

2025-2026 PROTOCOL & POLICY UPDATES



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Updated 5/1/2025



ADULT PROTOCOLS WITH UPDATES

- S-100 Patient Management Standards
- S-102 Abbreviation List
- S-103 BLS/ALS Ambulance Inventory
- S-104 Skills List
- P-115 Medication List
- S-123 Altered Neurologic Function (Non-Traumatic)
- S-124 Burns
- S-126 Discomfort / Pain of Suspected Cardiac Origin
- S-127 CPR / Arrhythmias
- S-131 Hemodialysis Patient
- S-134 Poisoning / Overdose
- S-135 Existing Devices and Medications
- S-136 Respiratory Distress
- S-139 Trauma
- S-141 Pain Management
- S-150 CHEMPACK Deployment and Autoinjector Use



PEDIATRIC PROTOCOLS WITH UPDATES

- P-117 ALS Pediatric Drug Chart
- S-163 CPR / Arrhythmias
- S-167 Respiratory Distress
- S-169 Trauma
- S-170 Burns
- S-172 BRUE (Brief, Resolved, Unexplained Event)
- S-173 Pain Management



GLOBAL UPDATES

“EKG” Updated to “ECG”

- The “EKG” abbreviation was updated to “ECG” throughout all protocols.

Removal of “PRN” from Capnography

- The “PRN” abbreviation was removed from capnography throughout all protocols.

State Regulation Re-chaptering

- State regulation re-chaptering updates were made throughout all footnotes that referenced chapters within Title 22, Division 9.



S-100


Patient Management Standards

Revisions

- Title updated from “Protocol Standards” to “Patient Management Standards”

New Additions

- Added subsection “Prehospital Treatment – 100.1”
- Added subsection “BLS/ALS Transport Criteria – 100.2”

	TREATMENT PROTOCOL	S-100
	PATIENT MANAGEMENT STANDARDS	
	Date: 7/1/2025	Page 1 of 3

PREHOSPITAL TREATMENT – 100.1

Principle

- The objective of prehospital treatment is to provide timely, equitable, high-quality, and patient-centered care.

Standards

- All treatments shall be administered per protocol unless the patient declines, there is a contraindication, such as an allergy, or a Base Hospital Physician Order to withhold a required treatment.
- When clinically indicated, more than one protocol may be applied for patient treatment.
- All protocol treatments may be performed by the Emergency Medical Technician (EMT), Advanced Emergency Medical Technician (AEMT), and/or Paramedic via standing orders except for those stating Base Hospital Order (BHO) or Base Hospital Physician Order (BHPO). Standing orders may be continued after Base Hospital contact unless the Base Hospital directs otherwise.
- Mobile Intensive Care Nurses (MICNs) may relay BHPOs.
- These protocol standards do not apply when a physician on scene assumes responsibility for patient care (see S-403 Physician on Scene).
- Base Hospital Physician¹ consultation is encouraged for unclear or complex situations.

Base Hospital Physicians are authorized to:

- Order additional doses or boluses of a protocolized treatment
- Order the withholding of a protocolized treatment

Base Hospital Physicians are not authorized to:

- Order medications, routes, or procedures that are outside EMT, AEMT, or Paramedic scopes of practice²
- Modify Local Optional Scope of Practice (LOSOP) protocols
- Order treatments specifically prohibited by local CoSD EMS protocols

Under extraordinary circumstances, Base Hospital Physicians may order an Emergency Protocol Exception (EPE) when the following conditions are met:

- Immediate/imminent risk of serious morbidity or mortality
- S-104 or P-115 do not explicitly prohibit use³
- Complies with the above criteria for non-authorized orders

The Base Hospital shall report every EPE to CoSD EMS as an “unusual event” within 24 hours

¹ Refer to S-403 Physician on Scene when a physician on scene assumes patient care
² EMS clinicians are only permitted to follow orders within their respective local scopes of practice (B-450, B-451, P-401)
³ Per P-115, EPEs are not authorized for administration of ketamine in dissociative doses or naloxone in cardiac arrest

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S-100

Patient Management Standards

	TREATMENT PROTOCOL	S-100
	PATIENT MANAGEMENT STANDARDS	
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PREHOSPITAL TREATMENT – 100.1

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BLS/ALS TRANSPORT CRITERIA – 100.2

Principle

- All patients should receive the most suitable level of transport to optimize clinical outcomes, efficient use of resources, and overall patient care.

Standards

- Patients meeting the following criteria shall be transported by ALS*

<p>Decompensating Patient</p> <ul style="list-style-type: none"> Provider impression of extremis, including new onset of altered mental status, poor appearance, airway issues, severe respiratory distress/failure, signs and symptoms of shock/poor perfusion, or imminent cardiac respiratory arrest 	<p>Disability</p> <ul style="list-style-type: none"> Acute change in mental status (GCS <13) New neurologic deficit (e.g., positive BE-FAST) Seizure not returned to baseline or multiple seizures Syncope Acute agitation Severe intoxication or overdose
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Airway

- Current or anticipated need for airway management

Breathing

- Respiratory failure or distress
- Hypoxia (SpO₂ <94%) despite NRB or PPV (including CPAP)

Circulation

- Cardiac chest pain or anginal equivalent
- ECG with ischemia or infarct
- ECG with new or concerning dysrhythmia
- Current or anticipated need for IV fluids, vasopressors, or other IV medication
- Unstable bradycardia/tachycardia
- Hypotension

Miscellaneous


- Meets T-460A criteria (including special considerations designated for transport to a trauma center)
- ALS medication administered (except single therapeutic treatment of naloxone, ondansetron, glucagon, dextrose, or acetaminophen and are not anticipated to require repeat doses)
- Hypoglycemia with persistent altered mental status
- Hyperglycemia with persistent altered mental status
- Pediatric patients with a high-risk complaint (e.g., BRUE) or complex medical history
- EMT provider has a clinical concern
- ALS procedure performed (excluding IV placement or 12-lead ECG interpretation)

***Exceptions**

- BLS transport may be considered under the following conditions:
 - MCI/Annex D activation
 - ALS resources not available within a reasonable timeframe
 - Hospital-to-hospital interfacility transfers meeting criteria in Policy B-450 EMT Scope of Practice and Protocol S-135 Existing Devices and Medications

S-100

Patient Management Standards

 COUNTY OF SAN DIEGO <small>EMERGENCY MEDICAL SERVICES</small>	TREATMENT PROTOCOL	S-100
	PATIENT MANAGEMENT STANDARDS	
	Date: 7/1/2025	Page 1 of 3

PREHOSPITAL TREATMENT – 100.1

Principle

- The objective of prehospital treatment is to provide timely, equitable, high-quality, and patient-centered care.

Standards

- All treatments shall be administered per protocol unless the patient declines, there is a contraindication, such as an allergy, or a Base Hospital Physician Order to withhold a required treatment.
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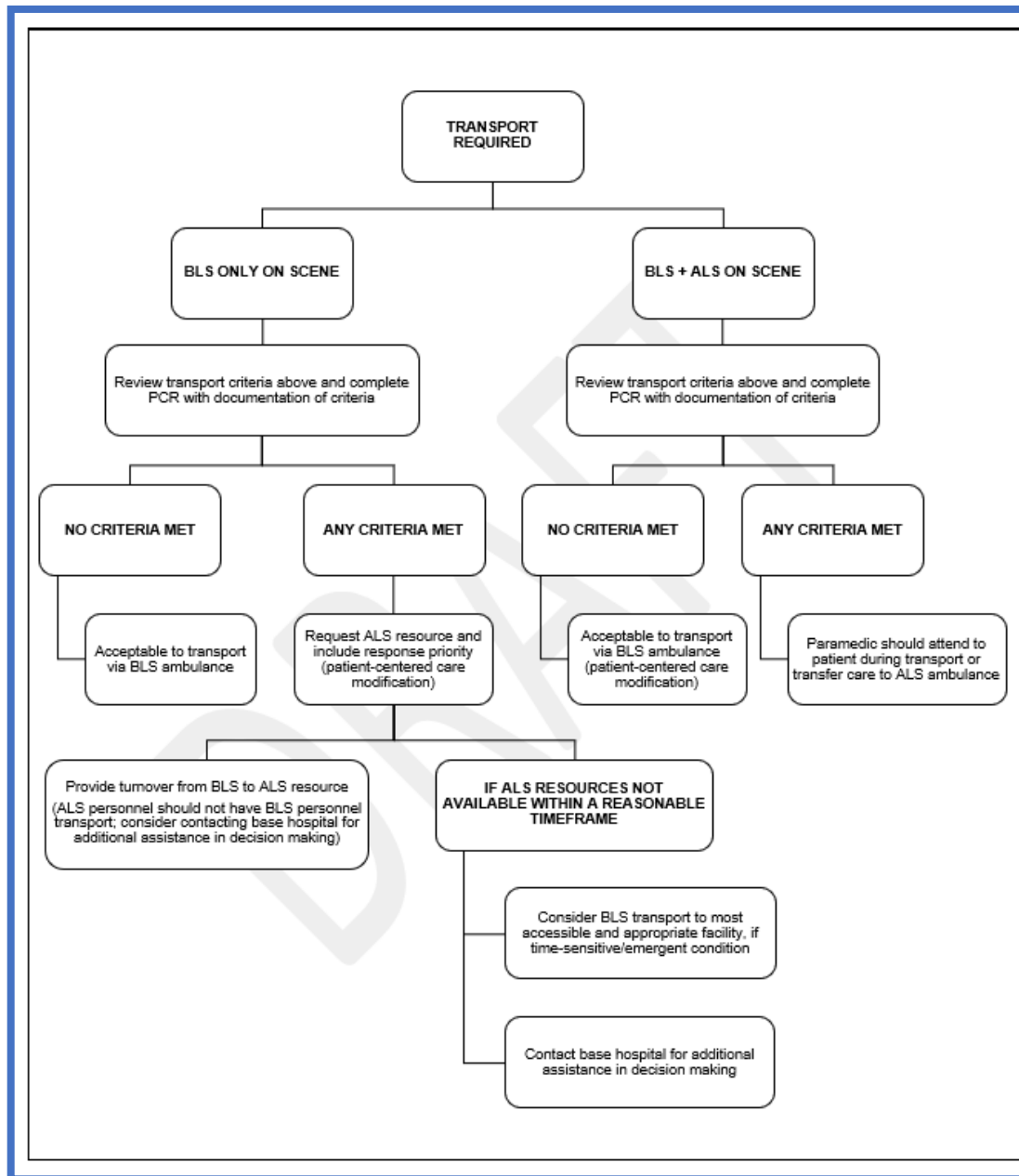
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- Immediate/imminent risk of serious morbidity or mortality
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¹ Refer to S-403 Physician on Scene when a physician on scene assumes patient care
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Abbreviation List



New Additions

- Added “CNS – Central Nervous System”
- Added “LVAD – Left Ventricular Assist Device”
- Added “TdP – Torsades de Pointes”

 COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES		TREATMENT PROTOCOL	S-102
ABBREVIATION LIST			
Date: 7/4/2024		Page 1 of 3	
AAA	Abdominal Aortic Aneurysm		
AHA	American Heart Association		
AED	Automated External Defibrillator		
AEMT	Advanced Emergency Medical Technician		
AICD	Automatic Implanted Cardiac Defibrillator		
ALS	Advanced Life Support		
AV	Arteriovenous (Fistula)		
BEF	Basic Emergency Facility		
BH	Base Hospital		
BHO	Base Hospital Order		
BHPO	Base Hospital Physician Order		
BLS	Basic Life Support		
BP	Blood Pressure		
BPM	Beats Per Minute		
BRUE	Brief, Resolved, Unexplained Event		
BS	Blood Sugar (Blood Glucose)		
BSA	Body Surface Area		
BVM	Bag-Valve-Mask		
CaCl ₂	Calcium Chloride		
C/C	Chief Complaint		
CHF	Congestive Heart Failure		
CNS	Central Nervous System		
CO	Carbon Monoxide		
CO ₂	Carbon Dioxide		
CPAP	Continuous Positive Airway Pressure		
CPR	Cardiopulmonary Resuscitation		
CVA	Cerebrovascular Accident		
d/c	Discontinue		
DCI	Decompression Illness		
dL	Deciliter		
D ₁₀	10% Dextrose		
D ₅₀	50% Dextrose		
ECPR	Extracorporeal Cardiopulmonary Resuscitation		
EJ	External Jugular		
EKG	Electrocardiogram		
EMSA	California Emergency Medical Services Authority		
ePCR	Electronic Patient Care Record		
EpiPen [®]	Brand name for Epinephrine Auto-Injector		
ET	Endotracheal Tube		
ETCO ₂	End-Tidal CO ₂		
FDA	Food and Drug Administration		
gm	Gram		
GI	Gastrointestinal		
GU	Genitourinary		
HR	Heart Rate		
ICS	Intracostal Space		
IM	Intramuscular		

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S-103

BLS/ALS Ambulance Inventory

	INVENTORY / MEDICATION LISTS AND CHARTS / SKILLS LIST	S-103
	BLS/ALS AMBULANCE INVENTORY	
	Date: 7/4/2023/1/2024	Page 1 of 6

I. PURPOSE
To identify a standardized inventory on all Basic Life Support (BLS) and Advanced Life Support (ALS) Transport Units.

II. AUTHORITY
Health and Safety Code, Division 2.5, Section 1797.204.

III. POLICY/PROCEDURE
Essential equipment and supplies are required by California Code of Regulations, Title 13, Section 1103.2(a)1-2 (for vehicle requirements, refer to County of San Diego, Emergency Medical Services (CoSD EMS) Policy B-833 "Ground Ambulance Vehicle Requirements"). Any equipment or supplies carried for use in providing emergency medical care must be maintained in good working order. Each BLS or ALS Transporting Unit in San Diego County shall carry, at a minimum, the following:

BLS Requirements	Minimum Requirements
Automated External Defibrillator (Automated External Defibrillator not required for ALS)	1
Ambulance cot and collapsible stretcher – clean, mattress intact, and in good working order	1 each
Straps to secure the patient to the cot or stretcher	1 set
Ankle and wrist restraints	1 set
Linens (sheets, pillow, pillowcase, blanket, towels)	2 sets
Personal protective equipment (masks, gloves, gowns, shields)	2 sets
Oropharyngeal airways	-
• Adult	2
• Pediatric 0-5	1 each
• Neonate	1
• Premature	1
Pneumatic or rigid splints	4
Bag-valve-mask w/reservoir and clear resuscitation mask	-
• Adult	1
• Pediatric	1
• Neonate	1
• Premature	1
Oxygen cylinder w/wall outlet (H or M)	1
Oxygen tubing	1
Oxygen cylinder – portable (D or E)	2
Oxygen administration mask	-
• Adult	4


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Revisions

- BLS Requirements – Optional items
 - Removed “(will become a mandatory item for ALS on July 1, 2025)” for automated cardiac compression device
 - Removed “Hemostatic gauze”
 - Updated optional items footnote language to “Any patient care inventory not listed in this protocol must have LEMSA approval prior to use. Agencies must validate training, education, and QA reporting processes for all approved optional inventory items.”
- ALS Requirements – Other Equipment
 - Updated “Nasogastric tubes (8, 10, 12, 14, 18)”
- ALS Requirements – Replaceable Medications
 - Removed “Dextrose, 50% – 25 gm/50 mL”
 - Updated dextrose 10% par level to “4”
- ALS Requirements – Optional Items
 - Removed “Hemostatic gauze”

S-103

BLS/ALS Ambulance Inventory

 COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES	INVENTORY / MEDICATION LISTS AND CHARTS / SKILLS LIST	S-103
	BLS/ALS AMBULANCE INVENTORY	
	Date: 7/14/2024/1/2025	Page 1 of 6

I. PURPOSE

To identify a standardized inventory on all Basic Life Support (BLS) and Advanced Life Support (ALS) Transport Units.

