2025-2026 PROTOCOL & POLICY UPDATES

SANDIEGOCOUNTYEMS.COM

Updated 6/9/2025

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 / Arrythmias
- 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

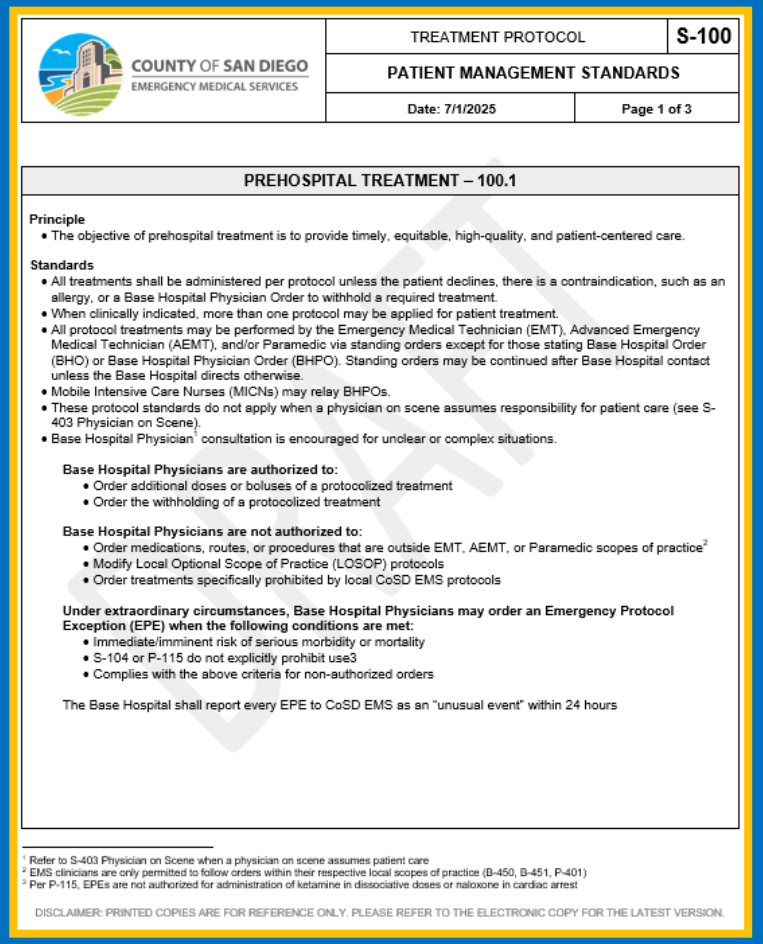
- The “PRN” abbreviation was removed from capnography throughout all protocols.

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



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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 Physician[1] 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 practice[2]
- 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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

DRAFT

Revisions

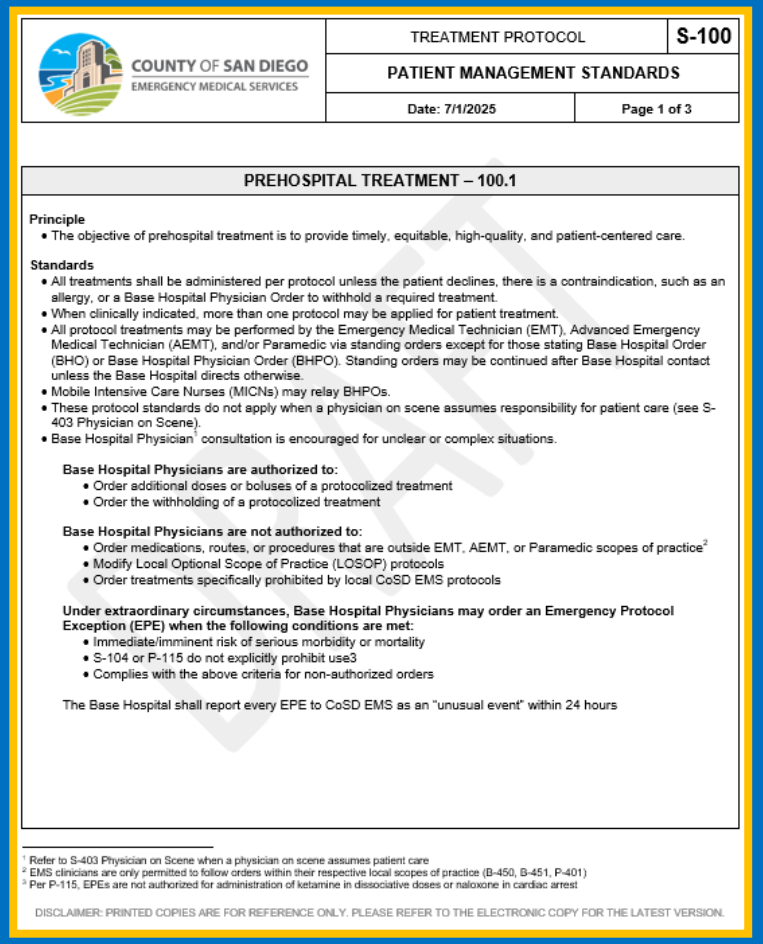
- Title updated from “Protocol Standards” to “Patient Management Standards”

New Additions

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

S-100

Patient Management Standards



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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 Physician[1] 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 practice[2]
- 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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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*

Decompensating Patient
- 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

Airway
- Current or anticipated need for airway management

Breathing
- Respiratory failure or distress
- Hypoxia (SpO_2 <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

Disability
- 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

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

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES

SANDIEGOCOUNTYEMS.COM

S-100

Patient Management Standards

COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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 Physician[1] 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:

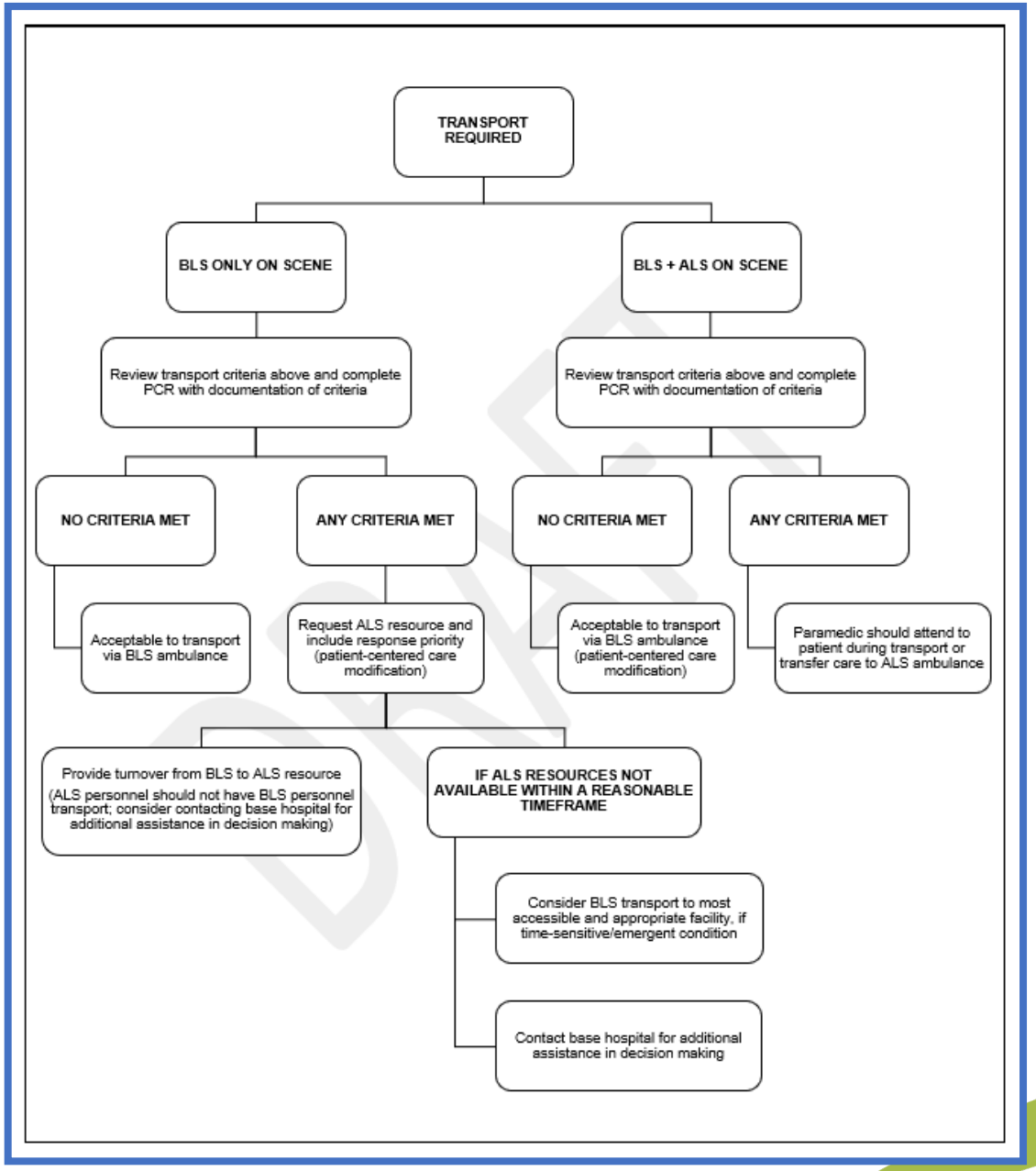
- Order medications, routes, or procedures that are outside EMT, AEMT, or Paramedic scopes of practice[2]
- Modify Local Optional Scope of Practice (LOSOP) protocols
- Order treatments specifically prohibited by local CoSD EMS protocols

