

Medication Protocols

- 1. Drug Table 5.2 1/2021**
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Table 1: EMCT Drug Box

EMCT’s are authorized to administer, monitor, and assist patient with the self-administration of medications through their administrative medical director’s delegated authority. The Medical Direction Commission periodically reviews the following list of medications and will make recommendations for changes that the Director of the Arizona Department of Health Services must then approve.

The following list represents the most recent iteration of the Director approved medication list. Administrative Medical Directors may authorize EMCTs operating under their delegated medical authority to administer any or all medications from this list. The administrative medical directors MUST ensure that every EMCT operating under their delegated medical authority has access to the MINIMUM SUPPLY of agents required in the table below consistent with the EMCT’s certification level.

KEY:

A = Authorized to administer the agent

SVN = Agent shall be administered by small volume nebulizer

MDI = Agent shall be administered by metered dose inhaler

* = Authorized to assist in patient self-administration

[] = Minimum supply required if an EMS provider chooses to make the optional agent available for EMCT administration

IP = Agent shall be administered with an infusion pump

** = Immunization Agents are the list of medications approved by the CDC Advisory Committee on Immunization Practices

AGENT	MINIMUM SUPPLY	EMT	AEMT	EMT-I (99)	Paramedic
Adenosine	18 mg	-	-	A	A
Albuterol Sulfate SVN or MDI (sulfite free)	10 mg	-	A	A	A
Albuterol Sulfate SVN or MDI (sulfite free)	Optional [10 mg]	A	-	-	-
Amiodarone or Lidocaine	300 mg or 3 prefilled syringes, total of 300 mg and 1 g vials or premixed infusion, total of 2 g	- -	- -	- A	A A
Aspirin	324 mg	-	A	A	A
Aspirin	Optional [324 mg]	A	-	-	-
Atropine Sulfate	1 prefilled syringe, total of 1 mg	-	-	A	A
Atropine Sulfate	Optional [8 mg multidose vial (1)]	-	-	A	A
Atropine Sulfate Auto-Injector	None	A	A	A	A
Atropine Sulfate and Pralidoxime (Combined) Auto-Injector	None	A	A	A	A
Calcium Chloride Or Calcium Gluconate	1 g 2 g	- -	- -	- -	A A
Calcium Gluconate, 2.5% topical gel	Optional [50 g]	A	A	A	A
Cyanokit	Optional [5 g]	-	-	-	A
Dexamethasone	Optional [8 mg]	-	-	A	A
Dextrose	50 g	-	A	A	A
Dextrose, 5% in H2O	Optional [250 mL bag (1)]	A	A	A	A

Diazepam or Lorazepam or Midazolam	20 mg 8 mg 10 mg	- - -	- - -	A A A	A A A
Diazepam Rectal Delivery Gel	Optional [20 mg]	-	-	A	A
Diltiazem	Optional [25 mg]	-	-	-	A
Diphenhydramine	50 mg	-	-	A	A
Epinephrine Auto-Injector	Optional [1 adult auto-injectors 1 pediatric auto-injectors]	A	A	A	A
Epinephrine, 1 mg/1 mL For IM use in anaphylaxis only	Optional 1 mg	-	A	A	A
Epinephrine, 1 mg/1 mL	2 mg	-	A	A	A
Epinephrine, 1 mg/1 mL	Optional [30 mg multidose vial (1)]	-	A	A	A
Epinephrin, 0.1 mg/1 mL	5 mg	-	-	A	A
Etomidate	Optional [40 mg]	-	-	-	A
Glucagon	1 mg	-	A	A	A
Glucose, oral	Optional [30 gm]	A	A	A	A
Hemostatic Agents	Optional	A	A	A	A
Hydrocortisone Sodium Succinate	Optional	-	*	*	*
Immunizing Agent**	Optional	-	-	A	A
Ipratropium Bromide 0.02% SVN or MDI	5 mL	-	-	A	A
Ipratropium Bromide 0.02% SVN or MDI	Optional [5 mL]	A	A	-	-
Ketamine	Optional [200 mg]	-	-	-	A
Lactated Ringers	1 L bag (2)	-	A	A	A
Lactated Ringers	Optional [1 L bag]	A	-	-	-
Lidocaine 2% preservative-free (IO insertion)	Optional [100 mg]	-	A	A	A
Magnesium Sulfate	5 g	-	-	-	A
Methylprednisolone Sodium Succinate	125 mg	-	-	A	A
Morphine Sulfate or Fentanyl	20 mg 200 mcg	- -	A -	A A	A A
Naloxone	10 mg	-	A	A	A
Naloxone	Optional [prefilled atomizers or auto- injectors] 2 doses	A	A	A	A
Nitroglycerin Sublingual Spray or Nitroglycerin Tablets	1 bottle 6 tablets	* *	A A	A A	A A