II. AUTHORITY

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III. POLICY/PROCEDURE

Essential equipment and supplies are required by California Code of Regulations, Title 13, Section 1103.2(a)1-2 (for vehicle requirements, refer to County of San Diego, Emergency Medical Services (CoSD EMS) Policy B-833 "Ground Ambulance Vehicle Requirements"). Any equipment or supplies carried for use in providing emergency medical care must be maintained in good working order. Each BLS or ALS transporting unit in San Diego County shall carry the following:

BLS Requirements	Minimum Requirements
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Ankle and wrist restraints	1 set
Linens (sheets, pillow, pillowcase, blanket, towels)	2 sets
Personal protective equipment (masks, gloves, gowns, shields)	2 sets
Oropharyngeal airways	-
• Adult	2
• Pediatric 0-5	1 each
• Neonate	1
• Premature	1
Pneumatic or rigid splints	4
Bag-valve-mask w/reservoir and clear resuscitation mask	-
• Adult	1
• Pediatric	1
• Neonate	1
• Premature	1
Oxygen cylinder w/wall outlet (H or M)	1
Oxygen tubing	1
Oxygen cylinder – portable (D or E)	2
Oxygen administration mask	-
• Adult	4

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New Additions

- BLS Requirements – Bandaging supplies
 - Added “**Hemostatic gauze**” with a par level of “2”
- ALS Requirements – Other Equipment
 - Added “**Automated cardiac compression device**” with a par level of “1”
- ALS Requirements – Optional Items
 - Added “**Dextrose, 50% - 25 gm/50mL**”
 - Added “**Ringer’s lactate solution**” with footnote “**With the exception of amiodarone and ketamine, medications listed in P-401 may be infused with Ringer’s lactate solution during periods when normal saline fluid is in shortage. This substitution shall be on a one-for-one basis, i.e., a protocol treatment of 250 mL normal saline fluid bolus may be replaced with a 250 mL Ringer’s lactate fluid bolus.**”



S-104

Skills List

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES POLICY/PROCEDURE/PROTOCOL SUBJECT: TREATMENT PROTOCOL – SKILLS LIST		No. S-104 Page: 1 of 13 Date: 07/01/2024		
Color code identifies the level of EMS clinician authorized to perform each skill.				
Red	Not authorized			
Yellow	Authorized by LEMSA Medical Director per 22 CCR § 100093.0(b) or by California EMSA-approved LOSOP [®]			
Green	Authorized by state regulation and local protocol			
SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT	Assist with intubations		Should be used routinely during intubations. After attempting to view with laryngoscope, may use to assist ET placement if unable to fully visualize vocal cords.
	Paramedic			
Carboxyhemoglobin monitor	EMT AEMT	Suspected or known carbon monoxide exposure	None	Consider transport to facility with hyperbaric chamber for suspected carbon monoxide poisoning in the unconscious or pregnant patient.
	Paramedic			
Synchronized cardioversion	EMT AEMT	Unstable VT	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
	AEMT	Unstable SVT		
	Paramedic	Unstable Atrial Fibrillation/Flutter with HR ≥180		
Chest seal	EMT AEMT	Occlusive dressing designed for treating open chest wound	None	
	Paramedic			
	EMT AEMT Paramedic			
CPAP	EMT AEMT Paramedic	Respiratory Distress: Suspected CHF/ cardiac origin	CPR SBP <90 mmHg Vomiting Age <15 Possible pneumothorax Facial trauma Unable to maintain airway	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures
		Respiratory Distress: Suspected non-cardiac origin		
		Drowning with respiratory distress		

Revisions

- CPAP
 - Updated the EMS Clinician column to authorize EMTs and AEMTs to perform the skill
- 12-lead ECG
 - Updated “Chest **discomfort/pain** and/or signs and symptoms suggestive of myocardial infarction (**e.g., dyspnea, upper abdominal pain, fatigue**)” for indications
- External cardiac pacing
 - Removed the following comments:
 - Begin at rate 60/min
 - Dial up until capture occurs, usually between 50 and 100 mA
 - Increase by a small amount, usually about 10%, for ongoing pacing



S-104

Skills List

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES POLICY/PROCEDURE/PROTOCOL SUBJECT: TREATMENT PROTOCOL – SKILLS LIST		No. S-104 Page: 1 of 13 Date: 07/01/2024		
Color code identifies the level of EMS clinician authorized to perform each skill.				
Red	Not authorized			
Yellow	Authorized by LEMSA Medical Director per 25 CCR § 100093.0(b) or by California EMSA-approved LOSOP [®]			
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SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT	Assist with intubations		Should be used routinely during intubations. After attempting to view with laryngoscope, may use to assist ET placement if unable to fully visualize vocal cords.
	Paramedic			
Carboxyhemoglobin monitor	EMT AEMT	Suspected or known carbon monoxide exposure	None	Consider transport to facility with hyperbaric chamber for suspected carbon monoxide poisoning in the unconscious or pregnant patient.
	Paramedic			
Synchronized cardioversion	EMT [*] AEMT	Unstable VT	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
	Paramedic	Unstable SVT		
	Paramedic	Unstable Atrial Fibrillation/Flutter with HR ≥180		
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
	EMT			
	AEMT Paramedic			
CPAP	EMT AEMT Paramedic	Respiratory Distress: Suspected CHF/ cardiac origin Respiratory Distress: Suspected non-cardiac origin Drowning with respiratory distress	Unconscious Non-verbal patients with poor head/neck tone may be too obtunded for CPAP CPR SBP <90 mmHg Vomiting Age <15 Possible pneumothorax Facial trauma Unable to maintain airway	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures
	EMT			
	AEMT			
	Paramedic			

Revisions

- Intubation: ET/Stomal
 - Removed “Able to adequately ventilate with BVM” from contraindications
- Intubation: ET/Stomal
 - Removed the following comments:
 - Exception to the mandatory use of EtCO₂ prior to intubation with ET tube/PAA
 - When the patient presents with intractable vomiting or airway bleeding, initial airway management should be focused on clearing of the airway with positioning of the patient (i.e., logrolling), and suctioning of the mouth and oropharynx.
 - If the airway assessment determines that it is still necessary to intubate the patient after clearing the airway, an ET tube/PAA may be inserted prior to obtaining EtCO₂ readings to secure airway.



S-104

Skills List

Revisions

- Intubation: Perilaryngeal airway adjuncts
 - Removed “Able to adequately ventilate with BVM” from contraindications
 - Removed the following comments:
 - Exception to the mandatory use of EtCO₂ prior to intubation with ET tube/PAA
 - When the patient presents with intractable vomiting or airway bleeding, initial airway management should be focused on clearing of the airway with positioning of the patient (i.e., logrolling), and suctioning of the mouth and oropharynx.
 - If the airway assessment determines that it is still necessary to intubate the patient after clearing the airway, an ET tube/PAA may be inserted prior to obtaining EtCO₂ readings to secure airway.

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES POLICY/PROCEDURE/PROTOCOL SUBJECT: TREATMENT PROTOCOL – SKILLS LIST		No. S-104 Page: 1 of 13 Date: 07/01/2024		
Color code identifies the level of EMS clinician authorized to perform each skill.				
Red	Not authorized			
Yellow	Authorized by LEMSA Medical Director per 25 CCR § 100093.0(b) or by California EMSA-approved LOSOP [®]			
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SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT	Assist with intubations		Should be used routinely during intubations. After attempting to view with laryngoscope, may use to assist ET placement if unable to fully visualize vocal cords.
	Paramedic			
Carboxyhemoglobin monitor	EMT AEMT	Suspected or known carbon monoxide exposure	None	Consider transport to facility with hyperbaric chamber for suspected carbon monoxide poisoning in the unconscious or pregnant patient.
	Paramedic			
Synchronized cardioversion	EMT AEMT	Unstable VT	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
	Paramedic	Unstable SVT		
	Paramedic	Unstable Atrial Fibrillation/Flutter with HR ≥180		
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
	EMT			
	AEMT Paramedic			
CPAP	EMT AEMT Paramedic	Respiratory Distress: Suspected CHF/ cardiac origin Respiratory Distress: Suspected non-cardiac origin Drowning with respiratory distress	Unconscious Non-verbal patients with poor head/neck tone may be too obtunded for CPAP CPR SBP <90 mmHg Vomiting Age <15 Possible pneumothorax Facial trauma Unable to maintain airway	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures
	EMT			
	AEMT			
	Paramedic			



S-104

Skills List

Revisions

- Length-Based Resuscitation Tape (LBRT)
 - Removed “Children ≥ 37 kg use adult medication dosages (using pediatric protocols) regardless of age or height” from comments

New Additions

- 12-lead ECG
 - Added “Signs and symptoms of arrhythmia (e.g., syncope, near syncope, palpitations)” to indications

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES POLICY/PROCEDURE/PROTOCOL SUBJECT: TREATMENT PROTOCOL – SKILLS LIST		No. S-104 Page: 1 of 13 Date: 07/01/2024		
Color code identifies the level of EMS clinician authorized to perform each skill.				
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SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT	Assist with intubations		Should be used routinely during intubations. After attempting to view with laryngoscope, may use to assist ET placement if unable to fully visualize vocal cords.
	Paramedic			
Carboxyhemoglobin monitor	EMT	Suspected or known carbon monoxide exposure	None	Consider transport to facility with hyperbaric chamber for suspected carbon monoxide poisoning in the unconscious or pregnant patient.
	Paramedic			
Synchronized cardioversion	EMT	Unstable VT	Pediatric: If defibrillator unable to deliver < 5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
	EMT	Unstable SVT		
	Paramedic	Unstable Atrial Fibrillation/Flutter with HR ≥ 180		
Chest seal	EMT	Occlusive dressing designed for treating open chest wound	None	
	EMT			
	Paramedic			
CPAP	EMT	Respiratory Distress: Suspected CHF/ cardiac origin Respiratory Distress: Suspected non-cardiac origin Drowning with respiratory distress	Unconscious	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures
	EMT		Non-verbal patients with poor head/neck tone may be too obtunded for CPAP	
	EMT		CPR	
	Paramedic		SBP < 90 mmHg Vomiting Age < 15 Possible pneumothorax Facial trauma Unable to maintain airway	



S-104

Skills List

New Additions

- External cardiac pacing
 - Added the following comments:
 - Set rate and energy per manufacturer's recommendations
 - Increase energy setting until capture occurs, usually between 50 mA and 100 mA
 - After electrical and mechanical capture achieved, increase energy by 10%
 - If patient remains hypotensive, increase rate in 5 bpm increments (not to exceed 100 bpm) to achieve and maintain adequate perfusion

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES POLICY/PROCEDURE/PROTOCOL SUBJECT: TREATMENT PROTOCOL – SKILLS LIST		No. S-104 Page: 1 of 13 Date: 07/01/2024		
Color code identifies the level of EMS clinician authorized to perform each skill.				
Red	Not authorized			
Yellow	Authorized by LEMSA Medical Director per 22 CCR 6.100093 (b)7 or by California EMSA-approved LOSOP ⁶			
Green	Authorized by state regulation and local protocol			
SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT	Assist with intubations		Should be used routinely during intubations. After attempting to view with laryngoscope, may use to assist ET placement if unable to fully visualize vocal cords.
	Paramedic			
Carboxyhemoglobin monitor	EMT AEMT	Suspected or known carbon monoxide exposure	None	Consider transport to facility with hyperbaric chamber for suspected carbon monoxide poisoning in the unconscious or pregnant patient.
	Paramedic			
Synchronized cardioversion	EMT AEMT	Unstable VT	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
	Paramedic	Unstable SVT		
	Paramedic	Unstable Atrial Fibrillation/Flutter with HR ≥180		
Chest seal	EMT AEMT	Occlusive dressing designed for treating open chest wound	None	
	Paramedic			
CPAP	EMT AEMT Paramedic	Respiratory Distress: Suspected CHF/ cardiac origin Respiratory Distress: Suspected non-cardiac origin Drowning with respiratory distress	Unconscious	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures
	Paramedic		Non-verbal patients with poor head/neck tone may be too obtunded for CPAP	
	Paramedic		CPR	
	Paramedic		SBP <90 mmHg Vomiting Age <15 Possible pneumothorax Facial trauma Unable to maintain airway	



S-104

Skills List

New Additions

- Intubation: ET/Stomal
 - Added the following comments:
 - If assessment rules out airway obstruction, but EtCO2 remains zero despite effective BVM ventilation (including OPA/NPA placement), a PAA may be placed.
 - For patients with intractable vomiting or airway bleeding, initial management should focus on clearing the airway with patient positioning (i.e., logrolling), and mouth and oropharynx suctioning.

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES POLICY/PROCEDURE/PROTOCOL SUBJECT: TREATMENT PROTOCOL – SKILLS LIST		No. S-104 Page: 1 of 13 Date: 07/01/2024		
Color code identifies the level of EMS clinician authorized to perform each skill.				
Red	Not authorized			
Yellow	Authorized by LEMSA Medical Director per 22 CCR 6.100093 (b)7 or by California EMSA-approved LOSOP ⁶			
Green	Authorized by state regulation and local protocol			
SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT	Assist with intubations		Should be used routinely during intubations. After attempting to view with laryngoscope, may use to assist ET placement if unable to fully visualize vocal cords.
	Paramedic			
Carboxyhemoglobin monitor	EMT AEMT	Suspected or known carbon monoxide exposure	None	Consider transport to facility with hyperbaric chamber for suspected carbon monoxide poisoning in the unconscious or pregnant patient.
	Paramedic			
Synchronized cardioversion	EMT AEMT	Unstable VT	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
	Paramedic	Unstable SVT		
	Paramedic	Unstable Atrial Fibrillation/Flutter with HR ≥180		
Chest seal	EMT AEMT	Occlusive dressing designed for treating open chest wound	None	
	Paramedic			
	EMT AEMT Paramedic			
CPAP	EMT AEMT Paramedic	Respiratory Distress: Suspected CHF/ cardiac origin	Unconscious	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures
	Paramedic	Respiratory Distress: Suspected non-cardiac origin	Non-verbal patients with poor head/neck tone may be too obtunded for CPAP	
	Paramedic	Drowning with respiratory distress	CPR SBP <90 mmHg Vomiting Age <15 Possible pneumothorax Facial trauma Unable to maintain airway	
	Paramedic			



S-104

Skills List

New Additions

- Intubation: Perilaryngeal airway adjuncts
 - Added the following comments:
 - If assessment rules out airway obstruction, but EtCO2 remains zero despite effective BVM ventilation (including OPA/NPA placement), a PAA may be placed.
 - For patients with intractable vomiting or airway bleeding, initial management should focus on clearing the airway with patient positioning (i.e., logrolling), and mouth and oropharynx suctioning.
- Intraosseous
 - Added “AEMT: Authorized to establish and maintain IO access in a pediatric patient only” to comments

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES POLICY/PROCEDURE/PROTOCOL SUBJECT: TREATMENT PROTOCOL – SKILLS LIST		No. S-104 Page: 1 of 13 Date: 07/01/2024		
Color code identifies the level of EMS clinician authorized to perform each skill.				
Red	Not authorized			
Yellow	Authorized by LEMSA Medical Director per 22 CCR § 100093.0(b) or by California EMSA-approved LOSOP ⁶			
Green	Authorized by state regulation and local protocol			
SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT	Assist with intubations		Should be used routinely during intubations. After attempting to view with laryngoscope, may use to assist ET placement if unable to fully visualize vocal cords.
	Paramedic			
Carboxyhemoglobin monitor	EMT AEMT	Suspected or known carbon monoxide exposure	None	Consider transport to facility with hyperbaric chamber for suspected carbon monoxide poisoning in the unconscious or pregnant patient.
	Paramedic			
Synchronized cardioversion	EMT ⁶ AEMT	Unstable VT	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
	Paramedic	Unstable SVT		
	Paramedic	Unstable Atrial Fibrillation/Flutter with HR ≥180		
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
	EMT			
	AEMT Paramedic			
CPAP	EMT AEMT Paramedic	Respiratory Distress: Suspected CHF/ cardiac origin	Unconscious Non-verbal patients with poor head/neck tone may be too obtunded for CPAP CPR SBP <90 mmHg Vomiting Age <15 Possible pneumothorax Facial trauma Unable to maintain airway	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures
	Paramedic	Respiratory Distress: Suspected non-cardiac origin		
	Paramedic	Drowning with respiratory distress		
	Paramedic			

S-104

Skills List



New Requirements for EtCO₂ Prior to Intubation

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

No. S-104
Page: 1 of 13
Date: 07/01/2024

Color code identifies the level of EMS clinician authorized to perform each skill.

SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT	Assist with intubations		Should be used routinely during intubations. After attempting to view with laryngoscope, may use to assist ET placement if unable to fully visualize vocal cords.
	Paramedic			
Carboxyhemoglobin monitor	EMT AEMT	Suspected or known carbon monoxide exposure	None	Consider transport to facility with hyperbaric chamber for suspected carbon monoxide poisoning in the unconscious or pregnant patient.
	Paramedic			
Synchronized cardioversion	EMT AEMT	Unstable VT	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
	Paramedic	Unstable SVT		
	Paramedic	Unstable Atrial Fibrillation/Flutter with HR ≥180		
Chest seal	EMT AEMT	Occlusive dressing designed for treating open chest wound	None	
	Paramedic			
	EMT AEMT Paramedic			
CPAP	EMT AEMT Paramedic	Respiratory Distress: Suspected CHF/ cardiac origin	Unconscious	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures
	Paramedic	Respiratory Distress: Suspected non-cardiac origin	Non-verbal patients with poor head/neck tone may be too obtunded for CPAP	
	Paramedic	Drowning with respiratory distress	CPR SBP <90 mmHg Vomiting Age <15 Possible pneumothorax Facial trauma Unable to maintain airway	
	Paramedic			

Establishment of EtCO₂ prior to intubation:

The presence of EtCO₂ greater than zero is required prior to ET tube/PAA placement.

- If assessment rules out airway obstruction, but EtCO₂ remains zero despite effective BVM ventilation (including OPA/NPA placement), a PAA may be placed.
- For patients with intractable vomiting or airway bleeding, initial management should focus on clearing the airway with patient positioning (i.e., logrolling), and mouth and oropharynx suctioning.
- Immediately following insertion of an advanced airway, persistent EtCO₂ waveform and reading (other than zero) must be maintained or the ET tube/PAA must be removed.

If EtCO₂ drops to zero and does not increase with immediate troubleshooting, extubate, and manually ventilate the patient via BVM.

Continuous capnography monitoring after ET/PAA insertion is required.

Report and document at a minimum:

- capnography value, presence of waveform, abdominal sounds, and lung sounds before and after advanced airway placement;
- at each patient movement, and;
- at the transfer of care.

When moving an intubated patient, apply C-collar prior to moving to minimize head movement and potential ET dislodgement.

P-115



Medication List

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES	TREATMENT PROTOCOL	P-115
	MEDICATION LIST	
	Date: 7/1/2025	Page 1 of 27

RED	Not authorized
YELLOW	Authorized by LEMSAs Medical Director per Title 22, Division 9, Chapter 3.1, § 100066.02 ² or by California EMSA-approved LOSOP ³
GREEN	Authorized by state regulation and local protocol

This document contains the authorized medications for EMT/AEMT/Paramedics to administer 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.

DRAFT

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Revisions

- Format updated to have each medication listed on a single page with the following information:
 - Class
 - Mechanism of action
 - Indications
 - Contraindications
 - Dose
 - Adverse effects
 - Notes

P-117

ALS Pediatric Drug Chart

Revisions

- Grey / Pink
 - Updated NG tube size to “5-8” to have a range and align with LBRT recommendations
 - Atropine (Organophosphate) IV/IO – Concentration
 - Updated concentration from “8 mg/10 mL” to “8 mg/20 mL”

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES		Number	P-117
POLICY / PROCEDURE / PROTOCOL		Page	1 of 7
SUBJECT: PEDIATRIC TREATMENT PROTOCOL		Date	07/01/2025
ALS PEDIATRIC (<15) DRUG CHART			
LBRT Color:	GREY	PINK	
Age Range:	Newborn to 6 months		
Weight Range:	<8 kg	1 st	2 nd 3 rd
Approximate kg:	5 kg	Defib:	10 J 20 J 20 J
Approximate lbs:	10 lbs	Cardiovert:	5 J 10 J 10 J
NG tube size:	5-8 Fr	(or clinically equivalent biphasic energy dose)	
Normal vital signs	HR: 100-160	RR: 25-60	SBP: >60 mmHg
VOL	MEDICATION	DOSE	CONCENTRATION
-	Acetaminophen	DO NOT ADMINISTER	-
0.2 mL	Adenosine IV 1 st	0.5 mg	6 mg/2 mL
0.4 mL	Adenosine IV 2 nd /3 rd	1 mg	6 mg/2 mL
6 mL	Albuterol Nebulized	5 mg	2.5 mg/3 mL
0.5 mL ²	Amiodarone (VF/Pulseless VT ¹) IV/IO	25 mg	150 mg/3 mL
1 mL	Atropine (Bradycardia) IV/IO	0.1 mg	1 mg/10 mL
0.3 mL*	Atropine (Organophosphate) IV/IO	0.1 mg	8 mg/40.20 mL
1 mL	Calcium Chloride IV/IO	100 mg	1 gm/10 mL
24 mL	Charcoal PO	5 gm	50 gm/240 mL
25 mL	Dextrose 10% IV	2.5 gm	25 gm/250 mL
0.1 mL	Diphenhydramine IV/IM	5 mg	50 mg/1mL
0.1 mL*	Epinephrine IM	0.05 mg	1:1,000 1 mg/1 mL
0.5 mL	Epinephrine IV/IO	0.05 mg	1:10,000 1 mg/10 mL
0.5 mL	Epinephrine (Push-Dose) IV slow/IO	0.005 mg	1:100,000 0.1 mg/10 mL
2.5 mL	Epinephrine Nebulized	2.5 mg	1:1,000 1 mg/1 mL
0.1 mL	Fentanyl IV	5 mcg	100 mcg/2 mL
0.1 mL	Fentanyl IN	5 mcg	100 mcg/2 mL
0.3 mL*	Glucagon IM	0.25 mg	1 unit (mg)/1 mL
1.25 mL	Ipratropium Bromide Nebulized	0.25 mg	0.5 mg/2.5 mL
0.3 mL ^{2,3}	Lidocaine 2% IV/IO	5 mg	100 mg/5 mL
0.1 mL	Midazolam IV slow	0.5 mg	5 mg/1 mL
0.2 mL	Midazolam IN/IM	1 mg	5 mg/1 mL
NONE	Morphine Sulfate IV/IM	NONE	10 mg/1 mL
0.5 mL	Naloxone IN/IM/IV	0.5 mg	2 mg/2 mL
5 mL	Naloxone IV titrated increments	0.5 mg	Diluted to 1 mg/10 mL
100 mL	Normal Saline Fluid Bolus		Standard
1 mL	Ondansetron IM/IV (6 months - 3 years)	2 mg	4 mg/2 mL
½ tablet	Ondansetron ODT (6 months - 3 years)	2 mg	4 mg tablet
5 mL	Sodium Bicarbonate IV	5 mEq	50 mEq/50 mL

* Neonates involve base physician.
 † To assure accuracy, be sure the designated concentration of medication is used.
 ‡ Volume rounded for ease of administration
 § Dosing for stable VT per BHPO



S-123

Altered Neurologic Function (Non-Traumatic)

	TREATMENT PROTOCOL	S-123
	ALTERED NEUROLOGIC FUNCTION (NON-TRAUMATIC)	
	Date: 7/4/2024 7/1/2025	Page 1 of 1
BLS	ALS	
<ul style="list-style-type: none"> Ensure patent airway O₂ saturation, O₂ and/or ventilate PRN Spinal motion restriction PRN Position on affected side if difficulty managing secretions Do not allow patient to walk Restrain PRN Monitor blood glucose <p>Symptomatic suspected opioid OD with RR <12. Use with caution in opioid-dependent, pain-management patients⁵</p> <ul style="list-style-type: none"> Naloxone 4 mg via nasal spray preloaded single-dose device. Administer full dose in one nostril OR Naloxone 2 mg via atomizer and syringe. Administer 1 mg into each nostril <p>EMTs may assist family or friend to medicate with patient's prescribed naloxone in symptomatic suspected opioid OD</p> <p>Suspected hypoglycemia or patient's blood sugar is <60 mg/dL</p> <ul style="list-style-type: none"> If patient is awake and able to manage oral secretions, give 3 oral glucose tabs or paste (15 gm total) Patient may eat or drink, if able If patient is unconscious, NPO <p>Stroke/TIA</p> <ul style="list-style-type: none"> Treat per Stroke and Transient Ischemic Attack (S-144) Pediatric patients presenting with stroke symptoms should be transported to Rady Children's Hospital <p>Seizures</p> <ul style="list-style-type: none"> Protect airway and protect from injury Treat associated injuries 	<ul style="list-style-type: none"> Monitor EKGECG Capnography-PRN IV/IO⁵ <p>Symptomatic suspected opioid OD with respiratory depression (RR<12, SpO₂<96%, or EtCO₂≥40 mmHg). Titrate slowly in opioid-dependent patients</p> <ul style="list-style-type: none"> Naloxone 2 mg IN/IM/IV, MR⁵. Titrate IV dose to effect, to drive the respiratory effort OR Naloxone 4 mg via nasal spray preloaded single-dose device. Administer full dose in one nostril, MR⁵ <ul style="list-style-type: none"> If patient refuses transport, give additional naloxone 2 mg IM⁵ OR Naloxone 4 mg via nasal spray preloaded single-dose device. Administer full dose in one nostril, MR⁵ <p>Symptomatic hypoglycemia with altered LOC or unresponsive to oral glucose agents</p> <ul style="list-style-type: none"> Dextrose 25 gm IV if BS <60 mg/dL⁵ If patient remains symptomatic and BS remains <60 mg/dL, MR⁵ If no IV, glucagon 1 mL IM if BS <60 mg/dL⁵ <p>Symptomatic hyperglycemia-with diabetic history</p> <ul style="list-style-type: none"> 500 mL fluid bolus IV/IO if BS ≥350 mg/dL or reads "high"; if no rales MR x1⁵ <p>Status epilepticus (generalized, ongoing, and recurrent seizures without lucid interval)</p> <ul style="list-style-type: none"> Patients ≥40 kg: midazolam 10 mg IM Patients <40 kg: midazolam 0.2 mg/kg IM <p>If vascular access present</p> <ul style="list-style-type: none"> Midazolam 0.2 mg/kg IV/IO to max dose of 5 mg, MR x1 in 10 min. Max 10 mg total, d/c if seizure stops <p>Partial seizure lasting ≥5 min (includes seizure time prior to arrival of prehospital provider)</p> <ul style="list-style-type: none"> Midazolam 0.2 mg/kg IN/IM/IV/IO to max dose of 5 mg, MR x1 in 10 min. Max 10 mg total, d/c if seizure stops <p>Eclamptic seizure of any duration</p> <ul style="list-style-type: none"> Treat per Obstetrical Emergencies / Newborn Deliveries (S-133) 	

⁵ Per Title 22, Division 9, Chapter 2.34, § 100027.03, Title 22, Chapter 4.6, § 400040 public safety personnel may administer nasal naloxone when authorized by the County of San Diego EMS Medical Director

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Revisions

- ALS
 - Removed “with diabetic history” from symptomatic hyperglycemia indication

S-124

Burns



	TREATMENT PROTOCOL	S-124
	BURNS	
	Date: 7/4/2024/1/1/2025	Page 1 of 1

BLS	ALS
<ul style="list-style-type: none">• Move patient to safe environment• Break contact with causative agent• Ensure patent airway, O₂, and/or ventilate PRN• O₂ saturation PRN• Treat other life-threatening injuries• Carboxyhemoglobin monitor PRN, if available <p>Thermal burns</p> <ul style="list-style-type: none">• For burns <10% BSA, stop burning with non-chilled water or saline• For burns >10% BSA, cover with dry dressing and keep patient warm• Do not allow patient to become hypothermic <p>Toxic inhalation (e.g., CO exposure, smoke, gas)</p> <ul style="list-style-type: none">• Move patient to safe environment• 100% O₂ via mask• Consider transport to facility with hyperbaric chamber for suspected CO poisoning, particularly in unconscious or pregnant patients[†] <p>Chemical burns</p> <ul style="list-style-type: none">• Brush off dry chemicals• Flush with copious amounts of water <p>Tar burns</p> <ul style="list-style-type: none">• Do not remove tar• Cool with water, then transport	<ul style="list-style-type: none">• Monitor EKGECG• IV/IO [®]• Capnography-PRN• Treat pain per Pain Management Protocol (S-141) <p>For patients with >20% partial-thickness or >5% full-thickness burns and ≥15 years</p> <ul style="list-style-type: none">• 500 mL fluid bolus IV/IO [®] <p>Respiratory distress with bronchospasm[†]</p> <ul style="list-style-type: none">• Albuterol/Levalbuterol 8 mL via nebulizer, MR [®]

Contact UCSD Base Hospital for patients meeting burn center criteria[†]
See Base Hospital Contact/Patient Transportation and Report (S-415)

[†]Burn center criteria
Patients with burns involving

- >20% partial-thickness or >5% full-thickness burns over BSA
- Suspected respiratory involvement or significant smoke inhalation
- Circumferential burn or ~~injury~~ burn to face, hands, feet, or perineum
- Electrical injury due to high voltage (≥~~120~~1,000 volts)

¹ Infection control: If concerned about aerosolized infectious exposure, substitute with MDI, if available


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Revisions

- Updated the following burn center criteria language:
 - “Circumferential burn or burn to face, hands, feet, or perineum”
 - “Electrical injury due to high voltage (≥1,000 volts)” from “(>120 volts)”