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

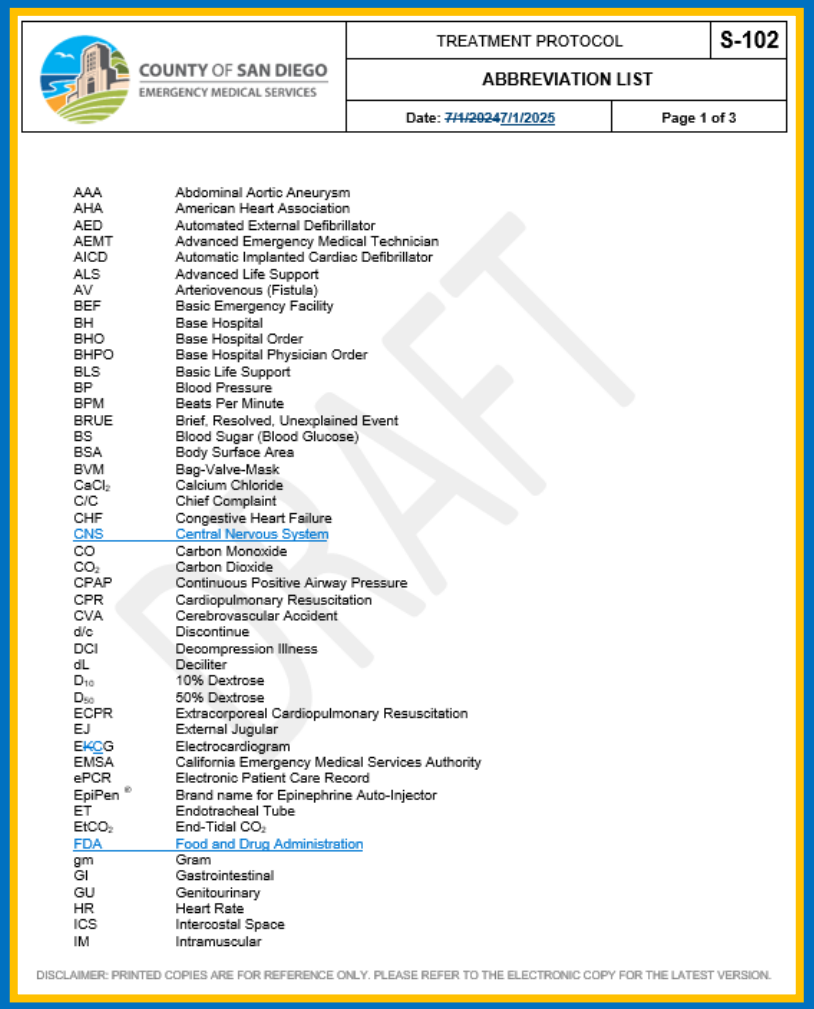
[1] Refer to S-403 Physician on Scene when a physician on scene assumes patient care
[2] EMS clinicians are only permitted to follow orders within their respective local scopes of practice (B-450, B-451, P-401)
[3] Per P-115, EPEs are not authorized for administration of ketamine in dissociative doses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



SANDIEGOCOUNTYEMS.COM

S-102

Abbreviation List



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-102
ABBREVIATION LIST	
Date: ~~7/1/2024~~7/1/2025	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	Intercostal Space
IM	Intramuscular

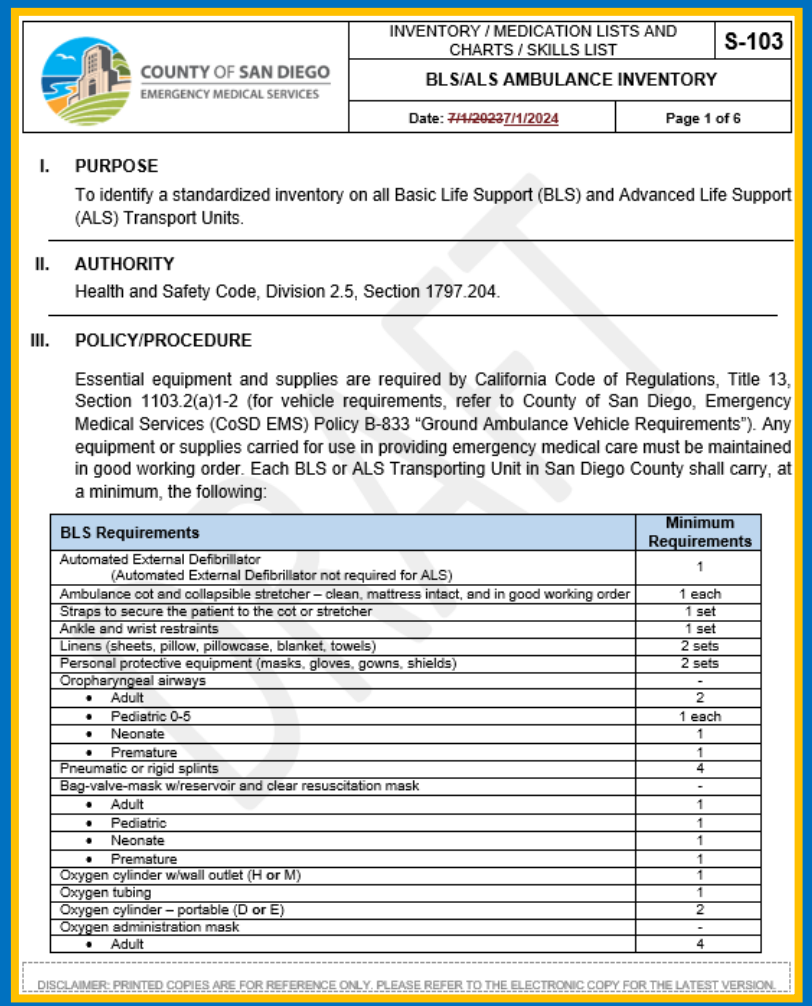
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

New Additions

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

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: ~~7/1/2023~~7/1/2024	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

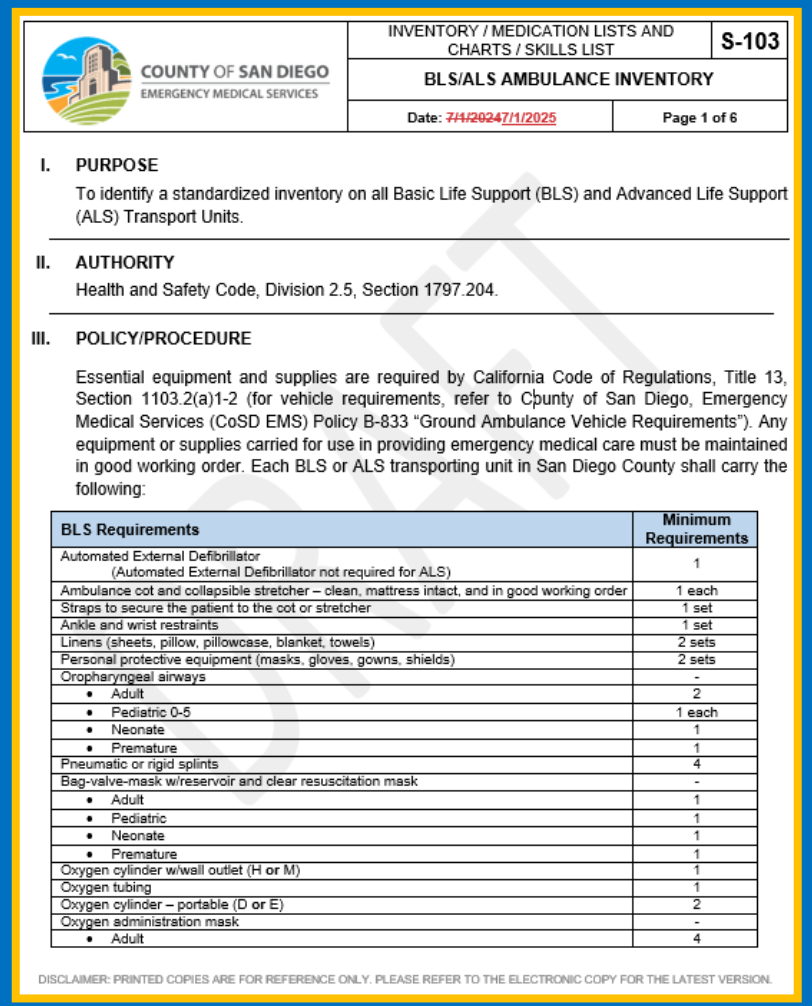
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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: ~~7/1/2024~~7/1/2025 | 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

