

**COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES
 POLICY/PROCEDURE/PROTOCOL
 SUBJECT: TREATMENT PROTOCOL – MEDICATION LIST**

**No. P-115
 Page: 1 of 8
 Date: 07/1/2024**

Color code identifies the level of EMS clinician authorized to administer each medication.

Red	Not authorized
Yellow	Authorized by LEMSAs Medical Director per 22 CCR § 100063 (b) ^L or by California EMSA-approved LOSOP ^S
Green	Authorized by state regulation and local protocol

MEDICATION	EMS CLINICIAN	PROTOCOL	COMMENTS	CONTRAINDICATIONS
ACETAMINOPHEN IV	EMT	S-141, S-173	Maximum total daily dose: 4000 mg in 24 hours	Severe hepatic impairment or active liver disease Known hypersensitivity or allergic reaction history If known or suspected total dose exceeding 4000 mg in a 24-hour period <2 years of age
	AEMT			
	Paramedic			
ADENOSINE	EMT	S-127, S-163	Patients with history of bronchospasm or COPD may suffer bronchospasm following administration	Second- or third-degree AV block Sick Sinus Syndrome (without pacemaker)
	AEMT			
	Paramedic			
ALBUTEROL	EMT	S-122, S-124	Continuous administration via O ₂ powered nebulizer or MDI	Avoid in croup
	AEMT	S-131, S-136		
	Paramedic	S-162, S-167		
		S-170		
AMIODARONE	EMT	S-127	Cardioversion first if unstable with severe symptoms	
	AEMT	S-163		
	Paramedic			
ASPIRIN	EMT ^L	S-126	Administer aspirin even if discomfort/pain has resolved. If aspirin is not given, document the reason Aspirin may be withheld if an equivalent dose has been administered by a healthcare professional	
	AEMT			
	Paramedic			

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ATROPINE	EMT	S-127, S-163	In organophosphate poisoning, titrate atropine to SLUDGE/BBB signs/symptoms, not to tachycardia	
	AEMT			
	Paramedic	S-134, S-165	May omit atropine in bradycardic patients unlikely to have clinical benefit (e.g., heart transplant patients, 2nd degree type II, or 3rd degree heart block)	
BUPRENORPHINE- NALOXONE (SUBOXONE®)	EMT	S-145	For agencies participating in the buprenorphine LOSOP	
	AEMT			
	Paramedic			
CALCIUM CHLORIDE (CaCl ₂)	EMT	S-127, S-163	Avoid use in small veins (feet/hands) as extravasation of CaCl ₂ can cause necrosis Contact BH if dose exceeds par level	
	AEMT	S-131		
	Paramedic			
		S-134		
		S-139		
CHARCOAL (no Sorbitol)	EMT	S-134, S-165		Liquid ingestions (e.g., alcohols), heavy metals (e.g., iron), inorganic ions (e.g., lithium), caustic agents, or hydrocarbons
	AEMT			
	Paramedic			

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DEXTROSE 50% (D ₅₀) (Adult) OR DEXTROSE 10% (D ₁₀) (Adult/Pediatric)	EMT	S-123, S-161	Repeat BS not indicated enroute if patient improving Repeat BS must be done if patient left on scene and initial was abnormal (AMA/Release) In adults, may substitute D ₁₀ for D ₅₀ AEMT: Administration of D ₅₀ only	
	AEMT			
	Paramedic			
DIPHENHYDRAMINE	EMT	S-122, S-162	IV - administer slowly Diphenhydramine may be administered between epinephrine doses in anaphylaxis	
	AEMT	S-134, S-165		
	Paramedic			
EPINEPHRINE (PUSH-DOSE)	EMT	S-122, S-162 S-126 S-127, S-163 S-138, S-168 S-143, S-177	Mixing instructions: 1. Remove 1 mL normal saline (NS) from the 10 mL NS syringe 2. Add 1 mL of epinephrine 1:10,000 (0.1 mg/mL) to 9 mL NS syringe The mixture now has 10 mL of epinephrine at 0.01 mg/mL (10 mcg/mL) concentration.	
	AEMT			
	Paramedic			

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EPINEPHRINE	EMT ^L	S-122, S-162	Diphenhydramine may be administered between epinephrine doses in anaphylaxis EMT: Administration via auto-injector AEMT: Administration via IM	
	AEMT	S-127, S-163		
	Paramedic	S-133, S-166		
		S-136, S-167 S-170 S-176		
FENTANYL	EMT	S-141, S-173		
	AEMT			
	Paramedic			
GLUCAGON	EMT	S-123, S-161 S-134	High doses of glucagon may cause nausea/vomiting	
	AEMT			
	Paramedic			
IPRATROPIUM BROMIDE	EMT	S-122, S-162 S-136, S-167		
	AEMT			
	Paramedic			