Normal Saline	1 L bag (2) Optional [250 mL bag (1)] Optional [50 mL bag (2)]	-	A	A	A
Normal Saline	Optional [1 L bag]	A	-	-	-
Norepinephrine IP Or Dopamine	Optional [4 mg] Optional [400 mg]	-	-	-	A
Ondansetron	Optional [4 mg]	-	-	A	A
Over the counter (OTC) analgesics for pain or fever	Optional	A	A	A	A
Oxygen	13 cubic feet	A	A	A	A
Oxytocin	Optional [10 units]	-	-	A	A
Phenylephrine Nasal Spray 0.5%	Optional [1 bottle]	-	-	A	A
Pralidoxime Auto-Injector	None	A	A	A	A
Proparacaine Ophthalmic Or Tetracaine	Optional [1 bottle] Optional [1 bottle]	-	-	A	A
Rocuronium	Optional [100 mg]	-	-	-	A
Sodium Bicarbonate 7.5%—8.4%	Optional [100 mEq]	-	-	A	A
Succinylcholine	Optional [400 mg]	-	-	-	A
Thiamine	Optional [100 mg]	-	-	A	A

* * *

EMT NARCAN PROTOCOL

Purpose

Use protocol on patients with known or suspected opioid overdose.

Indications

- A. Altered Level of Consciousness (LOC)
- B. Respiratory depression or apnea (not breathing)
 - 1. Shallow, slow respirations – less than 8 to 10 breaths per minute
 - 2. Inadequate respirations
- C. Unable to wake up with painful stimuli
- D. Constricted pupils (miosis)
- E. Needle track marks
- F. Profuse sweating (diaphoresis)
- G. Cardiac arrest

Procedure

- A. Recognize opiate overdose
 - 1. Decreased Level of Consciousness (LOC)
 - 2. Decreased or no breathing
 - 3. In setting of likely opioid ingestion
- B. Give sternal rub/stimulate
- C. If no response, administer Naloxone
- D. Place patient on side (recovery position)

Medication Dosage

- A. Auto-injector (IM)
 - 1. 0.4 mg IM dose
 - 2. If no response after 2 minutes, may repeat as necessary
 - 3. Max dose 4.0 mg
 - Onset of Action: 2-5 minutes
 - Duration: 30-45 minutes
- B. Intranasal (IN)
 - 1. 1 mg in each nostril with Mucosal Atomizer Device (MAD) total dose of 2 mg
 - 2. If no response after 2 minutes, may repeat
 - 3. Max dose of 4.0 mg
 - Onset of action: 1-2 minutes
 - Duration: 30-90 minutes

EMT NARCAN PROTOCOL

Pearls/Pitfalls/Conclusion

- A. Use caution when administering Naloxone to narcotic-dependent patients
- B. Rapid opioid withdrawal may cause nausea/vomiting and may cause combativeness
- C. Roll patient on their side after administration to keep airway clear
- D. If patient does not respond within 3 to 5 minutes, administer second dose, if available
- E. Other disease processes may mimic opioid overdose; be aware of possible low blood sugar, head injury, stroke, shock, or hypoxia

Over-the-Counter Medication Protocol

Purpose

Protocol for administer of Over-the-Counter (OTC) medications to patients who have fevers in the prehospital setting with suspected infection, illness or febrile seizure.