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 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

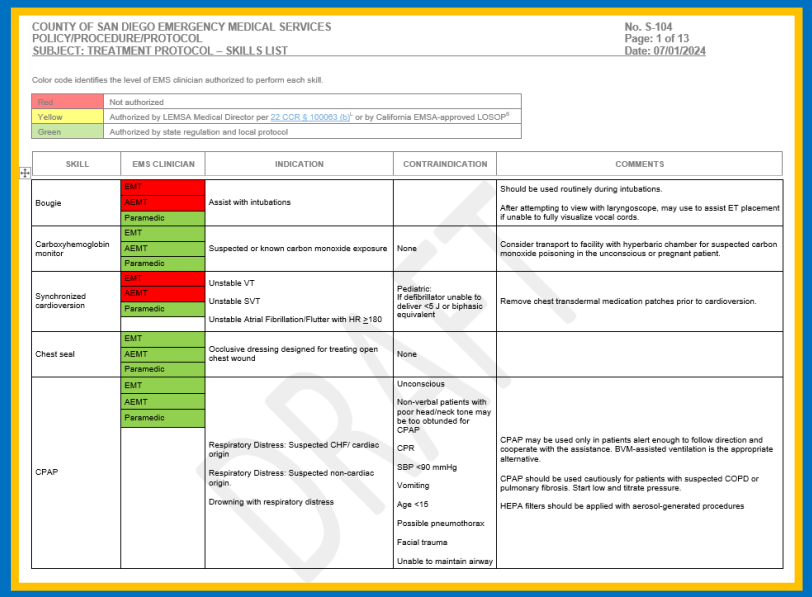
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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 § 100063.(b)[1] or by California EMSA-approved LOSOP[5]
Green	Authorized by state regulation and local protocol

SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT Paramedic	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.
Carboxyhemoglobin monitor	EMT AEMT Paramedic	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.
Synchronized cardioversion	EMT AEMT Paramedic	Unstable VT Unstable SVT Unstable Atrial Fibrillation/Flutter with HR ≥180	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
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 <16 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

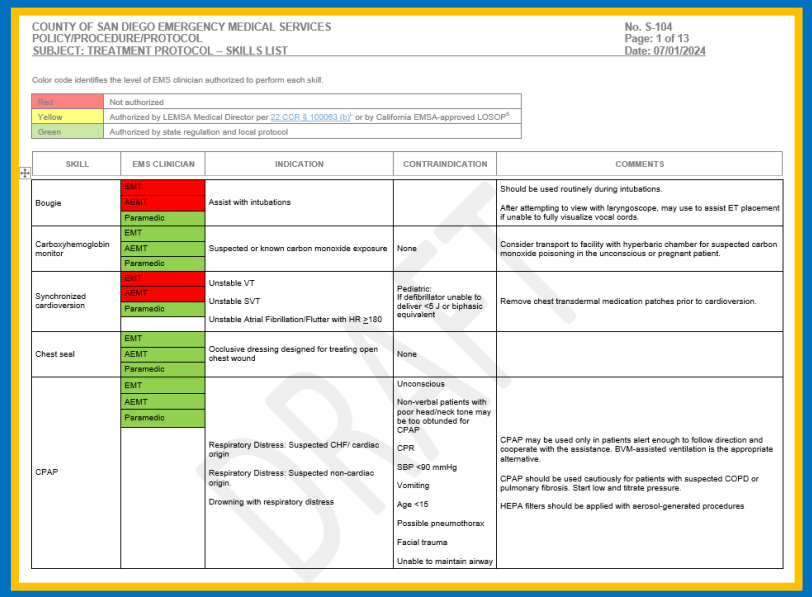
DRAFT

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 22 CCR § 100063 (b)[1] or by California EMSA-approved LOSOP[5]
Green	Authorized by state regulation and local protocol

SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT Paramedic	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.
Carboxyhemoglobin monitor	EMT AEMT Paramedic	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.
Synchronized cardioversion	EMT AEMT Paramedic	Unstable VT Unstable SVT Unstable Atrial Fibrillation/Flutter with HR ≥180	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
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 <16 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

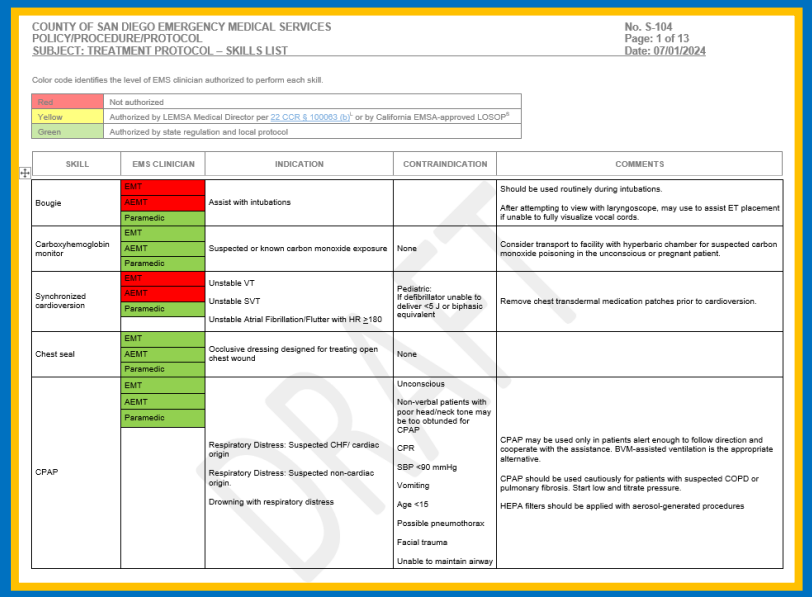
DRAFT

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 $EtCO_2$ 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 $EtCO_2$ readings to secure airway.

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 § 100063.(b)[1] or by California EMSA-approved LOSOP[5]
Green	Authorized by state regulation and local protocol

SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT Paramedic	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.
Carboxyhemoglobin monitor	EMT AEMT Paramedic	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.
Synchronized cardioversion	EMT AEMT Paramedic	Unstable VT Unstable SVT Unstable Atrial Fibrillation/Flutter with HR ≥180	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
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 <16 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

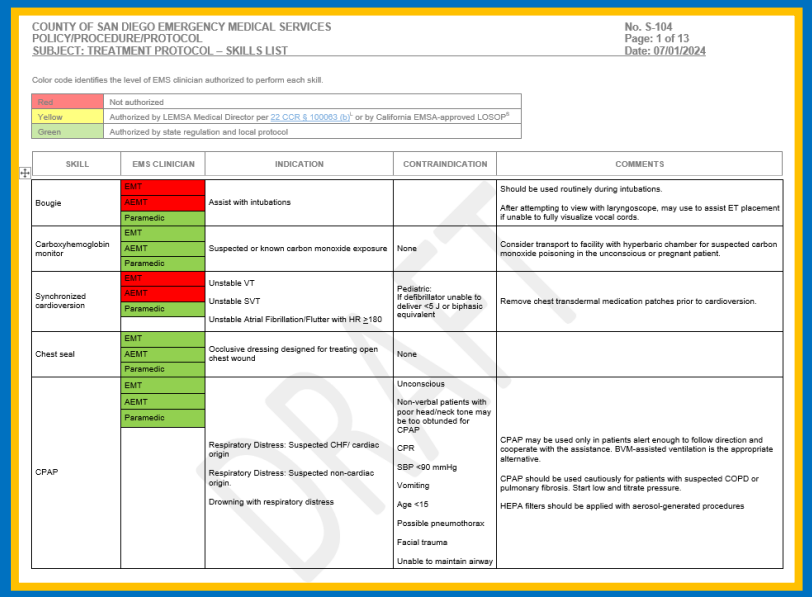
DRAFT

Revisions

- Intubation: Perilaryngeal airway adjuncts
  - Removed “Able to adequately ventilate with BVM” from contraindications
  - Removed the following comments:
    - Exception to the mandatory use of $EtCO_2$ 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 $EtCO_2$ readings to secure airway.