S-126

Discomfort / Pain of Suspected Cardiac Origin

		TREATMENT PROTOCOL	S-126
		DISCOMFORT / PAIN OF SUSPECTED CARDIAC ORIGIN	
Date: 7/4/2024 7/1/2025		Page 1 of 1	
BLS		ALS	
<ul style="list-style-type: none"> Ensure patent airway O₂ saturation PRN Use supplemental O₂ to maintain saturation at 94-98% O₂ and/or ventilate PRN Minimize patient exertion, including walking, when possible If SBP ≥100 mmHg, may assist patient to self-medicate own prescribed NTG¹ SL (maximum 3 doses, including those the patient has taken) May assist with placement of 12-lead EKG-ECG leads May assist patient to self-medicate own prescribed aspirin up to a max dose of 325 mg 		<ul style="list-style-type: none"> Monitor EKG-ECG IV² Obtain 12-lead EKG-ECG Repeat 12-lead EKG-ECG after arrhythmia conversion or any change in patient condition³ If STEMI suspected, immediately notify BH, transmit 12-lead EKG-ECG to appropriate STEMI receiving center and transport⁴ Report LBBB, RBBB or poor-quality EKG-ECG Aspirin 324 mg chewable PO⁵ <p>If SBP ≥100 mmHg</p> <ul style="list-style-type: none"> NTG¹ 0.4 mg SL, MR q3-5 min⁶ Treat pain with opioids per Pain Management Protocol (S-141) <p>Discomfort/pain of suspected cardiac origin with associated shock</p> <ul style="list-style-type: none"> 250 mL fluid bolus IV/IO with no rales, MR to maintain SBP ≥90 mmHg⁶ <p>If BP refractory to second fluid bolus</p> <ul style="list-style-type: none"> Push-dose epinephrine 1:100,000 (0.1 mg/mL) 1 mL IV/IO, MR q3 min, titrate to SBP ≥90 mmHg <p>Push-dose epinephrine mixing instructions</p> <ol style="list-style-type: none"> Remove 1 mL normal saline (NS) from the 10 mL NS syringe Add 1 mL of epinephrine 1:100,000 (0.1 mg/mL) to 9 mL NS syringe <p>The mixture now has 10 mL of epinephrine at 0.01 mg/mL (10 mcg/mL) concentration.</p>	

¹ NTG is contraindicated in patients who have taken 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 (Epopro®) and (Veleo®)

² Do not delay transport for a repeat 12-lead EKG-ECG

³ Immediately transmit 12-lead EKG-ECG to receiving hospital for suspected STEMI patients regardless of patient presentation

⁴ Administer aspirin even if discomfort/pain has resolved. If aspirin is not given, document the reason


⁵ Aspirin may be withheld if an equivalent dose has been administered by a healthcare professional

Revisions

- ALS
 - If SBP >100 mmHg
 - Updated “Treat pain with opioids per Pain Management Protocol (S-141)”

S-127

CPR / Arrhythmias

 COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES	TREATMENT PROTOCOL	S-127
	CPR / ARRHYTHMIAS	
	Date: 7/1/2024	Page 1 of 11

BLS	ALS
<ul style="list-style-type: none"> • Continuous compressions of 100-120/min with ventilation rate of 10-12/min • Use metronome or other real-time audiovisual feedback device • Rotate compressor at least every 2 min • Use mechanical compression device (unless contraindicated) • O₂ and/or ventilate with BVM • Monitor O₂ saturation • Apply AED during CPR and analyze as soon as ready <p>VAD</p> <ul style="list-style-type: none"> • Perform CPR • Contact BH for additional instructions <p>TAH</p> <ul style="list-style-type: none"> • Contact BH for instructions 	<ul style="list-style-type: none"> • Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT. • IV/IO [®] • Capnography with waveform and value • ET/PAA without interrupting compressions • NG/OG tube PRN • Provide cardiac monitor data to agency QA/QI department <p>Team leader priorities</p> <ul style="list-style-type: none"> • Monitor CPR quality, rate, depth, full chest recoil, and capnography value and waveform • Minimize interruption of compressions (<5 sec) during ECG-ECG rhythm checks • Charge monitor prior to rhythm checks. Do not interrupt CPR while charging. <p>VAD/TAH</p> <ul style="list-style-type: none"> • See Adjunct Cardiac Devices section <p>Capnography</p> <ul style="list-style-type: none"> • For EtCO₂ >0 mmHg, may place ET/PAA without interrupting compressions • If EtCO₂ rises rapidly during CPR, pause CPR and check for pulse <p>Specific protocols (see below)</p> <ul style="list-style-type: none"> • Arrhythmias <ul style="list-style-type: none"> • Unstable bradycardia • Supraventricular tachycardia • Atrial fibrillation / flutter • Ventricular tachycardia • Ventricular fibrillation / pulseless VT • Pulseless electrical activity / asystole • Return of Spontaneous Circulation • Adjunct Cardiac Devices • Termination of Resuscitation • Extracorporeal Cardiopulmonary Resuscitation (ECPR) Criteria


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Revisions

- Unstable Bradycardia
 - Removed the following comments for external cardiac pacing:
 - Begin at rate 60/min
 - Dial up until capture occurs, usually between 50 and 100 mA
 - Increase by a small amount, usually about 10%, for ongoing pacing
- Ventricular Tachycardia
 - Updated “Lidocaine 1.5 mg/kg IV/IO, MR at 0.5 mg/kg IV/IO **q5 min** to max 3 mg/kg ” from “q8-10”
- Ventricular Fibrillation / Pulseless VT
 - Updated “Epinephrine 1:10,000 1 mg IV/IO q3-5 min, **begin after second defibrillation**”

S-127

CPR / Arrhythmias

 COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES	TREATMENT PROTOCOL	S-127
	CPR / ARRHYTHMIAS	
	Date: 7/1/2024	Page 1 of 11

BLS	ALS
<ul style="list-style-type: none"> Continuous compressions of 100-120/min with ventilation rate of 10-12/min Use metronome or other real-time audiovisual feedback device Rotate compressor at least every 2 min Use mechanical compression device (unless contraindicated) O₂ and/or ventilate with BVM Monitor O₂ saturation Apply AED during CPR and analyze as soon as ready <p>VAD</p> <ul style="list-style-type: none"> Perform CPR Contact BH for additional instructions <p>TAH</p> <ul style="list-style-type: none"> Contact BH for instructions 	<ul style="list-style-type: none"> Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT. IV/IO [®] Capnography with waveform and value ET/PAA without interrupting compressions NG/OG tube PRN Provide cardiac monitor data to agency QA/QI department <p>Team leader priorities</p> <ul style="list-style-type: none"> Monitor CPR quality, rate, depth, full chest recoil, and capnography value and waveform Minimize interruption of compressions (<5 sec) during EKG-ECG rhythm checks Charge monitor prior to rhythm checks. Do not interrupt CPR while charging. <p>VAD/TAH</p> <ul style="list-style-type: none"> See Adjunct Cardiac Devices section <p>Capnography</p> <ul style="list-style-type: none"> For EtCO₂ >0 mmHg, may place ET/PAA without interrupting compressions If EtCO₂ rises rapidly during CPR, pause CPR and check for pulse <p>Specific protocols (see below)</p> <ul style="list-style-type: none"> Arrhythmias <ul style="list-style-type: none"> Unstable bradycardia Supraventricular tachycardia Atrial fibrillation / flutter Ventricular tachycardia Ventricular fibrillation / pulseless VT Pulseless electrical activity / asystole Return of Spontaneous Circulation Adjunct Cardiac Devices Termination of Resuscitation Extracorporeal Cardiopulmonary Resuscitation (ECPR) Criteria

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Revisions


- Pulseless Electrical Activity
 - CaCl₂ dose updated from “500 mg” to “1 gm” and removed repeat dose
- Adjunct Cardiac Devices
 - Updated “Lidocaine 1.5 mg/kg IV/IO, MR at 0.5 mg/kg IV/IO **q5 min** to max 3 mg/kg” from “q8-10”

S-127

CPR / Arrhythmias

New Additions

- Unstable Bradycardia
 - Added the following comments for external cardiac pacing:
 - Set rate and energy per manufacturer's recommendations
 - Increase energy setting until capture occurs, usually between 50 mA and 100 mA
 - After electrical and mechanical capture achieved, increase energy by 10%
 - If patient remains hypotensive, increase rate in 5 bpm increments (not to exceed 100 bpm) to achieve and maintain adequate perfusion

 COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES	TREATMENT PROTOCOL	S-127
	CPR / ARRHYTHMIAS	
	Date: 7/1/2024	Page 1 of 11


BLS	ALS
<ul style="list-style-type: none"> • Continuous compressions of 100-120/min with ventilation rate of 10-12/min • Use metronome or other real-time audiovisual feedback device • Rotate compressor at least every 2 min • Use mechanical compression device (unless contraindicated) • O₂ and/or ventilate with BVM • Monitor O₂ saturation • Apply AED during CPR and analyze as soon as ready <p>VAD</p> <ul style="list-style-type: none"> • Perform CPR • Contact BH for additional instructions <p>TAH</p> <ul style="list-style-type: none"> • Contact BH for instructions 	<ul style="list-style-type: none"> • Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT. • IV/IO [®] • Capnography with waveform and value • ET/PAA without interrupting compressions • NG/OG tube PRN • Provide cardiac monitor data to agency QA/QI department <p>Team leader priorities</p> <ul style="list-style-type: none"> • Monitor CPR quality, rate, depth, full chest recoil, and capnography value and waveform • Minimize interruption of compressions (<5 sec) during ECG-ECG rhythm checks • Charge monitor prior to rhythm checks. Do not interrupt CPR while charging. <p>VAD/TAH</p> <ul style="list-style-type: none"> • See Adjunct Cardiac Devices section <p>Capnography</p> <ul style="list-style-type: none"> • For EtCO₂ >0 mmHg, may place ET/PAA without interrupting compressions • If EtCO₂ rises rapidly during CPR, pause CPR and check for pulse <p>Specific protocols (see below)</p> <ul style="list-style-type: none"> • Arrhythmias <ul style="list-style-type: none"> • Unstable bradycardia • Supraventricular tachycardia • Atrial fibrillation / flutter • Ventricular tachycardia • Ventricular fibrillation / pulseless VT • Pulseless electrical activity / asystole • Return of Spontaneous Circulation • Adjunct Cardiac Devices • Termination of Resuscitation • Extracorporeal Cardiopulmonary Resuscitation (ECPR) Criteria

†External cardiac pacing

- Set rate and energy per manufacturer's recommendations
- Increase energy setting until capture occurs, usually between 50 mA and 100 mA
- After electrical and mechanical capture achieved, increase energy by 10%
- If patient remains hypotensive, increase rate in 5 bpm increments (not to exceed 100 bpm) to achieve and maintain adequate perfusion

S-131

Hemodialysis Patient

 <p>COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES</p>	TREATMENT PROTOCOL	S-131
	HEMODIALYSIS PATIENT	
	Date: 7/1/2024	Page 1 of 1

BLS	ALS
<ul style="list-style-type: none"> • Ensure patent airway • O₂ saturation • Give O₂ to maintain SpO₂ at 94% to 98% • Ventilate PRN 	<ul style="list-style-type: none"> • Monitor <u>EKG/ECG</u> • Determine time of last dialysis • IV in upper extremity without working graft/AV fistula [®] <p>For immediate life threat only</p> <ul style="list-style-type: none"> • EJ/IO access preferred over accessing percutaneous dialysis catheter (e.g., <u>Vascath</u>) or shunt/graft • Monitor and administer via existing dialysis catheter (aspirate 5 mL prior to infusion*) <p>OR</p> <ul style="list-style-type: none"> • Access graft/AV fistula <p>Fluid overload with rales</p> <ul style="list-style-type: none"> • Treat CHF per Respiratory Distress Protocol (S-136) <p>Suspected hyperkalemia (e.g., peaked T-waves or widened QRS complex or peaked T-waves)</p> <ul style="list-style-type: none"> • Obtain 12-lead <u>EKG/ECG</u> • If widened QRS complex, immediately administer <u>CaCl₂ 500-1 mg-qm</u> IV/IO • <u>NaHCO₃, 1 mEq/kg</u> IV/IO • Continuous albuterol/levalbuterol 6 mL via nebulizer [®] <p>For patients not on hemodialysis with suspected hyperkalemia</p> <ul style="list-style-type: none"> • Obtain 12-lead <u>EKG/ECG</u> • If findings consistent with hyperkalemia (e.g., peaked T-waves or widened QRS complex or peaked T-waves), <u>contact base hospital</u>

*Dialysis catheter contains concentrated dose of heparin, which must be aspirated prior to infusion

Revisions


- ALS
 - Updated “Suspected hyperkalemia (e.g., peaked T-waves or widened QRS complex)”
 - CaCl₂ dose updated from “500 mg” to “1 gm”

New Additions

- ALS
 - Added the following treatment:
 - For patients not on hemodialysis with suspected hyperkalemia
 - Obtain 12-lead ECG
 - If findings consistent with hyperkalemia (e.g., peaked T-waves or widened QRS complex), contact base hospital

S-134

Poisoning / Overdose


		TREATMENT PROTOCOL	S-134
		POISONING / OVERDOSE	
		Date: 7/12/2024 7/1/2025	Page 1 of 2
BLS	ALS		
<ul style="list-style-type: none"> • Ensure patent airway • O2 saturation PRN • O2 and/or ventilate PRN • Monitor blood glucose PRN • Carboxyhemoglobin monitor PRN, if available <p>Ingestions</p> <ul style="list-style-type: none"> • Identify substance • Transport pill bottles and containers with patient, PRN <p>Skin contamination*</p> <ul style="list-style-type: none"> • Remove clothes • Brush off dry chemicals • Flush with copious water <p>Toxic inhalation (e.g., CO exposure, smoke, gas)</p> <ul style="list-style-type: none"> • Move patient to safe environment • 100% O2 via mask • Consider transport to facility with hyperbaric chamber for suspected CO poisoning, particularly in unconscious or pregnant patients <p>Symptomatic suspected opioid OD with RR <12. Use with caution in opioid-dependent, pain-management patients^o</p> <ul style="list-style-type: none"> • Naloxone 4 mg via nasal spray preloaded single-dose device. Administer full dose in one nostril OR • Naloxone 2 mg via atomizer and syringe. Administer 1 mg into each nostril <p>EMTs may assist family or friend to medicate with patient's prescribed naloxone in symptomatic suspected opioid OD</p> <p>Hyperthermia from suspected stimulant intoxication</p> <ul style="list-style-type: none"> • Initiate cooling measures • Obtain temperature, if possible 	<ul style="list-style-type: none"> • Monitor EKG/ECG • IV/IO [®] • Capnography PRN <p>Ingestions</p> <ul style="list-style-type: none"> • Assure patient has gag reflex and is cooperative • If not vomiting and within 60 min, activated charcoal 50 gm PO ingestion with any of the following [®]: <ol style="list-style-type: none"> 1. Acetaminophen 2. Colchicine 3. Beta blockers 4. Calcium channel blockers 5. Salicylates 6. Sodium valproate 7. Oral anticoagulants (including rodenticides) 8. Paraquat 9. Amanita mushrooms 10. Recommendation by Poison Control Center <p>Symptomatic suspected opioid OD with respiratory depression (RR<12, SpO₂<96%, or EtCO₂ ≥40 mmHg). Titrate slowly in opioid-dependent patients</p> <ul style="list-style-type: none"> • Naloxone 2 mg IN/IM/IV, MR [®]. Titrate IV dose to effect, to drive the respiratory effort OR • Naloxone 4 mg via nasal spray preloaded single-dose device. Administer full dose in one nostril, MR [®] <ul style="list-style-type: none"> • If patient refuses transport, give additional naloxone 2 mg IM [®] OR • Naloxone 4 mg via nasal spray preloaded single-dose device. Administer full dose in one nostril, MR [®] <p>Symptomatic organophosphate poisoning</p> <ul style="list-style-type: none"> • Atropine 2 mg IV/IO • For continued signs/symptoms of SLUDGE/BBB, double prior atropine dose IV/IO q3-5 min <p>Extrapyramidal reactions</p> <ul style="list-style-type: none"> • Diphenhydramine 50 mg slow IV/IM 		
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Revisions

- ALS
 - Suspected calcium channel blocker OD (SBP <90 mmHg)
 - CaCl₂ dose updated from “500 mg” to “1 gm” and removed repeat dose