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MEDICATION	EMS CLINICIAN	PROTOCOL	COMMENTS	CONTRAINDICATIONS
KETAMINE	EMT	S-141	<p style="color: red;">Not authorized for sedation or use of dissociative doses</p> <p>IV Administration:</p> <ul style="list-style-type: none"> • Maximum initial IV dose is 0.3 mg/kg • Total IV dose not to exceed 60 mg • Administer via slow IV drip and do not exceed maximum dose to reduce risk for dissociative states <p>IN Administration:</p> <ul style="list-style-type: none"> • Maximum initial IN dose is 0.5 mg/kg • Total IN dose not to exceed 100 mg 	<p>Sedation</p> <p>Use of dissociative doses</p> <p>Pediatric patients (14 years of age or younger)</p>
	AEMT			
	Paramedic			
LEVALBUTEROL	EMT	S-122, S-124	<p>Continuous administration via O₂ powered nebulizer or MDI</p>	<p>Avoid in croup</p> <p><6 years of age</p>
	AEMT	S-131, S-136		
	Paramedic	S-162, S-167		
		S-170		
LIDOCAINE	EMT	S-127, S-163	<p>Prior to IO fluid infusion in the conscious patient</p> <p>Adult doses should be given in increments rounded to the nearest 20 mg amount</p> <p>In the presence of shock, CHF or liver disease, the repeat bolus is recommended at 10-minute intervals</p> <p>Cardioversion first if unstable with severe symptoms</p>	<p>Second- and third-degree heart block and idioventricular rhythm</p>
	AEMT			
	Paramedic			

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LIDOCAINE JELLY (2%) optional	EMT		Intubation or nasopharyngeal airway	
	AEMT		Apply to ET tube or nasal airway	
	Paramedic			
MIDAZOLAM	EMT		Pre-cardioversion sedation is recommended whenever possible.	
	AEMT		Consider lower dose of midazolam for pre-cardioversion with attention to age and hydration status.	
	Paramedic	S-123, S-161 S-127, S-163 S-133, S-166 S-135 S-142, S-175	For severely agitated or combative patients, IN or IM midazolam is the preferred route to decrease risk of injury to the patient and personnel.	
			Alert: Co-administration of midazolam in patients with alcohol intoxication can cause respiratory depression. Consider avoiding or reducing midazolam dose.	
MORPHINE	EMT	S-141		
	AEMT			
	Paramedic	S-173		
NALOXONE	EMT ^L		Not authorized in cardiac arrest	Ineffective for patients in cardiac arrest
	AEMT	S-123, S-161	EMT: Administration via IN	
	Paramedic	S-134, S-165	AEMT: Administration via IN/IM	
		S-145		

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NITROGLYCERIN (NTG)	EMT	S-126 S-131 S-136	EMT: Assist patient to self-medicate own prescribed NTG	Suspected intracranial bleed NTG is contraindicated in patients who have taken: <ul style="list-style-type: none"> erectile dysfunction medications such as sildenafil (Viagra®), tadalafil (Cialis®), and vardenafil (Levitra®) within 48 hours; and pulmonary hypertension medications such as sildenafil (Revatio®) and epoprostenol sodium (Flolan® and Veletri®).
	AEMT			
	Paramedic			
NORMAL SALINE	EMT	All	Definitive therapy defined as immediate or anticipated immediate need for administration of a fluid bolus or medications EMT: Can administer aerosolized normal saline or water via nebulizer	Rales is a relative contraindication for fluid bolus Fluid bolus may be administered regardless of lung sounds in adult sepsis (S-143) and pediatric sepsis (S-177)
	AEMT			
	Paramedic			
ONDANSETRON	EMT	S-120		<6 months of age
	AEMT	S-174		
	Paramedic			
SODIUM BICARBONATE (NaHCO ₃)	EMT	S-127, S-163	Flush IV tubing between medication administration	
	AEMT			
	Paramedic	S-134, S-165		
		S-131 S-139, S-169		

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TRANEXAMIC ACID	EMT	S-139	Rapid infusion can cause hypotension	Contraindicated in patients with: <ul style="list-style-type: none"> • Isolated, severe head injury • Potential need for reimplantation • Thromboembolic event within 24 hours (e.g., stroke, MI, DVT/PE)
	AEMT	S-133, S-166	Slow down infusion if nausea, vomiting, or near syncope occurs	
	Paramedic			

EMT/AEMT/Paramedics or supervised EMT/AEMT/Paramedic students are authorized to administer these medications when on-duty as part of the organized EMS system, while at the scene of a medical emergency or during transport, or during interfacility transfer.