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 § 100063.(b)[1] or by California EMSA-approved LOSOP[5]
Green	Authorized by state regulation and local protocol

SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT Paramedic	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.
Carboxyhemoglobin monitor	EMT AEMT Paramedic	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.
Synchronized cardioversion	EMT AEMT Paramedic	Unstable VT Unstable SVT Unstable Atrial Fibrillation/Flutter with HR ≥180	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
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 <16 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

DRAFT

Revisions

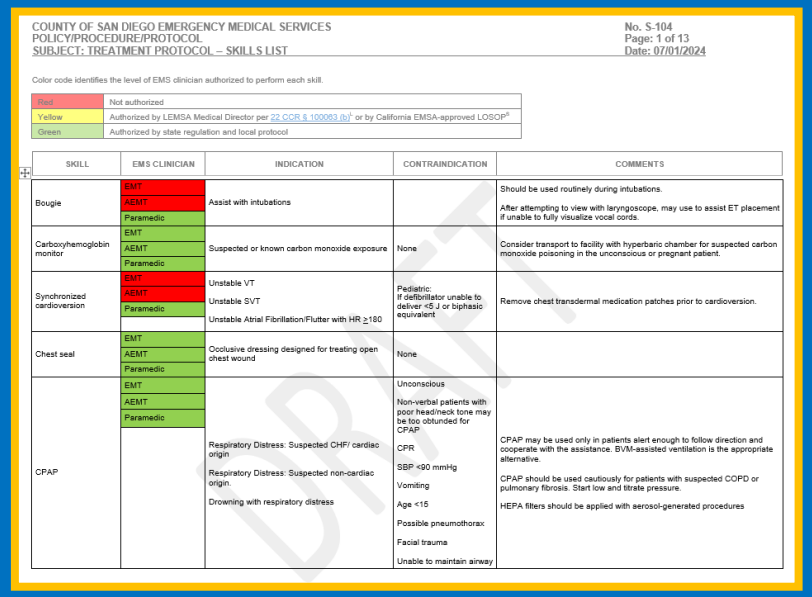
- Length-Based Resuscitation Tape (LBRT)
  - Removed “Children ≥37 kg use adult medication dosages (using pediatric protocols) regardless of age or height” from comments

New Additions

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

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 § 100063.(b)[1] or by California EMSA-approved LOSOP[5]
Green	Authorized by state regulation and local protocol

SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT Paramedic	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.
Carboxyhemoglobin monitor	EMT AEMT Paramedic	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.
Synchronized cardioversion	EMT AEMT Paramedic	Unstable VT Unstable SVT Unstable Atrial Fibrillation/Flutter with HR ≥180	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
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 <16 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

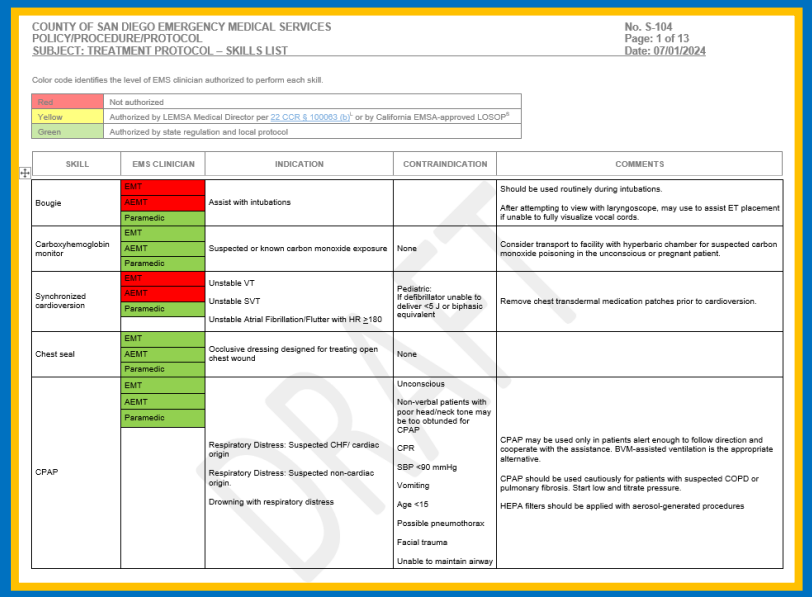
DRAFT

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

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 § 100063.(b)[1] or by California EMSA-approved LOSOP[5]
Green	Authorized by state regulation and local protocol

SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT Paramedic	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.
Carboxyhemoglobin monitor	EMT AEMT Paramedic	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.
Synchronized cardioversion	EMT AEMT Paramedic	Unstable VT Unstable SVT Unstable Atrial Fibrillation/Flutter with HR ≥180	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
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 <16 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

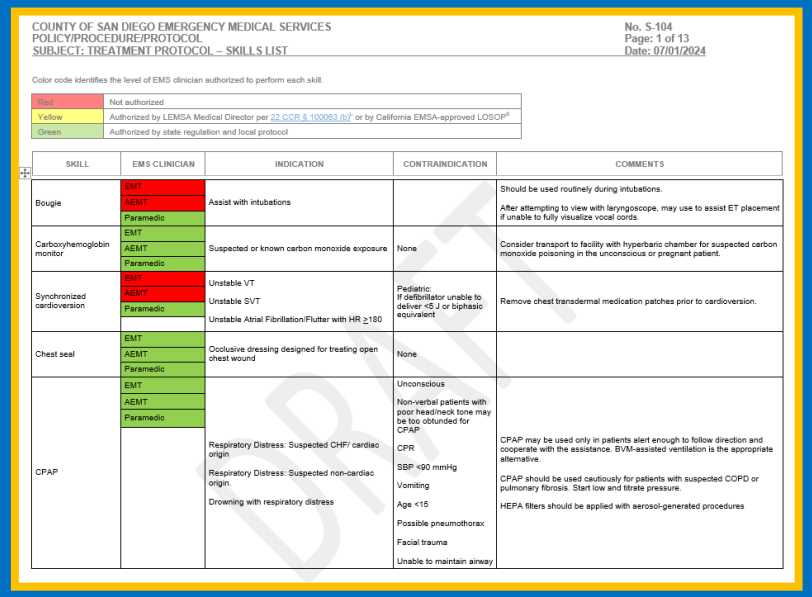
DRAFT

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.

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 § 100063.(b)[1] or by California EMSA-approved LOSOP[5]
Green	Authorized by state regulation and local protocol

SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT Paramedic	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.
Carboxyhemoglobin monitor	EMT AEMT Paramedic	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.
Synchronized cardioversion	EMT AEMT Paramedic	Unstable VT Unstable SVT Unstable Atrial Fibrillation/Flutter with HR ≥180	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
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 <16 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

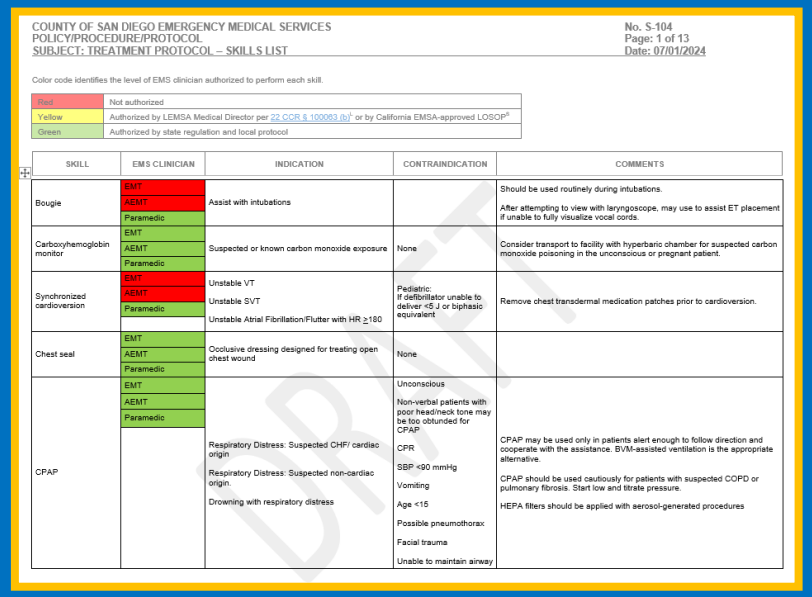
DRAFT

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

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 § 100063.(b)[1] or by California EMSA-approved LOSOP[5]
Green	Authorized by state regulation and local protocol

SKILL	EMS CLINICIAN	INDICATION	CONTRAINDICATION	COMMENTS
Bougie	EMT AEMT Paramedic	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.
Carboxyhemoglobin monitor	EMT AEMT Paramedic	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.
Synchronized cardioversion	EMT AEMT Paramedic	Unstable VT Unstable SVT Unstable Atrial Fibrillation/Flutter with HR ≥180	Pediatric: If defibrillator unable to deliver <5 J or biphasic equivalent	Remove chest transdermal medication patches prior to cardioversion.
Chest seal	EMT AEMT Paramedic	Occlusive dressing designed for treating open chest wound	None	
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 <16 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

New Requirements for $EtCO_2$ Prior to Intubation

Establishment of $EtCO_2$ prior to intubation:

The presence of $EtCO_2$ greater than zero is required prior to ET tube/PAA placement.