S-135

Existing Devices and Medications

 COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES	TREATMENT PROTOCOL	S-135
	EXISTING DEVICES AND MEDICATIONS	
	Date: 7/4/2024/1/1/2025	Page 1 of 1

BLS	ALS
<ul style="list-style-type: none"> If patient or accompanying person able to manage existing device, proceed with transport Bring back-up equipment/batteries as appropriate <p>Established electrolyte and/or glucose-containing peripheral IV lines</p> <ul style="list-style-type: none"> Maintain at preset rates <p>Established IV pumps or other existing devices</p> <ul style="list-style-type: none"> Contact BH for direction, if person responsible for operating IV pump or device is unable to accompany patient and manage IV during transport <p>BH may only direct BLS personnel to leave device as found or turn the device off, then transport patient or wait for ALS arrival</p> <p>Transdermal medication</p> <ul style="list-style-type: none"> Remove patches PRN (e.g., unstable, CPR status) <p>Transports to another facility or home</p> <ul style="list-style-type: none"> No waiting period is required after medication administration IV solutions with added medications or other ALS treatment/monitoring modalities require ALS personnel (or RN/MD) in attendance during transport Cap end of catheter with device that occludes end if there is a central line 	<p>Criteria for use of existing peripheral vascular access with external port</p> <ul style="list-style-type: none"> For immediate life threat only E/IO access preferred over accessing percutaneous dialysis catheter (e.g., Vascath) or shunt/graft Monitor and administer via existing dialysis catheter (aspirate 5 mL prior to infusion*) OR Access graft/AV fistula <p>Assist with administration of physician-prescribed self-administered emergency medication^o (e.g., hydrocortisone (Solu-Cortef) for Congenital Adrenal Hyperplasia)</p> <ul style="list-style-type: none"> Paramedics may assist patient/family surrogate with the administration of to draw-up and administer emergency medications prescribed for self-administration with BHO <p>Intubated patients with agitation and potential for airway compromise</p> <ul style="list-style-type: none"> Midazolam 2-5 mg IM/IN/IV, MR x1 in 5-10 min

Note: Existing devices and medications include physician-prescribed medications

* Dialysis catheter contains concentrated dose of heparin, which must be aspirated prior to infusion

^o Per Title 22, Division 9, Chapter 3.1, § 100086.02 Title 22, Chapter 2, § 400063, EMS clinicians may "assist patients with the administration of physician-prescribed ... self-administered emergency medications..."

Revisions


- ALS
 - Assist with administration of physician-prescribed self-administered emergency medication
 - Updated language "Paramedics may assist patient/surrogate with the administration of emergency medications prescribed for self-administration BHO"

S-136

Respiratory Distress

New Additions

- ALS
 - Added the following treatments:
 - Unable to tolerate CPAP
 - Midazolam 0.5-1 mg IM/IN/IV
 - Intubated patients with agitation and potential for airway compromise
 - Midazolam 2-5 mg IM/IN/IV, MR x1 in 5-10 min

		TREATMENT PROTOCOL	S-136
		RESPIRATORY DISTRESS	
		Date: 7/4/2024 7/1/2025	Page 1 of 1

BLS	ALS
<ul style="list-style-type: none"> • Ensure patent airway • Reassurance • Dislodge any airway obstruction. Treat per Airway Obstruction Protocol (S-121) • O2 saturation • O2 and/or ventilate PRN • Transport in position of comfort • Carboxyhemoglobin monitor PRN, if available • May assist patient to self-medicate own prescribed MDI once only. BH contact required for additional dose(s) <p>Toxic inhalation (e.g., CO exposure, smoke, gas)</p> <ul style="list-style-type: none"> • Move patient to safe environment • 100% O₂ via mask • Consider transport to facility with hyperbaric chamber for suspected CO poisoning for unconscious or pregnant patients <p>Croup-like cough</p> <ul style="list-style-type: none"> • Aerosolized saline or water 5 mL via O₂-powered nebulizer/mask, MR PRN 	<ul style="list-style-type: none"> • Monitor EKG-ECG • Capnography-PRN • IV/IO [®] • Intubate PRN • NG/OG PRN <p>Suspected CHF/cardiac origin</p> <ul style="list-style-type: none"> • NTG¹ SL <ul style="list-style-type: none"> • If systolic BP ≥ 100 but < 150: NTG 0.4 mg SL, MR q3-5 min [®] • If systolic BP ≥ 150: NTG 0.8 mg SL, MR q3-5 min [®] • CPAP 5-10 cmH₂O <p>Suspected non-cardiac origin²</p> <ul style="list-style-type: none"> • Albuterol/Levalbuterol 6 mL via nebulizer, MR [®] • Ipratropium bromide 2.5 mL 0.02% via nebulizer added to first dose of albuterol/levalbuterol • CPAP 5-10 cmH₂O <p>Unable to tolerate CPAP</p> <ul style="list-style-type: none"> • Midazolam 0.5-1 mg IM/IN/IV <p>Severe respiratory distress/failure or inadequate response to nebulized treatments consider</p> <p>History of asthma or suspected allergic reaction</p> <ul style="list-style-type: none"> • Epinephrine 0.5 mg 1:1,000 IM, MR x2 q5 min [®] <p>Intubated patients with agitation and potential for airway compromise</p> <ul style="list-style-type: none"> • Midazolam 2-5 mg IM/IN/IV, MR x1 in 5-10 min

Notes:

- For respiratory arrest, immediately start BVM ventilation
- Use caution with CPAP in patients with COPD; start low and titrate pressure
- Epinephrine IM: Use caution if known cardiac history, history of hypertension, SBP >150 mmHg, or age >40
- Fireline paramedics without access to O₂ may use MDI

¹ NTG is contraindicated in patients who have taken erectile dysfunction medications such as sildenafil (Viagra®), tadalafil (Cialis®), and vardenafil (Levitra®) within 48 hours; and pulmonary hypertension medications such as sildenafil (Revatio®), and ~~guanylate cyclase~~ sodium (Opsumt®) and ~~Guanylate~~ [®]

² Infection control: If concerned about aerosolized infectious exposure, substitute with MDI, if available


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S-139

Trauma

Revisions

- BLS
 - Removed the following:
 - Blunt traumatic arrest
 - Consider request for pronouncement at scene BHPO per Prehospital Determination of Death Protocol (S-402)
 - Penetrating traumatic arrest
 - Rapid transport
 - Consider pronouncement at scene BHPO
- ALS
 - Crush injury requiring extrication with compression of extremity or torso ≥ 2 hours
 - CaCl_2 dose updated from “500 mg” to “1 gm” and removed repeat dose

 COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES		TREATMENT PROTOCOL	S-139
TRAUMA			
Date: 7/4/2024/1/2025		Page 1 of 32	
BLS	ALS		
<ul style="list-style-type: none"> • Ensure patent airway • Protect C-spine • Control obvious bleeding • Spinal motion restriction per Skills List (S-104) except in penetrating trauma without neurological deficits • O₂ saturation. Maintain SpO₂ at 94% to 98% • O₂ and/or ventilate at a rate of 10/min PRN • Keep warm • Hemostatic gauze <p>Abdominal trauma</p> <ul style="list-style-type: none"> • Cover eviscerated bowel with saline pads <p>Chest trauma</p> <ul style="list-style-type: none"> • Cover open chest wound with three-sided occlusive dressing. Release dressing if tension pneumothorax develops. • Chest seal PRN <p>Extremity trauma</p> <ul style="list-style-type: none"> • Splint neurologically stable fractures in position as presented. Traction splint PRN. • Reduce grossly angulated long bone fractures with no pulse or sensation PRN • Direct pressure to control external hemorrhage • Apply gauze or hemostatic dressing PRN • Tourniquet PRN • In MCI, direct pressure not required prior to tourniquet application <p>Impaled objects</p> <ul style="list-style-type: none"> • Immobilize and leave impaled objects in place • Remove object impaled in face, cheek, or neck if there is total airway obstruction <p>Any suspicion of neurological injury (mechanism, GCS, examination)</p> <ul style="list-style-type: none"> • High-flow O₂ PRN • Monitor SpO₂, BP, and HR q3-5 min • If SpO₂ <90% or hypoventilation (despite high-flow O₂), assist ventilations with BVM 	<ul style="list-style-type: none"> • Monitor EKG/ECG • IV/IO [®] • Capnography. Maintain EtCO₂ 35-45 mmHg PRN • Treat pain per Pain Management Protocol (S-141) <p>SBP <90 mmHg or signs of shock</p> <ul style="list-style-type: none"> • 500 mL fluid bolus IV/IO, MR x3 q15 min to maintain SBP ≥ 90 mmHg [®] <p>Trauma-associated hemorrhage <3 hours prior and at least one of the following:</p> <ol style="list-style-type: none"> 1. SBP <90 mmHg 2. Shock index ≥ 1.0 (HR \geq SBP) 3. Uncontrolled external bleeding <ul style="list-style-type: none"> • Tranexamic acid 1 gm/10 mL IV/IO, in 50-100 mL NS, over 10 min <p>Crush injury requiring extrication with compression of extremity or torso ≥ 2 hours Immediately prior to anticipated release</p> <ul style="list-style-type: none"> • 1,000 mL fluid bolus IV/IO [®] • NaHCO₃ 1 mEq/kg IV/IO • CaCl₂ 600-1 mg qm IV/IO over 30 sec. MR x1 in 5 min for continued EKG/ECG findings consistent with hyperkalemia • Continuous albuterol/levalbuterol 6 mL via nebulizer [®] <p>Grossly angulated long bone fractures</p> <ul style="list-style-type: none"> • Reduce with gentle unidirectional traction for splinting [®] <p>Severe respiratory distress with diminished or absent breath sounds (unilaterally or bilaterally), and SBP <90 mmHg, and suspected pneumothorax</p> <ul style="list-style-type: none"> • Needle thoracostomy <p><u>For nausea or vomiting</u></p> <ul style="list-style-type: none"> • Ondansetron 4 mg IV/IM/ODT, MR x1 in 10 min <p><u>For traumatic cardiac arrest</u></p> <ul style="list-style-type: none"> • 1,000 mL fluid bolus IV/IO [®] • Do not administer epinephrine 		


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S-139

Trauma

New Additions

- ALS
 - Added the following treatments:
 - For nausea or vomiting
 - Ondansetron 4 mg IV/IM/ODT, MR x1 in 10 min
 - For traumatic cardiac arrest
 - 1,000 mL fluid bolus IV/IO [Ⓐ]
 - Do not administer epinephrine
- Added “Adult Traumatic Cardiac Arrest” flowchart

 COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES	TREATMENT PROTOCOL	S-139
	TRAUMA	
	Date: 7/4/2024/1/2025	Page 1 of 32

BLS	ALS
<ul style="list-style-type: none"> • Ensure patent airway • Protect C-spine • Control obvious bleeding • Spinal motion restriction per Skills List (S-104) except in penetrating trauma without neurological deficits • O2 saturation. Maintain SpO2 at 94% to 98% • O2 and/or ventilate at a rate of 10/min PRN • Keep warm • Hemostatic gauze <p>Abdominal trauma</p> <ul style="list-style-type: none"> • Cover eviscerated bowel with saline pads <p>Chest trauma</p> <ul style="list-style-type: none"> • Cover open chest wound with three-sided occlusive dressing. Release dressing if tension pneumothorax develops. • Chest seal PRN <p>Extremity trauma</p> <ul style="list-style-type: none"> • Splint neurologically stable fractures in position as presented. Traction splint PRN. • Reduce grossly angulated long bone fractures with no pulse or sensation PRN • Direct pressure to control external hemorrhage • Apply gauze or hemostatic dressing PRN • Tourniquet PRN • In MCI, direct pressure not required prior to tourniquet application <p>Impaled objects</p> <ul style="list-style-type: none"> • Immobilize and leave impaled objects in place • Remove object impaled in face, cheek, or neck if there is total airway obstruction <p>Any suspicion of neurological injury (mechanism, GCS, examination)</p> <ul style="list-style-type: none"> • High-flow O₂ PRN • Monitor SpO₂, BP, and HR q3-5 min • If SpO₂ <90% or hypoventilation (despite high-flow O₂), assist ventilations with BVM 	<ul style="list-style-type: none"> • Monitor EKGECG • IV/IO [Ⓐ] • Capnography. Maintain EtCO2 35-45 mmHg PRN • Treat pain per Pain Management Protocol (S-141) <p>SBP <90 mmHg or signs of shock</p> <ul style="list-style-type: none"> • 500 mL fluid bolus IV/IO, MR x3 q15 min to maintain SBP ≥90 mmHg [Ⓐ] <p>Trauma-associated hemorrhage <3 hours prior and at least one of the following:</p> <ol style="list-style-type: none"> 1. SBP <90 mmHg 2. Shock index ≥1.0 (HR ≥ SBP) 3. Uncontrolled external bleeding <ul style="list-style-type: none"> • Tranexamic acid 1 gm/10 mL IV/IO, in 50-100 mL NS, over 10 min <p>Crush injury requiring extrication with compression of extremity or torso ≥2 hours Immediately prior to anticipated release</p> <ul style="list-style-type: none"> • 1,000 mL fluid bolus IV/IO [Ⓐ] • NaHCO₃ 1 mEq/kg IV/IO • CaCl₂ 600-1 mg qm IV/IO over 30 sec. MR x1 in 5 min for continued EKG ECG findings consistent with hyperkalemia • Continuous albuterol/levalbuterol 6 mL via nebulizer [Ⓐ] <p>Grossly angulated long bone fractures</p> <ul style="list-style-type: none"> • Reduce with gentle unidirectional traction for splinting [Ⓐ] <p>Severe respiratory distress with diminished or absent breath sounds (unilaterally or bilaterally), and SBP <90 mmHg, and suspected pneumothorax</p> <ul style="list-style-type: none"> • Needle thoracostomy <p><u>For nausea or vomiting</u></p> <ul style="list-style-type: none"> • Ondansetron 4 mg IV/IM/ODT, MR x1 in 10 min <p><u>For traumatic cardiac arrest</u></p> <ul style="list-style-type: none"> • 1,000 mL fluid bolus IV/IO [Ⓐ] • Do not administer epinephrine

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S-139

Trauma



TREATMENT PROTOCOL **S-139**

TRAUMA

Date: **7/4/2024/1/2025** Page 1 of **32**

BLS

- Ensure patent airway
- Protect C-spine
- Control obvious bleeding
- Spinal motion restriction per Skills List (S-104) except in penetrating trauma without neurological deficits
- O2 saturation. Maintain SpO2 at 94% to 98%
- O2 and/or ventilate at a rate of 10/min PRN
- Keep warm
- Hemostatic gauze

Abdominal trauma

- Cover eviscerated bowel with saline pads

Chest trauma

- Cover open chest wound with three-sided occlusive dressing. Release dressing if tension pneumothorax develops.
- Chest seal PRN

Extremity trauma

- Splint neurologically stable fractures in position as presented. Traction splint PRN.
- Reduce grossly angulated long bone fractures with no pulse or sensation PRN
- Direct pressure to control external hemorrhage
- Apply gauze or hemostatic dressing PRN
- Tourniquet PRN
- In MCI, direct pressure not required prior to tourniquet application

Impaled objects

- Immobilize and leave impaled objects in place
- Remove object impaled in face, cheek, or neck if there is total airway obstruction

Any suspicion of neurological injury (mechanism, GCS, examination)

- High-flow O2 PRN
- Monitor SpO2, BP, and HR q3-5 min
- If SpO2 <90% or hypoventilation (despite high-flow O2), assist ventilations with BVM