Indications

- A. Fever is defined as greater than 99° F or 37.2 C (axillary) and/or oral/rectal as greater than 100.5° F or 38° C (as documented by a suitable device).
 1. Temperatures taken by axillary are normally one degree lower than the oral temperatures while temperatures taken rectally are one degree higher than oral temperatures.
 2. Child under age of six years, who has experienced a febrile seizure take temperature axillary.

Procedure

- A. If patient is alert and not vomiting, give all medications orally (if age appropriate).
 1. Medications can be administered in a variety of formats (tablets, chewable tabs, syrup). EMCTs must be familiar with all formats and concentrations carried by individual departments.
- B. If patient has decreased level of consciousness or is vomiting use suppository.
 1. Put gloves on and gently push the lubricated suppository into the rectum.

Medication

- A. **Acetaminophen Administration (one-time dose)**
 1. Administration approved for patients **greater than 3 months of age**
 2. **Dosage** for patient who is febrile (oral liquid, rectal suppository or tablet/capsule)
 - Adult (≥ 15 years old) up to 650 mg PO
 - Pediatric (3 months-14 years of age) 10 mg/kg PO
 - Onset of Action: 30-45 minutes
 - Duration of Action: 4-6 hours
 - **ALS Only** Pediatric ≤ 2 years of age rectal
 - ≤10 kg-120 mg suppository
 - 10-20 kg-160 mg suppository
 - ≥ 20 kg 325 mg suppository
 - Onset of Action: 1 hour
 - Duration of Action: 2-5 hours

Over-the-Counter Medication Protocol

B. Ibuprofen Administration (one-time dose)

1. Administration approved for patients **greater than 6 months of age**
2. Dosage for patient who is febrile (oral liquid, or tablet/capsule)
 - Adult (≥ 15 years old) 200-600 mg PO
 - Pediatric (≥ 6 months-14 years of age) 5 mg/kg
 - Onset of Action: 30-60 minutes
 - Duration of Action: 4-6 hours

C. Diphenhydramine (one-time dose)

1. EMTC use with stable Anaphylaxis/Allergic Reaction SO
2. Administration approved for patients **greater than 3 months of age**
3. **Dosage**
 - Adult (≥ 15 years old) 25-50 mg PO
 - Pediatric (≥ 6 months-14 years of age) 1 mg/kg (max 25mg) PO
 - Onset of Action: 15-30 minutes
 - Duration of Action: 1-4 hours

Pearls/Pitfalls/Conclusion

A. Contraindications

1. Less than three months of age (Acetaminophen)
2. Less than six months of age (Ibuprofen)
3. Known allergy to Acetaminophen, Ibuprofen or Diphenhydramine
4. Contraindication to oral administration of medications (i.e. abdominal pain or trauma, facial or head injury)
5. A dose given previously within 4 hours

B. The presence of other medical problems may affect the use of this medicine

1. Alcohol abuse
2. Kidney disease (severe)
3. Hepatitis or other liver disease

C. Tylenol taken with certain other drugs the effects could be increased, decreased, or altered

1. Alcohol
2. Cholestyramine
3. Isoniazid
4. Nonsteroidal anti-inflammatory drugs i.e. Motrin

D. Side Effects

1. Diarrhea
2. Nausea/Vomiting
3. Stomach Cramps
4. Increased sweating

E. Dosage for pain control follow **Pain Management Administrative Order**

CHEMICAL RESTRAINT PROTOCOL

Purpose

This Protocol is to be reserved for patients who cannot otherwise be restrained or restrained only at the risk of significant harm to the patient, law enforcement, and EMS providers.