- If assessment rules out airway obstruction, but $EtCO_2$ 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 $EtCO_2$ waveform and reading (other than zero) must be maintained or the ET tube/PAA must be removed.

If $EtCO_2$ 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.

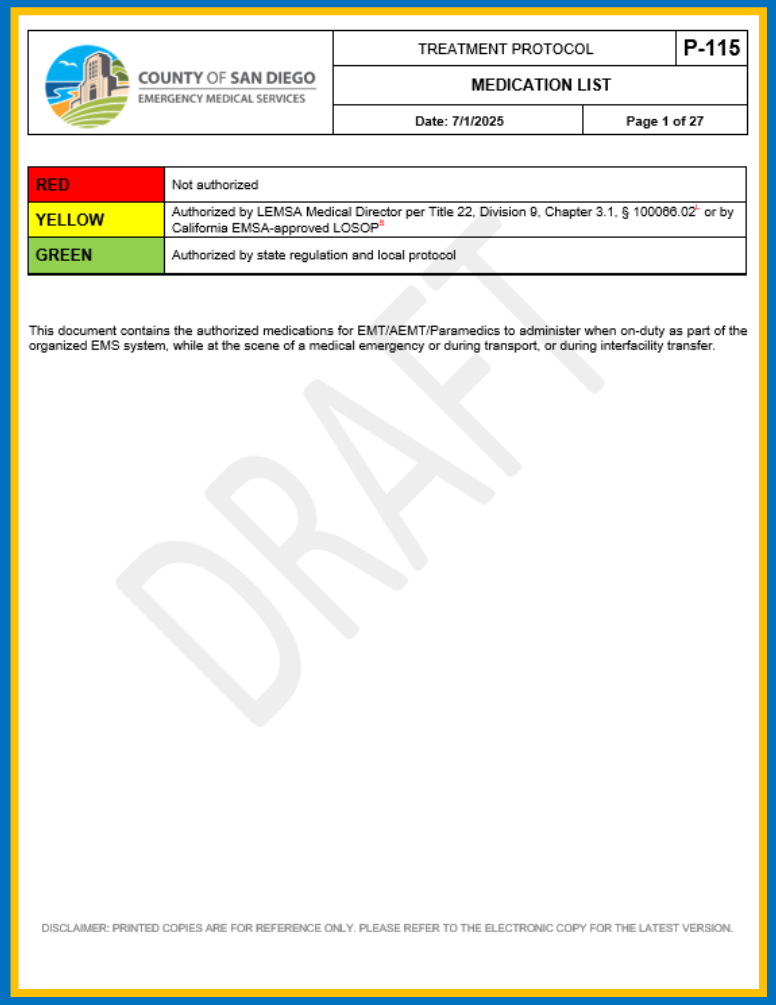
Report and document at a minimum:

- 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 LEMSA Medical Director per Title 22, Division 9, Chapter 3.1, § 100066.02[c] or by California EMSA-approved LOSOP[a]
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

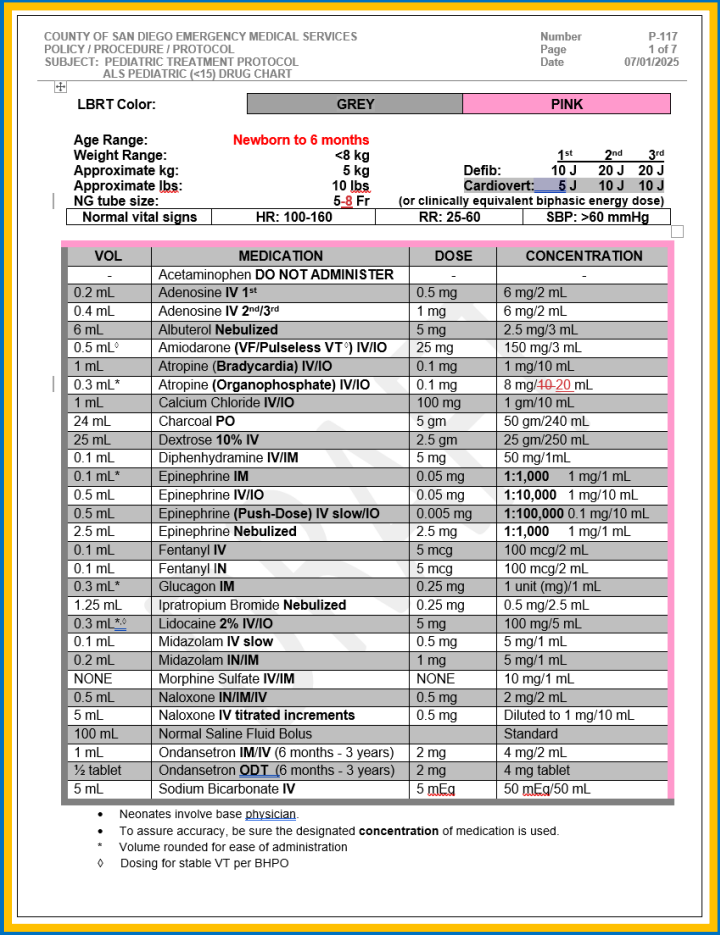
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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



COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES
POLICY / PROCEDURE / PROTOCOL
SUBJECT: PEDIATRIC TREATMENT PROTOCOL
ALS PEDIATRIC (<15) DRUG CHART

Number P-117
Page 1 of 7
Date 07/01/2025

LBRT Color: GREY | PINK

Age Range: Newborn to 6 months
Weight Range: <8 kg
Approximate kg: 5 kg
Approximate lbs: 10 lbs
NG tube size: 5-8 Fr

	1st	2nd	3rd
Defib:	10 J	20 J	20 J
Cardiovert:	5 J	10 J	10 J

(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 1st**	0.5 mg	6 mg/2 mL
0.4 mL	Adenosine **IV 2nd/3rd**	1 mg	6 mg/2 mL
6 mL	Albuterol **Nebulized**	5 mg	2.5 mg/3 mL
0.5 mL◊	Amiodarone **(VF/Pulseless VT◊) 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/~~10~~ 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*◊	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.

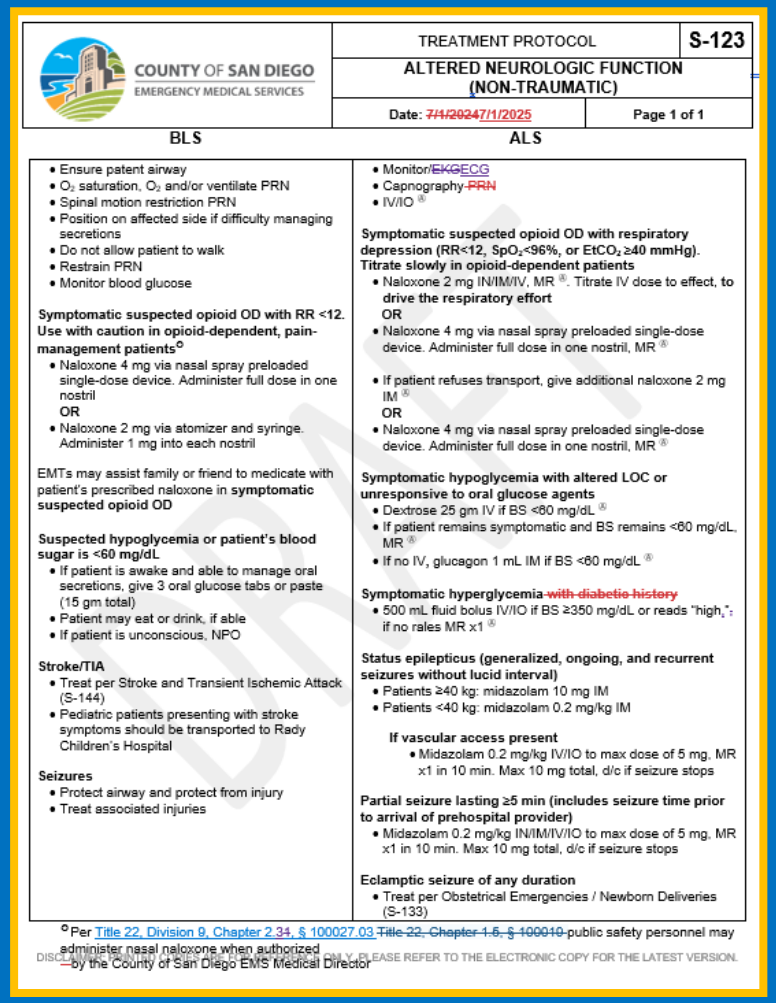
* Volume rounded for ease of administration
◊ Dosing for stable VT per BHPO