ALS

- Monitor **EKG/ECG**
- IV/IO [®]
- Capnography. Maintain EtCO2 35-45 mmHg PRN
- Treat pain per Pain Management Protocol (S-141)

SBP <90 mmHg or signs of shock

- 500 mL fluid bolus IV/IO, MR x3 q15 min to maintain SBP ≥90 mmHg [®]

Trauma-associated hemorrhage <3 hours prior and at least one of the following:

1. SBP <90 mmHg
2. Shock index ≥1.0 (HR ≥ SBP)
3. Uncontrolled external bleeding

- Tranexamic acid 1 gm/10 mL IV/IO, in 50-100 mL NS, over 10 min

Crush injury requiring extrication with compression of extremity or torso ≥2 hours Immediately prior to anticipated release

- 1,000 mL fluid bolus IV/IO [®]
- NaHCO3, 1 mEq/kg IV/IO
- CaCl2, **600-1 mg-qm** IV/IO over 30 sec. **MR-x1-in-5-min for-continued-EKG-ECG-findings-consistent-with-hyperkalemia**
- Continuous albuterol/levalbuterol 6 mL via nebulizer [®]

Grossly angulated long bone fractures

- Reduce with gentle unidirectional traction for splinting [®]

Severe respiratory distress with diminished or absent breath sounds (unilaterally or bilaterally), and SBP <90 mmHg, and suspected pneumothorax

- Needle thoracostomy

For nausea or vomiting

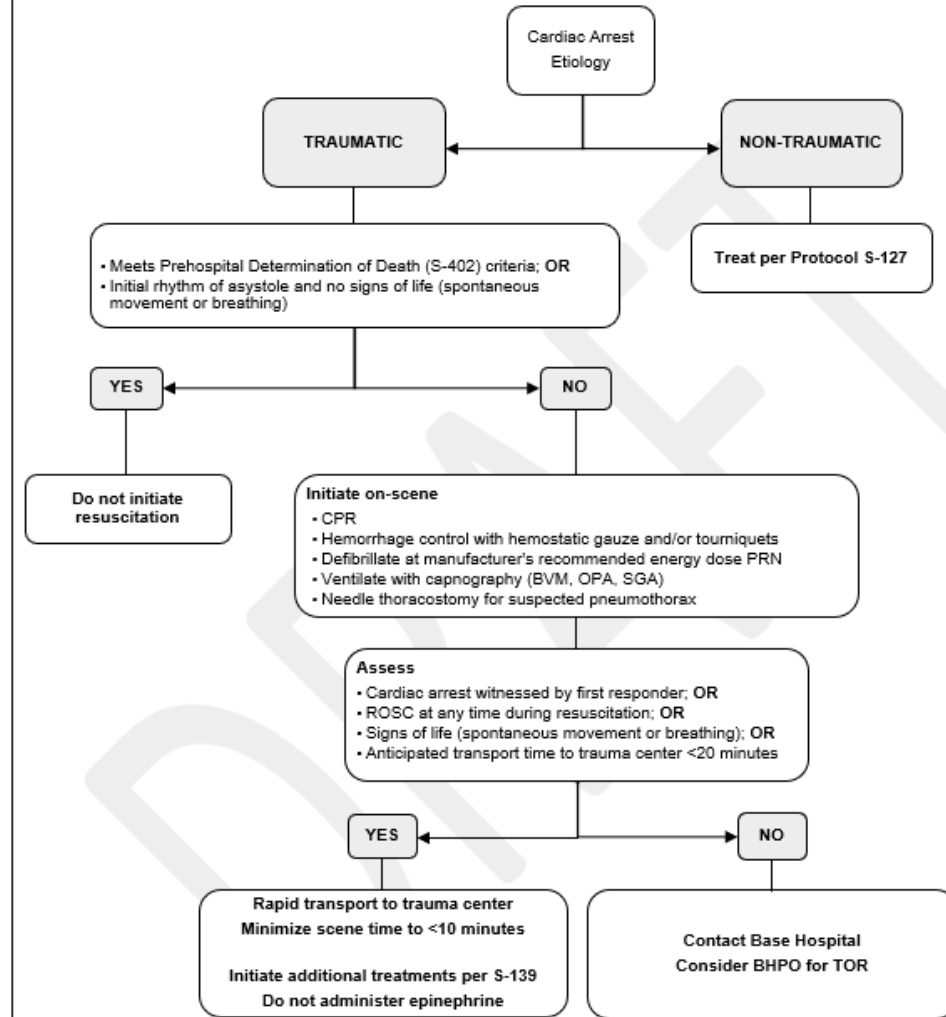
- Ondansetron 4 mg IV/IM/ODT, MR x1 in 10 min

For traumatic cardiac arrest

- 1,000 mL fluid bolus IV/IO [®]
- Do not administer epinephrine



ADULT TRAUMATIC CARDIAC ARREST



S-141

Pain Management



Revisions

- ALS
 - Removed the following from pain medication considerations:
 - BHPO required for treatment if patient presents with
 - Isolated head injury
 - Acute onset severe headache
 - Drug/ETOH intoxication
 - Suspected active labor
 - Removed BHO from the following treatments:
 - Fentanyl (IN dosing)
 - 3rd dose fentanyl up to 50 mcg IN
 - Morphine (IV dosing)
 - MR in additional 5 min at half initial IV dose
 - Morphine IM (IV dosing)
 - MR in additional 15 min at half initial IM dose

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES		TREATMENT PROTOCOL	S-141
PAIN MANAGEMENT			
Date: 7/4/2024/1/1/2025		Page 1 of 2	
BLS	ALS		
<ul style="list-style-type: none">• Assess level of pain• Ice, immobilize, and splint PRN• Elevation of extremity PRN	<ul style="list-style-type: none">• Continue to monitor and reassess pain using standardized pain scores• Document vital signs before and after each medication administration <p>Pain medication considerations</p> <ol style="list-style-type: none">1. When changing route of administration, consider the potential time difference in onset of action2. If SBP <100 mmHg, ketamine may be preferred over opioids, which can cause hypotension <p>3--BHPO required for treatment if patient presents with</p> <ul style="list-style-type: none">• Isolated head injury• Acute-onset-severe-headache• Drug/ETOH-intoxication• Suspected-active-labor <p>For mild pain (score 1-3)¹, moderate pain (score 4-6), or severe pain (score 7-10)</p> <ul style="list-style-type: none">• Acetaminophen 1,000 mg IV over 15 min <p>For moderate pain (score 4-6) or severe pain (score 7-10)</p> <p>Fentanyl (IV dosing)</p> <ul style="list-style-type: none">• Up to 100 mcg IV• MR up to 50 mcg IV q5 min x2• Maximum total dose 200 mcg IV <p>Fentanyl (IN dosing)</p> <ul style="list-style-type: none">• Up to 50 mcg IN q15 min x2• 3rd dose fentanyl up to 50 mcg IN BHO <p>If fentanyl unavailable</p> <p>Morphine (IV dosing)</p> <ul style="list-style-type: none">• Up to 0.1 mg/kg IV• MR in 5 min at half initial IV dose• MR in additional 5 min at half initial IV dose BHO <p>Morphine (IM dosing)</p> <ul style="list-style-type: none">• Up to 0.1 mg/kg IM• MR in 15 min at half initial IM dose• MR in additional 15 min at half initial IM dose BHO		

¹ If patient refuses or has contraindications to acetaminophen, may treat as moderate pain

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S-141

Pain Management

Revisions

- ALS
 - Updated ketamine IV language to remove “slow IV drip” and “at least” for consistency.
 - Now ketamine, amiodarone, and tranexamic acid language all read as “in 100 mL of NS over 10 min”

	TREATMENT PROTOCOL	S-141
	PAIN MANAGEMENT	
	Date: 7/4/2024/11/2025	Page 1 of 2
BLS	ALS	
<ul style="list-style-type: none"> • Assess level of pain • Ice, immobilize, and splint PRN • Elevation of extremity PRN 	<ul style="list-style-type: none"> • Continue to monitor and reassess pain using standardized pain scores • Document vital signs before and after each medication administration <p>Pain medication considerations</p> <ol style="list-style-type: none"> 1. When changing route of administration, consider the potential time difference in onset of action 2. If SBP <100 mmHg, ketamine may be preferred over opioids, which can cause hypotension <p>3--BHQ required for treatment if patient presents with</p> <ul style="list-style-type: none"> → Isolated head injury → Acute-onset-severe-headache → Drug/ETOH-intoxication → Suspected active labor <p>For mild pain (score 1-3)¹, moderate pain (score 4-6), or severe pain (score 7-10)</p> <ul style="list-style-type: none"> • Acetaminophen 1,000 mg IV over 15 min <p>For moderate pain (score 4-6) or severe pain (score 7-10)</p> <p><u>Fentanyl (IV dosing)</u></p> <ul style="list-style-type: none"> • Up to 100 mcg IV • MR up to 50 mcg IV q5 min x2 • Maximum total dose 200 mcg IV <p><u>Fentanyl (IN dosing)</u></p> <ul style="list-style-type: none"> • Up to 50 mcg IN q15 min x2 • 3rd dose fentanyl up to 50 mcg IN-BHQ <p>If fentanyl unavailable</p> <p><u>Morphine (IV dosing)</u></p> <ul style="list-style-type: none"> • Up to 0.1 mg/kg IV • MR in 5 min at half initial IV dose • MR in additional 5 min at half initial IV dose-BHQ <p><u>Morphine (IM dosing)</u></p> <ul style="list-style-type: none"> • Up to 0.1 mg/kg IM • MR in 15 min at half initial IM dose • MR in additional 15 min at half initial IM dose-BHQ 	
<small>¹ If patient refuses or has contraindications to acetaminophen, may treat as moderate pain</small> <small>DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.</small>		



S-150

CHEMPACK Deployment and Autoinjector Use

	TREATMENT PROTOCOL	S-150
	CHEMPACK DEPLOYMENT AND AUTOINJECTOR USE	
	Date: 7/1/2025	Page 1 of 2

BLS	ALS
<p>Upon identification of a scene involving suspected or known exposure of nerve agent</p> <ul style="list-style-type: none"> Isolate area Notify dispatch of possible Mass Casualty Incident with possible nerve agent involvement DO NOT ENTER AREA <p>If exposed</p> <ul style="list-style-type: none"> Blot off agent Strip off all clothing, avoiding contact with outer clothing surfaces Flush affected area(s) with copious amounts of water Cover affected area(s) <p>If you begin to experience any signs/symptoms of nerve agent exposure, for example (Use SLUDGE/BBB mnemonic: Salivation, Lacrimation, Urination, Defecation, Gastrointestinal distress, Emesis, Bronchorrhea, Bronchospasm, Bradycardia)</p> <ul style="list-style-type: none"> Increased secretions (tears, saliva, runny nose, sweating) Diminished vision, small pupils SOB Nausea, vomiting, diarrhea Muscle twitching/weakness <p>NOTIFY THE INCIDENT COMMANDER (or dispatch if no IC) immediately of your exposure and declare yourself a patient</p> <p>Self-treat immediately per the acuity guidelines listed under ALS</p>	<p>Triage, decontaminate, and treat patient based on severity of symptoms</p> <p>Mild Miosis, rhinorrhea, increasing salivation</p> <ul style="list-style-type: none"> DuoDote (or equivalent) autoinjector^{1,2} IM <p>Moderate Miosis, rhinorrhea, shortness of breath, vomiting, diarrhea</p> <ul style="list-style-type: none"> DuoDote (or equivalent) autoinjector^{1,2} IM x2 in rapid succession <p>Ongoing DuoDote treatment</p> <ul style="list-style-type: none"> If symptoms of mild or moderate exposure progress after initial evaluation, administer additional DuoDote (or equivalent) autoinjector^{1,2} IM up to a cumulative maximum of 3 doses <p>Severe Severe respiratory distress, respiratory arrest, cyanosis, extreme SLUDGE/BBB, seizures, unconsciousness</p> <ul style="list-style-type: none"> DuoDote (or equivalent) autoinjector^{1,2} IM x3 in rapid succession <p>For seizures</p> <ul style="list-style-type: none"> Diazepam autoinjector 10mg IM If no diazepam autoinjector available, treat per Altered Neurologic Function (Non-Traumatic) Protocol (S-123) <p>Ongoing organophosphate SLUDGE/BBB signs and symptoms after completion of initial 3 doses of DuoDote</p> <ul style="list-style-type: none"> Atropine autoinjector or atropine per Poisoning/Overdose Protocol (S-134) <p style="text-align: center;">PEDIATRIC DOSING</p> <p>Mild Miosis, rhinorrhea, increased salivation</p> <ul style="list-style-type: none"> Pediatric atropine autoinjector or atropine per Poisoning/Overdose Protocol (S-185) <p>Moderate Miosis, rhinorrhea, shortness of breath, vomiting, diarrhea</p> <ul style="list-style-type: none"> DuoDote (or equivalent) autoinjector^{1,2} IM (dose per weight):

¹ DuoDote (or equivalent) autoinjectors are authorized for use by Paramedics, and by EMT/AEMTs as an optional skill, subject to completion of County of San Diego approved training or on scene just-in-time (JIT) training.
² DuoDote autoinjectors contain atropine 2.1 mg and pralidoxime (2-PAM) 600 mg. If no DuoDote (or equivalent) autoinjectors are available, coadministration of an atropine autoinjector 2mg IM plus a pralidoxime (2-PAM) autoinjector 600 mg IM is an authorized substitution.

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Revisions

- Updated to be more comprehensive and accurate with CHEMPACK cache inventory and dosing.