Indications

1. Chemical restraint is to be used only when the patient can be adequately and repeatedly monitored by Paramedic providers after the patient has been dosed with below medications.
2. Age limit; 15-69 years of age

Procedure

1. After patient has been sedated and when possible; assess mental status, vital signs including blood glucose and temperature, ECG monitor, SpO₂, and ETCO₂.
2. Venous access, if possible, with normal saline 250ml fluid challenge; may repeat as needed with clear lung sounds.
3. Patients with restraints shall not be transported in the prone position
4. Patient must be examined and documented every 5 minutes. All patients will be transported to the closest most appropriate facility for further evaluations.
5. Consider other causes of combative or irrational behavior, including but not limited to hypoxia and hypoglycemia.
6. Approach patient in a calm and cautious manner, attempt verbal de-escalation prior to involuntary restraint.
7. Urgent de-escalation of patient agitation is imperative in the interest of patient safety as well as for EMS personnel and others on scene.

Medication

MILD AGITATION (Anxiety)

- Midazolam 1-2mg IV/IN/IM or
- Lorazepam 0.5-2mg IV/IM

MODERATE AGITATION (Potential harm to self or others without psychiatric history)

- Midazolam 2-5mg IV/IN/IM (IN administration use only 5mg/ml dosing. Ideal volume is maximum 1 ml per nostril)
- Lorazepam 1-2mg IV

CHEMICAL RESTRAINT (Potential harm to self or others, psychiatric history, drug use)

- Ketamine 250mg IM only (May repeat x 1 with medical direction authority)
- Midazolam 2-5mg IV/IN
- Lorazepam 2mg IV

CHEMICAL RESTRAINT PROTOCOL

SPECIAL CONSIDERATIONS

EXCITED DELIRIUM SYMPTOMS

Excited delirium or agitated delirium is characterized by an acute onset of extreme agitation, aggressive, threatening, or combative behavior, amazing feats of strength, loud, incoherent speech, dilated pupils/less reactive to light, bizarre, or combative behavior.

1. Agitated delirium can interfere with the body's ability to regulate temperature:
 - Treatment protocol for suspected hyperthermia: active cooling measures i.e. ice bags, air conditioned ambulance, IV access normal saline 250ml fluid challenge; may repeat prn with clear lung sounds, treat potential medical complications
 - Follow **Hyperthermia AO** as needed
2. All patients will be transported to the closest most appropriate facility for further evaluation.

****If chemical restraint is used, a copy of the patient care report must be made available to the Base Hospital Medical Director through the Base Hospital Manager within 24 hours. ****

Push-Dose Epinephrine Protocol

Purpose

To provide for rapid, effective and safe management of hypotensive patients requiring intravenous epinephrine in the non-cardiac arrest setting.

Indications

- Transient hypotension in situations like post-intubation where the paramedic anticipates that the patient's blood pressure will improve with time, but the current blood pressure is dangerously low
- A temporizing measure until arrival to emergency department when ETA constraints do not allow for the timely administration of this medication for severe asthma or anaphylaxis, post arrest hypotension

Procedure

1. Obtain a 10 ml syringe and fill it with **9 ml of sterile normal saline**.
2. Into the syringe, draw up **1 ml of epinephrine 1:10,000 (from a cardiac arrest amp, concentration is 100mcg/mL)** and vigorously roll syringe between your hands to ensure it is well mixed.
3. Label the syringe "Epinephrine: 1:100,000" or 10 mL of Epinephrine 10mcg/mL

Or

1. Obtain a **10 mL syringe prefill with sterile normal saline** and push 1 ml out of syringe.
2. Into the syringe, draw up **1 ml of epinephrine 1:10,000 (from a cardiac arrest amp, concentration is 100mcg/mL)** and vigorously roll syringe between your hands to ensure it is well mixed.
3. Label the syringe "Epinephrine: 1:100,000" or 10 mL of Epinephrine 10mcg/mL

Dose

Asthma/Anaphylaxis

- 0.5-2 ml every 2-5 minutes (5-20 mcg). This is equivalent to dose of epinephrine given via infusion (5-20 mcg/min)