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”

S-123

Altered Neurologic Function (Non-Traumatic)



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-123

ALTERED NEUROLOGIC FUNCTION (NON-TRAUMATIC)

Date: ~~7/1/2024~~7/1/2025 | Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation, O_2 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

Symptomatic suspected opioid OD with RR <12. Use with caution in opioid-dependent, pain-management patients°

- 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

EMTs may assist family or friend to medicate with patient's prescribed naloxone in **symptomatic suspected opioid OD**

Suspected hypoglycemia or patient's blood sugar is <60 mg/dL

- 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

Stroke/TIA

- Treat per Stroke and Transient Ischemic Attack (S-144)
- Pediatric patients presenting with stroke symptoms should be transported to Rady Children's Hospital

Seizures

- Protect airway and protect from injury
- Treat associated injuries

ALS

- Monitor/~~EKG~~ECG
- Capnography ~~PRN~~
- IV/IO Ⓐ

Symptomatic suspected opioid OD with respiratory depression (RR<12, SpO_2<96%, or $EtCO_2$ ≥40 mmHg). Titrate slowly in opioid-dependent patients

- 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 Ⓐ
- 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 Ⓐ

Symptomatic hypoglycemia with altered LOC or unresponsive to oral glucose agents

- Dextrose 25 gm IV if BS <60 mg/dL Ⓐ
- If patient remains symptomatic and BS remains <60 mg/dL, MR Ⓐ
- If no IV, glucagon 1 mL IM if BS <60 mg/dL Ⓐ

Symptomatic hyperglycemia ~~with diabetic history~~

- 500 mL fluid bolus IV/IO if BS ≥350 mg/dL or reads "high,"; if no rales MR x1 Ⓐ

Status epilepticus (generalized, ongoing, and recurrent seizures without lucid interval)

- Patients ≥40 kg: midazolam 10 mg IM
- Patients <40 kg: midazolam 0.2 mg/kg IM

If vascular access present

- 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

Partial seizure lasting ≥5 min (includes seizure time prior to arrival of prehospital provider)

- 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

Eclamptic seizure of any duration

- Treat per Obstetrical Emergencies / Newborn Deliveries (S-133)

°Per Title 22, Division 9, Chapter 2.34, § 100027.03 ~~Title 22, Chapter 1.5, § 100019~~ public safety personnel may administer nasal naloxone when authorized ~~by~~ by the County of San Diego EMS Medical Director

DRAFT

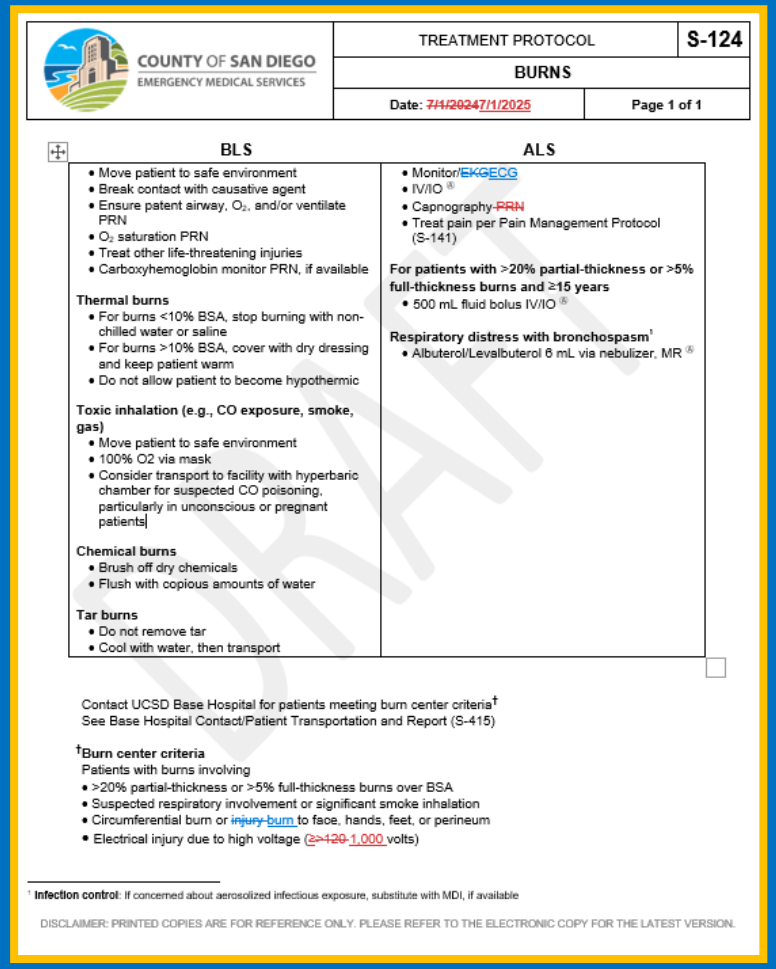
DISCLAIMER: PRINTED POLICY MAY BE OUTDATED. ONLY PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

Revisions

- ALS
  - Removed "with diabetic history" from symptomatic hyperglycemia indication

S-124

Burns



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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

BLS	ALS
• Move patient to safe environment • Break contact with causative agent • Ensure patent airway, O_2, and/or ventilate PRN • O_2 saturation PRN • Treat other life-threatening injuries • Carboxyhemoglobin monitor PRN, if available **Thermal burns** • 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 **Toxic inhalation (e.g., CO exposure, smoke, gas)** • 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 **Chemical burns** • Brush off dry chemicals • Flush with copious amounts of water **Tar burns** • Do not remove tar • Cool with water, then transport	• Monitor/~~EKG~~ECG • IV/IO [5] • Capnography ~~PRN~~ • Treat pain per Pain Management Protocol (S-141) **For patients with >20% partial-thickness or >5% full-thickness burns and ≥15 years** • 500 mL fluid bolus IV/IO [5] **Respiratory distress with bronchospasm**[†] • Albuterol/Levalbuterol 6 mL via nebulizer, MR [5]

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)

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

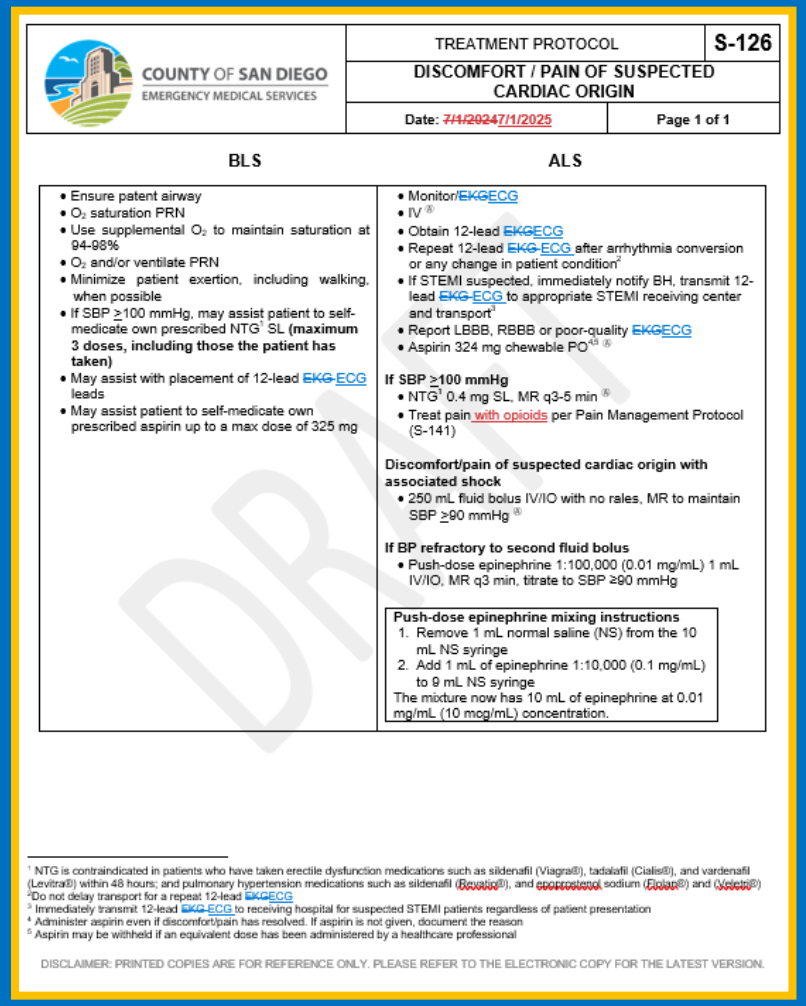
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-126
DISCOMFORT / PAIN OF SUSPECTED CARDIAC ORIGIN	
Date: ~~7/1/2024~~7/1/2025	Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation PRN
- Use supplemental O_2 to maintain saturation at 94-98%
- O_2 and/or ventilate PRN
- Minimize patient exertion, including walking, when possible
- If SBP ≥100 mmHg, may assist patient to self-medicate own prescribed NTG[1] 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