S-163

CPR / Arrhythmias

Revisions

- Ventricular Fibrillation / Pulseless VT
 - Revised “Epinephrine 1:10,000 per drug chart IV/IO q3-5 min, begin after second defibrillation”

	PEDIATRIC TREATMENT PROTOCOL	S-163
	CPR / ARRHYTHMIAS	
	Date: 7/4/2024/1/2025	Page 1 of 8

BLS	ALS
<ul style="list-style-type: none"> • Compression rate 100-120/min • Ventilation rate (compression-to-ventilation ratio) <ul style="list-style-type: none"> • Neonate: 20-30/min (3:1) • Pediatric: 10-12/min (15:2)* • Use metronome or other real-time audiovisual feedback device • Rotate compressor at least every 2 min • Use mechanical compression device, if size-appropriate available • O2 and/or ventilate with BVM • Monitor O2 saturation • Apply AED during CPR and analyze as soon as ready <p>VAD</p> <ul style="list-style-type: none"> • Perform CPR • Contact BH for additional instructions <p>TAH</p> <ul style="list-style-type: none"> • Contact BH for instructions 	<ul style="list-style-type: none"> • Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT. • IV/IO • Capnography-PRN with waveform and value • NG/OG tube PRN <p>Team leader priorities</p> <ul style="list-style-type: none"> • Monitor CPR quality, rate, depth, full chest recoil, and capnography value and waveform • Minimize interruption of compressions (<5 sec) during EKG-ECG rhythm checks • Charge monitor prior to rhythm checks. Do not interrupt CPR while charging. <p>VAD/TAH</p> <ul style="list-style-type: none"> • See Adjunct Cardiac Devices section <p>Capnography</p> <ul style="list-style-type: none"> • If EtCO₂ rises rapidly during CPR, pause CPR and check for pulse <p>Specific protocols (see below)</p> <ul style="list-style-type: none"> • Arrhythmias <ul style="list-style-type: none"> • Unstable bradycardia • Supraventricular tachycardia • Ventricular tachycardia • Ventricular fibrillation / pulseless VT • Pulseless electrical activity / asystole • Return of Spontaneous Circulation • Adjunct Cardiac Devices

*Continuous compressions are an acceptable alternative for pediatric CPR


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S-167

Respiratory Distress

New Additions

- ALS
 - Respiratory distress with stridor at rest
 - Added “[Ⓐ]” to the treatment to authorize AEMTs to administer nebulized epinephrine

 COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES	PEDIATRIC TREATMENT PROTOCOL	S-167
	RESPIRATORY DISTRESS	
	Date: 7/4/2024/1/1/2025	Page 1 of 1

BLS	ALS
<ul style="list-style-type: none"> • Ensure patent airway • Reassurance • Dislodge any airway obstruction. Treat per Airway Obstruction Protocol (S-180). • O2 saturation • O2 and/or ventilate PRN • Transport in position of comfort • Carboxyhemoglobin monitor PRN, if available • May assist patient to self-medicate own prescribed albuterol MDI once only. BH contact required for additional dose(s). <p>Toxic inhalation (e.g., CO exposure, smoke, gas)</p> <ul style="list-style-type: none"> • Move patient to safe environment • 100% O2 via mask • Consider transport to facility with hyperbaric chamber for suspected CO poisoning for unconscious or pregnant patients <p>Croup-like cough</p> <ul style="list-style-type: none"> • Aerosolized saline or water 5 mL via O₂-powered nebulizer/mask, MR PRN <p>Suspected bronchiolitis (<2 years old with no prior albuterol use)</p> <ul style="list-style-type: none"> • Place in position of comfort • Suction nose with bulb syringe PRN 	<ul style="list-style-type: none"> • Monitor EKGECG • Capnography PRN • IV [Ⓐ] • BVM PRN <p>Respiratory distress with bronchospasm¹</p> <ul style="list-style-type: none"> • Albuterol/Levalbuterol per drug chart via nebulizer, MR [Ⓐ] • Ipratropium bromide per drug chart via nebulizer added to first dose of albuterol/levalbuterol <p>Severe respiratory distress/failure or inadequate response to nebulized treatments consider</p> <ul style="list-style-type: none"> • Epinephrine 1:1,000 per drug chart IM, MR x2 q5 min [Ⓐ] <p>Respiratory distress with stridor at rest</p> <ul style="list-style-type: none"> • Epinephrine 1:1,000 per drug chart (combined with 3 mL normal saline) via nebulizer, MR x1 [Ⓐ] <p>No improvement after epinephrine via nebulizer x2 or impending respiratory/airway compromise</p> <ul style="list-style-type: none"> • Epinephrine 1:1,000 per drug chart IM, MR x2 q5 min [Ⓐ] <p>If history suggests epiglottitis, do not visualize airway. Use calming measures</p>

Note: For respiratory arrest, immediately start BVM ventilation

¹ **Infection control:** If concerned about aerosolized infectious exposure, substitute with MDI, if available


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S-169

Trauma

Revisions

- BLS
 - Removed the following:
 - Traumatic cardiac arrest
 - Rapid transport
 - For blunt trauma, may consider pronouncement at scene BHPO

	PEDIATRIC TREATMENT PROTOCOL	S-169
	TRAUMA	
	Date: 7/4/2024 7/1/2025	Page 1 of 2

BLS	ALS
<ul style="list-style-type: none"> • Ensure patent airway • Protect C-spine • Control obvious bleeding • Spinal motion restriction per Skills List (S-104) except in penetrating trauma without neurological deficits • O2 saturation. Maintain SpO2 ≥90%. • O2 and/or ventilate PRN • Keep warm • Hemostatic gauze <p>Abdominal trauma</p> <ul style="list-style-type: none"> • Cover eviscerated bowel with saline pads <p>Chest trauma</p> <ul style="list-style-type: none"> • Cover open chest wound with three-sided occlusive dressing. Release dressing if tension pneumothorax develops. • Chest seal PRN <p>Extremity trauma</p> <ul style="list-style-type: none"> • Splint neurologically stable fractures in position as presented. Traction splint PRN. • Reduce grossly angulated long bone fractures with no pulse or sensation PRN • Direct pressure to control external hemorrhage • Apply gauze or hemostatic dressing PRN • Tourniquet PRN • In MCI, direct pressure not required prior to tourniquet application <p>Impaled objects</p> <ul style="list-style-type: none"> • Immobilize and leave impaled objects in place • Remove object impaled in face, cheek, or neck if there is total airway obstruction <p>Any suspicion of neurological injury (mechanism, GCS, examination)</p> <ul style="list-style-type: none"> • High-flow O2 PRN • Monitor SpO2, BP, and HR q3-5 min • If SpO2 <90% or inadequate respirations (despite high-flow O₂), assist ventilations with BVM 	<ul style="list-style-type: none"> • Monitor EKG/ECG • IV/IO [®] • Capnography. Maintain EtCO2 35-45 mmHg PRN • Treat pain per Pain Management Protocol (S-173) <p>Signs of shock or hypotensive for age</p> <ul style="list-style-type: none"> • Fluid bolus IV/IO per drug chart. MR x3 q15 min to maintain adequate perfusion [®] <p>Crush injury requiring extrication with compression of extremity or torso ≥2 hours Immediately prior to anticipated release</p> <ul style="list-style-type: none"> • IV/IO fluid bolus per drug chart. MR BHPO [®] • NaHCO₃ IV/IO per drug chart • CaCl₂ IV/IO over 30 sec per drug chart. MR x1 in 5 min for continued EKG-ECG findings consistent with hyperkalemia • Continuous albuterol/levalbuterol per drug chart via nebulizer <p>Grossly angulated long bone fractures</p> <ul style="list-style-type: none"> • Reduce with gentle unidirectional traction for splinting [®] <p>Severe respiratory distress with diminished or absent breath sounds (unilaterally or bilaterally), and hypotensive for age, and suspected pneumothorax</p> <ul style="list-style-type: none"> • Needle thoracostomy <p>For nausea or vomiting ≥6 months</p> <ul style="list-style-type: none"> • Ondansetron IV/IM/ODT per drug chart <p>For traumatic cardiac arrest</p> <ul style="list-style-type: none"> • IV/IO fluid bolus per drug chart [®] • Do not administer epinephrine

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S-169

Trauma

New Additions

- ALS
 - Added the following treatments:
 - For nausea or vomiting ≥6 months
 - Ondansetron IV/IM/ODT per drug chart
 - For traumatic cardiac arrest
 - IV/IO fluid bolus per drug chart [Ⓐ]
 - Do not administer epinephrine
 - Added “Pediatric Traumatic Cardiac Arrest” flowchart

	PEDIATRIC TREATMENT PROTOCOL	S-169
	TRAUMA	
	Date: 7/1/2024/1/1/2025	Page 1 of 2

BLS	ALS
<ul style="list-style-type: none"> • Ensure patent airway • Protect C-spine • Control obvious bleeding • Spinal motion restriction per Skills List (S-104) except in penetrating trauma without neurological deficits • O2 saturation. Maintain SpO2 ≥90%. • O2 and/or ventilate PRN • Keep warm • Hemostatic gauze <p>Abdominal trauma</p> <ul style="list-style-type: none"> • Cover eviscerated bowel with saline pads <p>Chest trauma</p> <ul style="list-style-type: none"> • Cover open chest wound with three-sided occlusive dressing. Release dressing if tension pneumothorax develops. • Chest seal PRN <p>Extremity trauma</p> <ul style="list-style-type: none"> • Splint neurologically stable fractures in position as presented. Traction splint PRN. • Reduce grossly angulated long bone fractures with no pulse or sensation PRN • Direct pressure to control external hemorrhage • Apply gauze or hemostatic dressing PRN • Tourniquet PRN • In MCI, direct pressure not required prior to tourniquet application <p>Impaled objects</p> <ul style="list-style-type: none"> • Immobilize and leave impaled objects in place • Remove object impaled in face, cheek, or neck if there is total airway obstruction <p>Any suspicion of neurological injury (mechanism, GCS, examination)</p> <ul style="list-style-type: none"> • High-flow O2 PRN • Monitor SpO2, BP, and HR q3-5 min • If SpO2 <90% or inadequate respirations (despite high-flow O₂), assist ventilations with BVM 	<ul style="list-style-type: none"> • Monitor <u>EKG/ECG</u> • IV/IO [Ⓢ] • Capnography. Maintain EtCO2 35-45 mmHg PRN • Treat pain per Pain Management Protocol (S-173) <p>Signs of shock or hypotensive for age</p> <ul style="list-style-type: none"> • Fluid bolus IV/IO per drug chart. MR x3 q15 min to maintain adequate perfusion [Ⓢ] <p>Crush injury requiring extrication with compression of extremity or torso ≥2 hours Immediately prior to anticipated release</p> <ul style="list-style-type: none"> • IV/IO fluid bolus per drug chart. MR BHPO [Ⓢ] • NaHCO₃ IV/IO per drug chart • CaCl₂ IV/IO over 30 sec per drug chart. MR x1 in 5 min for continued <u>EKG-ECG</u> findings consistent with hyperkalemia • Continuous albuterol/levalbuterol per drug chart via nebulizer <p>Grossly angulated long bone fractures</p> <ul style="list-style-type: none"> • Reduce with gentle unidirectional traction for splinting [Ⓢ] <p>Severe respiratory distress with diminished or absent breath sounds (unilaterally or bilaterally), and hypotensive for age, and suspected pneumothorax</p> <ul style="list-style-type: none"> • Needle thoracostomy <p><u>For nausea or vomiting ≥6 months</u></p> <ul style="list-style-type: none"> • Ondansetron IV/IM/ODT per drug chart <p><u>For traumatic cardiac arrest</u></p> <ul style="list-style-type: none"> • IV/IO fluid bolus per drug chart [Ⓢ] • Do not administer epinephrine

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S-169

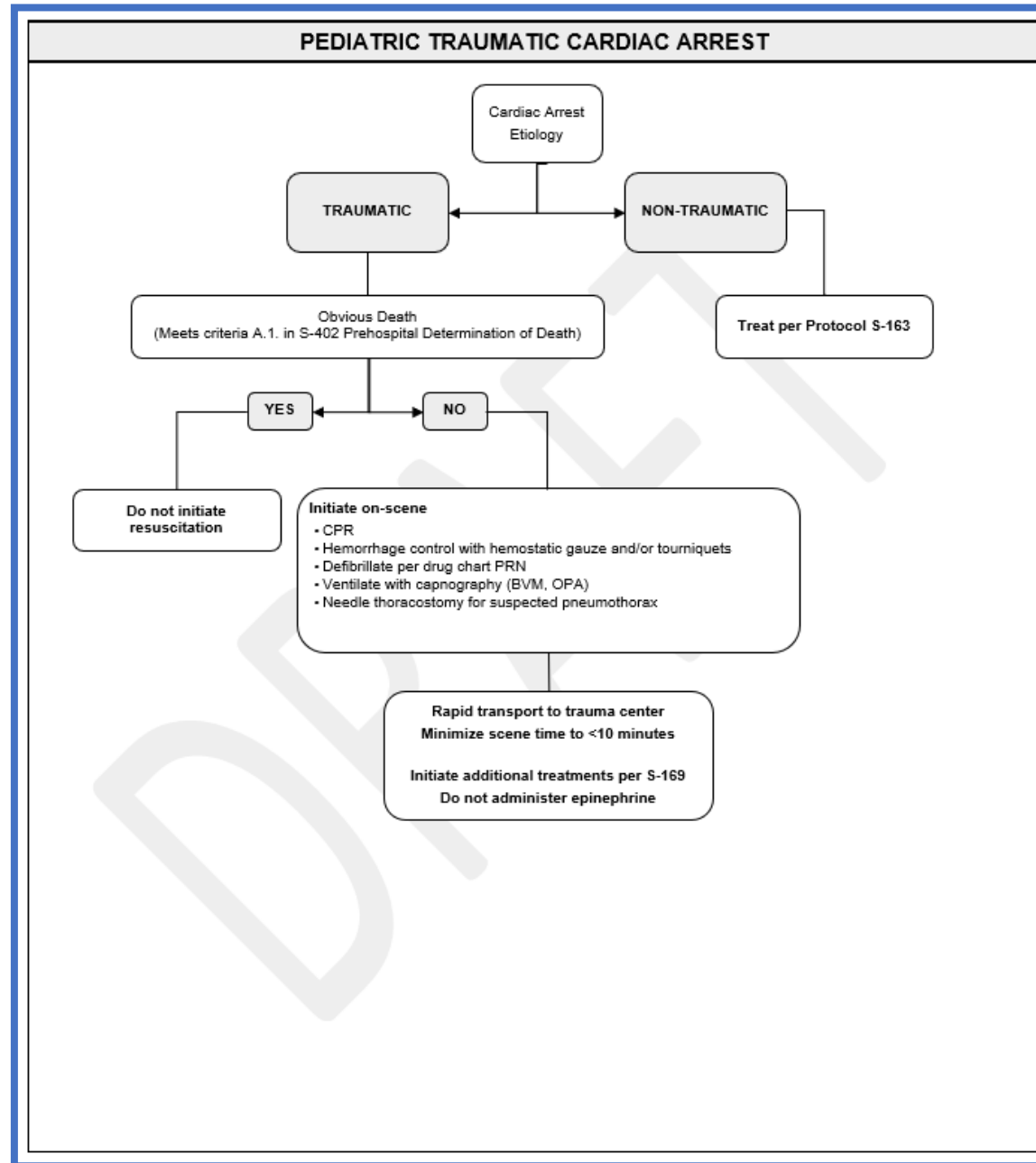
Trauma



	PEDIATRIC TREATMENT PROTOCOL	S-169
	TRAUMA	
	Date: 7/4/2024/1/2025	Page 1 of 2

BLS	ALS
<ul style="list-style-type: none"> Ensure patent airway Protect C-spine Control obvious bleeding Spinal motion restriction per Skills List (S-104) except in penetrating trauma without neurological deficits O2 saturation. Maintain SpO2 ≥90%. O2 and/or ventilate PRN Keep warm Hemostatic gauze <p>Abdominal trauma</p> <ul style="list-style-type: none"> Cover eviscerated bowel with saline pads <p>Chest trauma</p> <ul style="list-style-type: none"> Cover open chest wound with three-sided occlusive dressing. Release dressing if tension pneumothorax develops. Chest seal PRN <p>Extremity trauma</p> <ul style="list-style-type: none"> Splint neurologically stable fractures in position as presented. Traction splint PRN. Reduce grossly angulated long bone fractures with no pulse or sensation PRN Direct pressure to control external hemorrhage Apply gauze or hemostatic dressing PRN Tourniquet PRN In MCI, direct pressure not required prior to tourniquet application <p>Impaled objects</p> <ul style="list-style-type: none"> Immobilize and leave impaled objects in place Remove object impaled in face, cheek, or neck if there is total airway obstruction <p>Any suspicion of neurological injury (mechanism, GCS, examination)</p> <ul style="list-style-type: none"> High-flow O2 PRN Monitor SpO2, BP, and HR q3-5 min If SpO2 <90% or inadequate respirations (despite high-flow O2), assist ventilations with BVM 	<ul style="list-style-type: none"> Monitor EKG/ECG IV/IO [®] Capnography. Maintain EtCO2 35-45 mmHg PRN Treat pain per Pain Management Protocol (S-173) <p>Signs of shock or hypotensive for age</p> <ul style="list-style-type: none"> Fluid bolus IV/IO per drug chart, MR x3 q15 min to maintain adequate perfusion [®] <p>Crush injury requiring extrication with compression of extremity or torso ≥2 hours Immediately prior to anticipated release</p> <ul style="list-style-type: none"> IV/IO fluid bolus per drug chart, MR BHPO [®] NaHCO₃ IV/IO per drug chart CaCl₂ IV/IO over 30 sec per drug chart, MR x1 in 5 min for continued EKG-ECG findings consistent with hyperkalemia Continuous albuterol/levalbuterol per drug chart via nebulizer <p>Grossly angulated long bone fractures</p> <ul style="list-style-type: none"> Reduce with gentle unidirectional traction for splinting [®] <p>Severe respiratory distress with diminished or absent breath sounds (unilaterally or bilaterally), and hypotensive for age, and suspected pneumothorax</p> <ul style="list-style-type: none"> Needle thoracostomy <p>For nausea or vomiting ≥6 months</p> <ul style="list-style-type: none"> Ondansetron IV/IM/ODT per drug chart <p>For traumatic cardiac arrest</p> <ul style="list-style-type: none"> IV/IO fluid bolus per drug chart [®] Do not administer epinephrine