Hypotension/Symptomatic Bradycardia

- 0.5-1 ml every 1-2 minutes (5-10 mcg). This is equivalent to dose of epinephrine given via infusion (5-10 mc/min)

Post Arrest Hypotension

- 0.5-1 ml every 1-2 minutes (5-10 mcg). This is equivalent to dose of epinephrine given via infusion (5-10 mc/min)

Epinephrine: Onset 1 minute, Duration 5-10 minutes

Push-Dose Epinephrine Protocol

Considerations

- Ensure your use of the correct dosage of epinephrine
- **Do not bolus cardiac arrest doses** of epinephrine (1:10,000) unless the patient is pulseless
- Use your critical thinking. Ask yourself why your patient is hypotensive? If rate related, treat that. Fill the tank first
- Utilize the smallest dose necessary to alleviate undesirable symptoms and titrate your dosing to patient effect
- Epinephrine has both α - and β -adrenergic activity and will therefore stimulate the heart in addition to causing vasoconstriction. This will increase myocardial oxygen demand
- Pressors can be given via peripheral IV but carefully monitor your IV site for S/S of extravasation. If extravasation is noted, discontinue use of this site and reestablish reliable IV access at another site
- IO cannulations should be considered the preferred site for administration of anti-hypotensive agents in the field until another means of central access can be achieved later in the ED.

Base Hospital

Purpose

Sedation should only be administered when indicated in specific Administrative Order (AO) for controlled reduction of environmental awareness. Should not be used on patients that meet the Behavioral AO or Chemical Restraint Protocol (follow those guidelines).

Indications

Procedures

1. Transcutaneous Pacing
2. Sync Cardioversion
3. Extrication
4. CPAP as indicated

Primary Treatment

1. Anxiety
2. Hyperventilation brought on by acute anxiety
3. A sense of impending danger, panic or doom
4. Alcohol or drug withdrawal

Procedure

1. Follow appropriate AO along with this protocol
2. Continuous ECG, ETCO₂, and Pulse Oximetry monitoring when available.
3. Monitor vital signs every 5 minutes. If patient becomes hypotensive, administer 250- 500 ml NS/LR IV bolus for adults and 20 ml/kg for pediatric patients.
4. Closely monitor patients' respiratory effort and effectiveness as indicated.

Medication and Dosing

A. CPAP Management

Midazolam Dosing:

- 0.5-2.5mg IV or 5mg IM.
- May repeat every 5-10 minutes as needed to max of 5mg

B. Sedation for Painful Procedures

Midazolam Adult Dosing

- 0.5-2.5mg IV or 5mg IM.
- May repeat every 5-10 minutes as needed to max of 5mg

Midazolam **Peds** Dosing

- 0.05-0.1mg/kg IV,
- May repeat every 5-10 minutes as needed to max of 2.5mg

Sedation Protocol

Base Hospital

C. Anxiety/Alcohol/Drug Withdrawal

- Choose **ONE** for treatment and maximize dosing. Contact Medical Direction before changing to different medication. Lorazepam preferred for alcohol/drug withdrawal.

Adult Dosing

- **Midazolam**
 - Dosage is cut in half if the patient has received narcotics or alcohol
 - IV/IO/IM 2-4 mg every 5 min to the desired effect or max 10 mg dose
 - Intranasal 2-4 mg/kg to a maximum of 10 mg as one-time dose
- **Lorazepam**
 - IV/IO/IM 1-2 mg every 5 min to the desired effect or max dose of 4 mg

Pediatric Dosing

- **Midazolam**
 - Dosage is cut in half if the patient has received narcotics or alcohol
 - IV/IO/IM 0.1 mg/kg (max dose 4 mg) **DO NOT** exceed adult dosing
 - Intranasal 0.4 mg/kg (max dose 10 mg)
- **Lorazepam**
 - IV/IO/IM 0.1 mg/kg (max dose of 4 mg) **DO NOT** exceed adult dosing