ALS

- Monitor/~~EKG~~ECG
- IV [5]
- Obtain 12-lead ~~EKG~~ECG
- Repeat 12-lead ~~EKG~~ ECG after arrhythmia conversion or any change in patient condition[2]
- If STEMI suspected, immediately notify BH, transmit 12-lead ~~EKG~~ ECG to appropriate STEMI receiving center and transport[3]
- Report LBBB, RBBB or poor-quality ~~EKG~~ECG
- Aspirin 324 mg chewable PO[4,5] [6]

If SBP ≥100 mmHg

- NTG[1] 0.4 mg SL, MR q3-5 min [5]
- Treat pain with opioids per Pain Management Protocol (S-141)

Discomfort/pain of suspected cardiac origin with associated shock

- 250 mL fluid bolus IV/IO with no rales, MR to maintain SBP ≥90 mmHg [5]

If BP refractory to second fluid bolus

- Push-dose epinephrine 1:100,000 (0.01 mg/mL) 1 mL IV/IO, MR q3 min, titrate to SBP ≥90 mmHg

Push-dose epinephrine mixing instructions

1. Remove 1 mL normal saline (NS) from the 10 mL NS syringe
2. Add 1 mL of epinephrine 1:10,000 (0.1 mg/mL) to 9 mL NS syringe

The mixture now has 10 mL of epinephrine at 0.01 mg/mL (10 mcg/mL) concentration.

[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 (Flolan®) and (Veletri®)
[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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

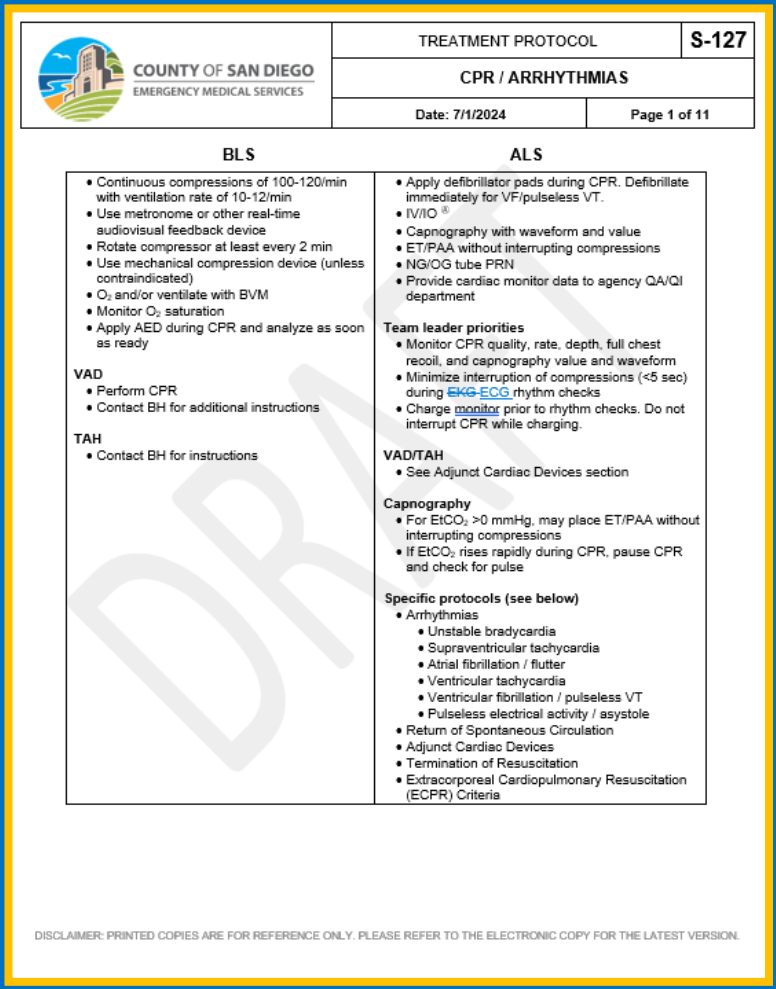
COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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

- 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)
- O_2 and/or ventilate with BVM
- Monitor O_2 saturation
- Apply AED during CPR and analyze as soon as ready

VAD

- Perform CPR
- Contact BH for additional instructions

TAH

- Contact BH for instructions

ALS

- 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

Team leader priorities

- 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.

VAD/TAH

- See Adjunct Cardiac Devices section

Capnography

- For $EtCO_2$ >0 mmHg, may place ET/PAA without interrupting compressions
- If $EtCO_2$ rises rapidly during CPR, pause CPR and check for pulse

Specific protocols (see below)

- Arrhythmias
  - 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

DRAFT

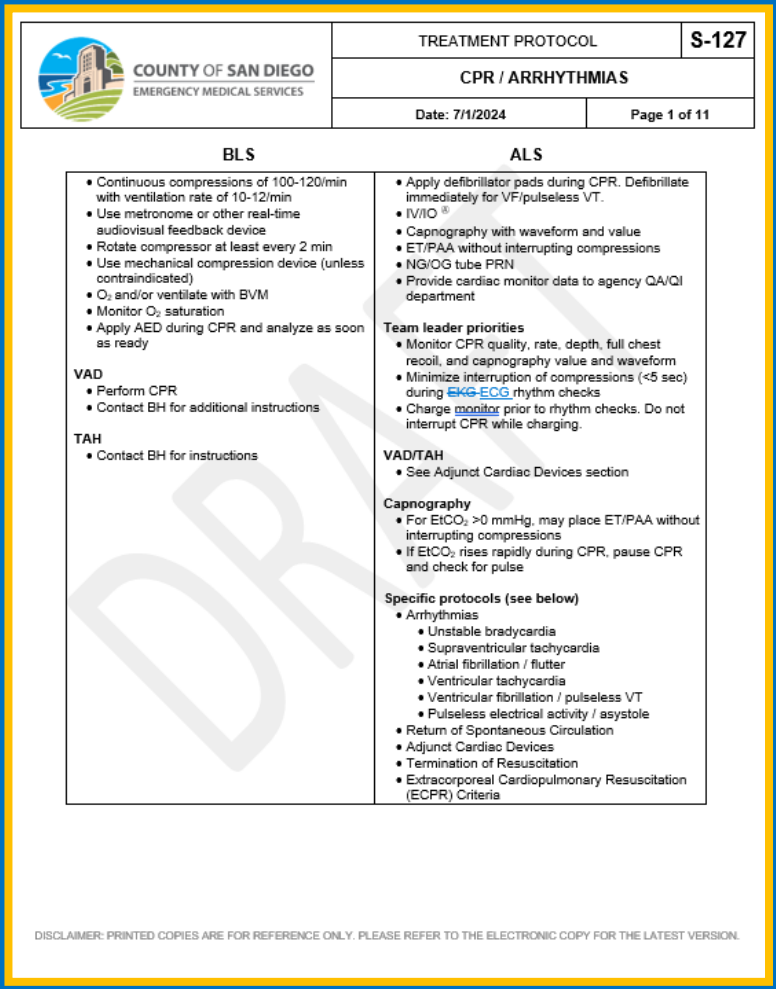
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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

- 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)
- O_2 and/or ventilate with BVM
- Monitor O_2 saturation
- Apply AED during CPR and analyze as soon as ready

VAD

- Perform CPR
- Contact BH for additional instructions

TAH

- Contact BH for instructions

ALS

- 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

Team leader priorities

- 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.

