for additional pain management.

### *Performance Guidelines / Compliance Elements*

Documentation Points:

- Neurological assessment including serial GCS
- Pain levels by consistent descriptive terms or, preferably, evaluated on a 1-10 scale

Compliance Elements:

- Serial assessment to include:
  - $ETCO_2$
  - Level of Consciousness and GCS
  - Patient Pain Level

### *Transport / Destination Considerations*

- Transport to any receiving facility is appropriate

## Seizure / Convulsions / Febrile Patients

### ALL PROVIDERS

Blood Glucose Assessment
Core Body Temperature Assessment

- Initiate cooling for patients experiencing febrile seizure
- Patients <12 months old with Seizure activity. The parent(s) should be strongly urged to have the child transported by EMS and/or evaluated by a Physician

### EMT-Basic Providers

| ADULT | PEDIATRIC |
| --- | --- |
| Assist patient with their magnet stimulation device (Vagus Nerve Stimulator) once every 3-5 minutes, up to3 times. | Same as Adult |

### EMT-Intermediate Providers

| ADULT | PEDIATRIC |
| --- | --- |
| | Acetaminophen 15 mg/kg PO up to 1 gm for patient with temperature >102° F with or without seizures |

### Paramedic & Paramedic/RN Providers

| ADULT | PEDIATRIC |
| --- | --- |
| Diazepam 2.5 – 20 mg IV with peripheral pulses present<br>• do not exceed 20 mg in any 30 min period | Diazepam 0.1–0.3 mg/kg IV with peripheral pulses present<br>• Max dose for 0-5 yrs: 5 mg<br>• Max dose for >5 yrs: 10 mg<br>• Do not exceed max dose in any 30 min period |
| For seizures refractory to Diazepam or no IV access - Midazolam 2.5 - 5 mg q 5 mins IN, IV, or IM with peripheral pulses present<br>• do not exceed 20 mg in any 60 min period | For seizures refractory to Diazepam or no IV access - Midazolam 0.15 mg/kg q 5 mins IN, IV, or IM with peripheral pulses present<br>• do not exceed 0.5 mg/kg in any 60 min period |
| Magnesium Sulfate 50% 4 gms in 100 mL NS wide open for active seizures *secondary to presumed eclampsia* until seizure stops or 4 gms is reached | |

### *Performance Guidelines / Compliance Elements*

Documentation Points:

- Neurological assessment including serial GCS
- Seizure and medication compliance
- For refusals: documentation of care plan, including witness instructions, as given to patient.

Compliance Elements:

- Continuous monitoring of pulse oximetry, capnography, and ECG

### *Transport / Destination Considerations*

- Medication administration is an indication for transport. Credentialed providers may alter this standard for any reason that is necessary for the appropriate management of the patient.