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S-170

Burns




Revisions

- Updated the following burn center criteria language:
 - “Circumferential burn or burn to face, hands, feet, or perineum”
 - “Electrical injury due to high voltage ($\geq 1,000$ volts)” from “(>120 volts)”

PEDIATRIC TREATMENT PROTOCOL		S-170
BURNS		
Date: 7/4/2024/1/1/2025		Page 1 of 1
BLS	ALS	
<ul style="list-style-type: none">Move to a safe environmentBreak contact with causative agentEnsure patent airway, O₂, and/or ventilate PRNO₂ saturation PRNTreat other life-threatening injuriesCarboxyhemoglobin monitor PRN, if available <p>Thermal burns</p> <ul style="list-style-type: none">For burns of <10% BSA, stop burning with non-chilled water or salineFor burns of >10% BSA, cover with dry dressing and keep patient warmDo not allow patient to become hypothermic <p>Toxic inhalation (e.g., CO exposure, smoke, gas)</p> <ul style="list-style-type: none">Move patient to safe environment100% O₂ via maskConsider transport to facility with hyperbaric chamber for suspected CO poisoning, particularly in unconscious or pregnant patients <p>Chemical burns</p> <ul style="list-style-type: none">Brush off dry chemicalsFlush with copious amounts of water <p>Tar burns</p> <ul style="list-style-type: none">Do not remove tarCool with water, then transport	<ul style="list-style-type: none">Monitor EKGECGIV/IO [®]Capnography PRNTreat pain per Pain Management Protocol (S-173) <p>Patients with >10% partial-thickness or >5% full-thickness burns</p> <ul style="list-style-type: none">Fluid bolus IV/IO per drug chart then TKO [®] <p>Respiratory distress with bronchospasm[†]</p> <ul style="list-style-type: none">Albuterol/Levalbuterol per drug chart via nebulizer, MR [®] <p>Respiratory distress with stridor</p> <ul style="list-style-type: none">Epinephrine 1:1,000 per drug chart (combined with 3 mL normal saline) via nebulizer, MR x1 <p>No improvement after epinephrine via nebulizer x2 or impending airway compromise</p> <ul style="list-style-type: none">Epinephrine 1:1,000 per drug chart IM, MR x2 q5 min [®]	
Contact UCSD Base Hospital for patients meeting burn center criteria [†] See Base Hospital Contact/Patient Transportation and Report (S-415)		
[†] Burn center criteria Patients with burns involving <ul style="list-style-type: none">>10% BSA partial thickness or >5% BSA full thicknessSuspected respiratory involvement or significant smoke inhalationCircumferential burn injury-or injury-burn to face, hands, feet, or perineumElectrical injury due to high voltage ($\geq 1,000$ >120-volts)		
<small>[‡]Infection control: If concerned about aerosolized infectious exposure, substitute with MDI, if available</small>		
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S-172

BRUE (Brief, Resolved, Unexplained Event)

	PEDIATRIC TREATMENT PROTOCOL	S-172
	BRUE (BRIEF, RESOLVED, UNEXPLAINED EVENT)	
	Date: 7/1/2024	Page 1 of 1

BLS	ALS
<ul style="list-style-type: none"> • Ensure patent airway • O₂ saturation • O₂ and/or ventilate PRN • Monitor blood glucose <p>Suspected hypoglycemia or patient's blood sugar is <60 mg/dL (<45 mg/dL for neonates)</p> <ul style="list-style-type: none"> • If patient is awake and able to manage oral secretions, give oral glucose paste or 3 tablets (15 gm total) • Patient may eat or drink, if able • If patient is unconscious, NPO <p>BLS transport for currently asymptomatic patient with history of 4 or more of the following</p> <ul style="list-style-type: none"> • Absent, decreased, or irregular breathing • Color change (cyanosis, pallor) • Marked change in muscle tone (hypertonia or hypotonia) • Altered level of responsiveness 	<ul style="list-style-type: none"> • Monitor EKG/ECG • IV[®] <p>ALS transport for symptomatic patient</p>

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Revisions


- BLS
 - Removed the following:
 - BLS transport for currently asymptomatic patient with history of 1 or more of the following
 - Absent, decreased, or irregular breathing
 - Color change (cyanosis, pallor)
 - Marked change in muscle tone (hypertonia or hypotonia)
 - Altered level of responsiveness
- ALS
 - Removed “ALS transport for symptomatic patient”

S-173

Pain Management

Revisions


- ALS
 - Removed the following from pain medication considerations:
 - BHPO required for treatment if patient presents with
 - Isolated head injury
 - Acute onset severe headache
 - Drug/ETOH intoxication
 - Suspected active labor
 - Major trauma with GCS <15
 - Format updated for treatment of moderate or severe pain to be consistent with the adult pain management protocol
 - For fentanyl IV, updated repeat dose to be “**at half initial IV dose**”.
 - For fentanyl IN, updated repeat dose to be “**at initial IN dose**”.

		PEDIATRIC TREATMENT PROTOCOL S-173
PAIN MANAGEMENT		
Date: <u>7/4/2024</u>		Page 1 of 1
BLS	ALS	
<ul style="list-style-type: none"> • Assess level of pain • Ice, immobilize, and splint PRN • Elevate extremity trauma PRN 	<ul style="list-style-type: none"> • Continue to monitor and reassess pain as appropriate • Document vital signs before and after each medication administration <p>Pain medication considerations</p> <ol style="list-style-type: none"> 1. When changing route of administration, consider the potential time difference in onset of action 2. Document adequate perfusion prior to opioid administration <p>2- BHPO required for treatment if patient presents with</p> <ul style="list-style-type: none"> • Isolated head injury • Acute onset severe headache • Drug/ETOH intoxication • Suspected active labor • Major trauma with GCS <15 <p>For mild pain (score 1-3)¹ or moderate pain (score 4-6)</p> <ul style="list-style-type: none"> • Acetaminophen² IV per drug chart in 100 ml of NS over 15 min <p>For moderate pain (score 4-6) or severe pain (score 7-10)</p> <p>Fentanyl (IV dosing)</p> <ul style="list-style-type: none"> • <10 kg, fentanyl IV/IN per drug chart. • MR at half initial dose BHO <ul style="list-style-type: none"> • ≥10 kg, fentanyl IV/IN per drug chart. • MR at half initial dose <p>Fentanyl (IN dosing)</p> <ul style="list-style-type: none"> • <10 kg, fentanyl IN per drug chart • MR at initial dose BHO <ul style="list-style-type: none"> • ≥10 kg, fentanyl IN per drug chart • MR at initial dose <ul style="list-style-type: none"> • If fentanyl unavailable, morphine IV/IM per drug chart 	
<small>*IV acetaminophen contraindicated if patient <2 years of age</small>		
<small>¹ If patient refuses or has contraindications to acetaminophen, may treat as moderate pain</small>		
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S-173

Pain Management

	PEDIATRIC TREATMENT PROTOCOL	S-173
	PAIN MANAGEMENT	
	Date: 7/4/2024 7/1/2025	Page 1 of 1

BLS	ALS
<ul style="list-style-type: none">Assess level of painIce, immobilize, and splint PRNElevate extremity trauma PRN	<ul style="list-style-type: none">Continue to monitor and reassess pain as appropriateDocument vital signs before and after each medication administration <p>Pain medication considerations</p> <ol style="list-style-type: none">When changing route of administration, consider the potential time difference in onset of actionDocument adequate perfusion prior to opioid administration <p>2- BHPQ required for treatment if patient presents with</p> <ul style="list-style-type: none">Isolated head injuryAcute-onset severe headacheDrug/ETOH intoxicationSuspected active laborMajor trauma with GCS <15 <p>For mild pain (score 1-3)¹ or moderate pain (score 4-6)</p> <ul style="list-style-type: none">Acetaminophen* IV per drug chart in 100 ml of NS over 15 min <p>For moderate pain (score 4-6) or severe pain (score 7-10)</p> <p>Fentanyl (IV dosing)</p> <ul style="list-style-type: none"><10 kg, fentanyl IV/IN per drug chart.MR at half initial dose BHO <p>• ≥10 kg, fentanyl IV/IN per drug chart.</p> <ul style="list-style-type: none">MR at half initial dose <p>Fentanyl (IN dosing)</p> <ul style="list-style-type: none"><10 kg, fentanyl IN per drug chartMR at initial dose BHO <p>• ≥10 kg, fentanyl IN per drug chart</p> <ul style="list-style-type: none">MR at initial dose <p>• If fentanyl unavailable, morphine IV/IM per drug chart</p>

*IV acetaminophen contraindicated if patient <2 years of age

¹ If patient refuses or has contraindications to acetaminophen, may treat as moderate pain

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For mild pain (score 1-3)¹ or moderate pain (score 4-6)

- Acetaminophen* IV per drug chart in 100 ml of NS over 15 min

For moderate pain (score 4-6) or severe pain (score 7-10) Fentanyl (IV dosing)

- <10 kg, fentanyl IV per drug chart
- MR at half initial IV dose BHO
- ≥10 kg, fentanyl IV per drug chart
- MR at half initial IV dose

Fentanyl (IN dosing)

- <10 kg, fentanyl IN per drug chart
- MR at initial IN dose BHO
- ≥10 kg, fentanyl IN per drug chart
- MR at initial IN dose

If fentanyl unavailable, morphine IV/IM per drug chart



S-173

Pain Management

New Additions

- Added footnote “If patient refuses or has contraindications to acetaminophen, may treat as moderate pain”

	PEDIATRIC TREATMENT PROTOCOL	S-173
	PAIN MANAGEMENT	
	Date: <u>7/4/2024</u> 7/1/2025	Page 1 of 1

BLS	ALS
<ul style="list-style-type: none">Assess level of painIce, immobilize, and splint PRNElevate extremity trauma PRN	<ul style="list-style-type: none">Continue to monitor and reassess pain as appropriateDocument vital signs before and after each medication administration <p>Pain medication considerations</p> <ol style="list-style-type: none">When changing route of administration, consider the potential time difference in onset of actionDocument adequate perfusion prior to opioid administration <p>2- BHPQ required for treatment if patient presents with</p> <ul style="list-style-type: none">Isolated head injuryAcute-onset severe headacheDrug/ETOH intoxicationSuspected ectopic laborMajor trauma with GCS <15 <p>For mild pain (score 1-3)¹ or moderate pain (score 4-6)</p> <ul style="list-style-type: none">Acetaminophen² IV per drug chart in 100 ml of NS over 15 min <p>For moderate pain (score 4-6) or severe pain (score 7-10)</p> <p>Fentanyl (IV dosing)</p> <ul style="list-style-type: none"><10 kg, fentanyl IV/IN per drug chart.MR at <u>half initial dose</u> BHO <ul style="list-style-type: none">≥10 kg, fentanyl IV/IN per drug chart.MR at <u>half initial dose</u> <p>Fentanyl (IN dosing)</p> <ul style="list-style-type: none"><10 kg, fentanyl IN per drug chartMR at <u>initial dose</u> BHO <ul style="list-style-type: none">≥10 kg, fentanyl IN per drug chartMR at <u>initial dose</u> <ul style="list-style-type: none">If fentanyl unavailable, morphine IV/IM per drug chart

*IV acetaminophen contraindicated if patient <2 years of age

¹ If patient refuses or has contraindications to acetaminophen, may treat as moderate pain

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POLICY UPDATES

Policies with Revisions Effective July 1, 2025

- P-401 Paramedic Scope of Practice
- S-402 Prehospital Determination of Death
- P-410 San Diego County Special Assignment Paramedic
- S-411A Mandated Reporter Flowchart
- S-412 Prehospital Treatment and Transportation of Adults – Refusal of Care or Suggested Destination, Release
- B-450 EMT Scope of Practice
- B-451 Advanced EMT Scope of Practice
- S-601 Documentation Standards and Transferral of Prehospital Care Record (PCR) Information
- S-804 First Responder Inventory
- P-805 ALS First Responder Units



POLICY UPDATES

Policies with Re-chaptering Updates Effective July 1, 2025

- S-011 EMT/Advanced EMT/Paramedic Disciplinary Process
- S-016 Patient Information/Confidentiality
- S-019 Cardiac Advisory Committee
- S-020 ST-Elevation Myocardial Infarction Critical Care System Designation
- S-021 De-Designation of an ST-Elevation Myocardial Infarction Critical Care System Center
- S-028 Stroke Critical Care System Designation
- S-029 Stroke Advisory Committee
- S-030 Extracorporeal Cardiopulmonary Resuscitation (ECPR) Critical Care System



POLICY UPDATES

Policies with Re-chaptering Updates Effective July 1, 2025

- A-200 Air Medical Treatment Protocol Unified Scope of Practice for California
- P-301 Paramedic Training Program Requirements and Procedures for Approval/Reapproval
- P-303 Mobile Intensive Care Nurse Authorization/Reauthorization
- P-305 Paramedic Accreditation/Reaccreditation
- S-306 Designation of Authorized Emergency Medical Services Continuing Education Providers
- S-307 Continuing Education for Prehospital Personnel
- S-308 Public Safety First Aid Training Programs
- B-351 EMT Training Programs
- B-353 EMT Out-of-County Status
- B-360 Advanced EMT Training Programs



POLICY UPDATES

Policies with Re-chaptering Updates Effective July 1, 2025

- S-400 Management of Controlled Substances for ALS Agencies
- P-401 Paramedic Scope of Practice
- S-402 Prehospital Determination of Death
- P-405 Communications Failure
- P-410 San Diego County Special Assignment Paramedic
- S-415 Base Hospital Contact/Patient Transportation and Report – Emergency Patients
- S-422 Application of Patient Restraints
- P-430 Special Assignment – Fireline Paramedic
- B-450 EMT Scope of Practice
- B-451 Advanced EMT Scope of Practice
- A-475 Air Medical Support Utilization
- S-476 Emergency Medical Services at Special Events



POLICY UPDATES

Policies with Re-chaptering Updates Effective July 1, 2025

- S-601 Documentation Standards and Transferal of Prehospital Care Record (PCR) Information
- S-602 EMS Provider Data Submission Process
- S-603 System Management and Support During Downtime
- P-701 Paramedic Base Hospital Designation
- T-718 Public Information and Education on Trauma Systems
- P-801 Designation of Providers of Advanced Life Support Service
- S-837 Public Safety First Aid Optional Skills Provider Designation
- A-875 Prehospital EMS Aircraft Classification
- A-876 Air Ambulance Dispatch Center Designation/Dispatch of Air Ambulance
- A-877 Air Ambulance Service Provider Authorization



POLICY UPDATES

New Policies Effective July 1, 2025

- None



POLICY UPDATES

Policies Sunsetting on July 1, 2025

- None