VAD/TAH

- See Adjunct Cardiac Devices section

Capnography

- For $EtCO_2$ >0 mmHg, may place ET/PAA without interrupting compressions
- If $EtCO_2$ rises rapidly during CPR, pause CPR and check for pulse

Specific protocols (see below)

- Arrhythmias
  - 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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

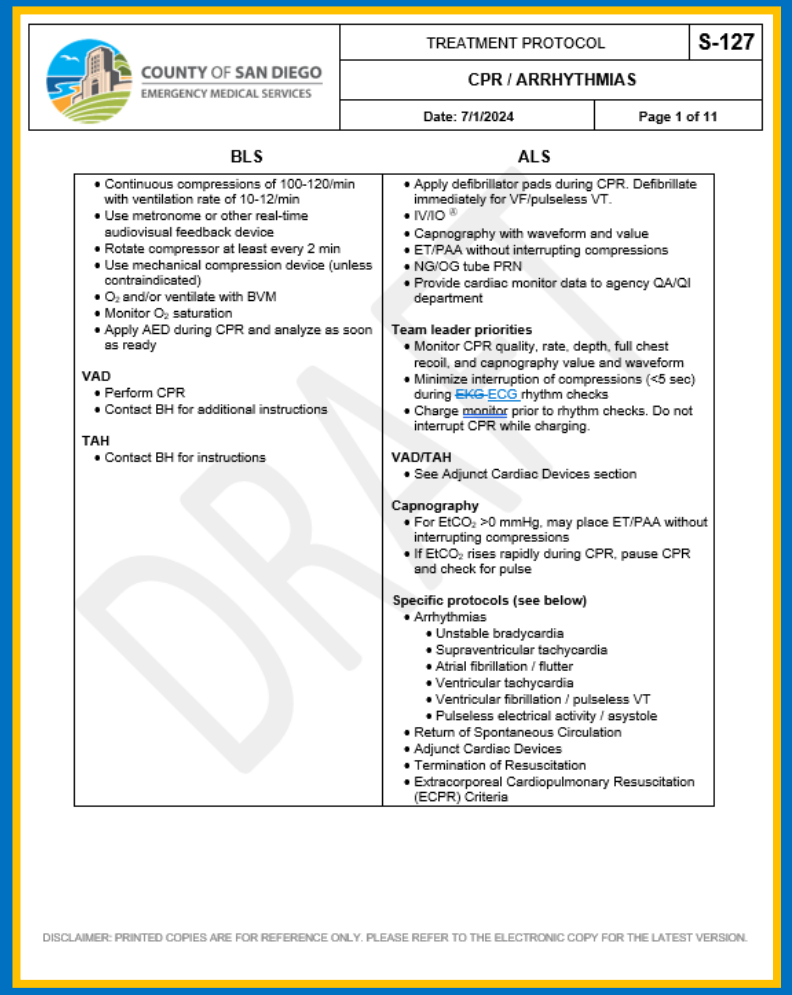
COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

Revisions

- Pulseless Electrical Activity
  - $CaCl_2$ 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



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-127
CPR / ARRHYTHMIAS	
Date: 7/1/2024	Page 1 of 11

BLS

- 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)
- O_2 and/or ventilate with BVM
- Monitor O_2 saturation
- Apply AED during CPR and analyze as soon as ready

VAD

- Perform CPR
- Contact BH for additional instructions

TAH

- Contact BH for instructions

ALS

- 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

Team leader priorities

- 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.

VAD/TAH

- See Adjunct Cardiac Devices section

Capnography

- For $EtCO_2$ >0 mmHg, may place ET/PAA without interrupting compressions
- If $EtCO_2$ rises rapidly during CPR, pause CPR and check for pulse

Specific protocols (see below)

- Arrhythmias
  - 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

DRAFT

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

New Additions

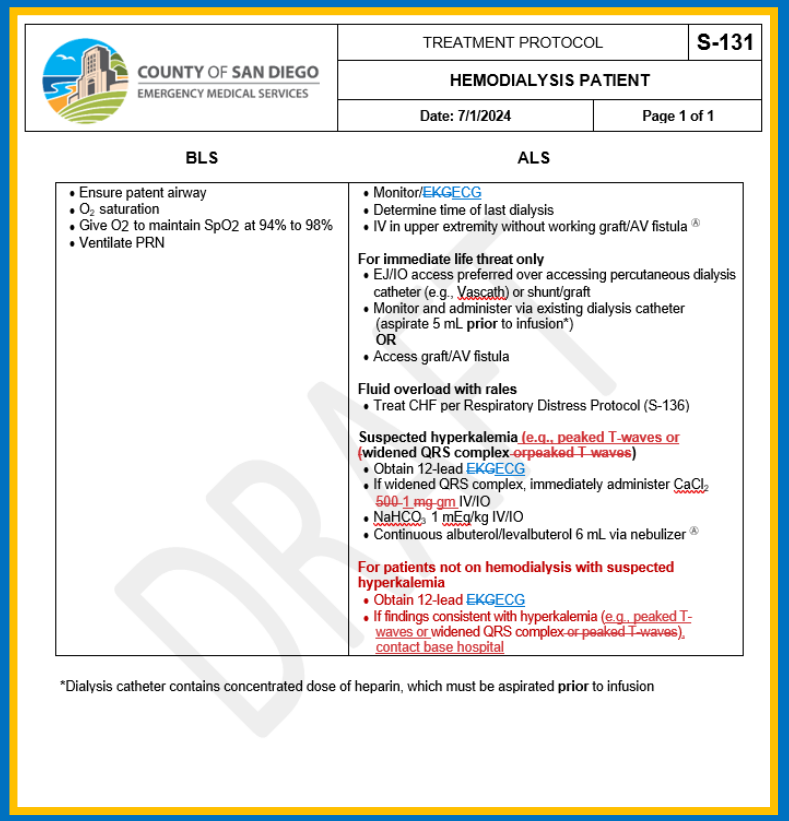
- Unstable Bradycardia
  - Added the following comments for external cardiac pacing:
    - Set rate and energy per manufacturer's recommendations
    - Increase energy setting until capture occurs, usually between 50 mA and 100 mA
    - After electrical and mechanical capture achieved, increase energy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

†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



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-131
HEMODIALYSIS PATIENT	
Date: 7/1/2024	Page 1 of 1

BLS	ALS
• Ensure patent airway • O_2 saturation • Give O2 to maintain SpO2 at 94% to 98% • Ventilate PRN	• Monitor/~~EKG~~ECG • Determine time of last dialysis • IV in upper extremity without working graft/AV fistula Ⓐ **For immediate life threat only** • EJ/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 **Fluid overload with rales** • Treat CHF per Respiratory Distress Protocol (S-136) **Suspected hyperkalemia** (e.g., peaked T-waves or **widened QRS complex** ~~or peaked T-waves~~) • Obtain 12-lead ~~EKG~~ECG • If widened QRS complex, immediately administer $CaCl_2$ ~~500 1 mg~~ gm IV/IO • $NaHCO_3$ 1 mEq/kg IV/IO • Continuous albuterol/levalbuterol 6 mL via nebulizer Ⓐ **For patients not on hemodialysis with suspected hyperkalemia** • Obtain 12-lead ~~EKG~~ECG • If findings consistent with hyperkalemia (e.g., peaked T-waves or widened QRS complex ~~or peaked T-waves~~), contact base hospital

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

DRAFT

Revisions

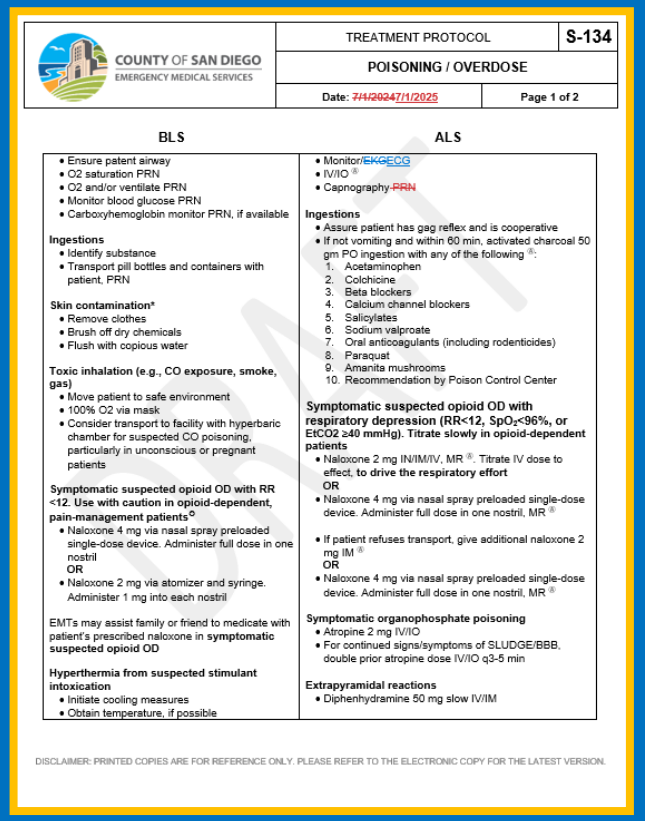
- ALS
  - Updated “Suspected hyperkalemia (e.g., peaked T-waves or widened QRS complex)”
  - $CaCl_2$ dose updated from “500 mg” to “1 gm”

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



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-134
POISONING / OVERDOSE	
Date: ~~7/1/2024~~7/1/2025	Page 1 of 2

BLS

- Ensure patent airway
- O2 saturation PRN
- O2 and/or ventilate PRN
- Monitor blood glucose PRN
- Carboxyhemoglobin monitor PRN, if available

Ingestions
- Identify substance
- Transport pill bottles and containers with patient, PRN

Skin contamination*
- Remove clothes
- Brush off dry chemicals
- Flush with copious water

Toxic inhalation (e.g., CO exposure, smoke, gas)
- 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

Symptomatic suspected opioid OD with RR <12. Use with caution in opioid-dependent, pain-management patients°
- 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

EMTs may assist family or friend to medicate with patient's prescribed naloxone in **symptomatic suspected opioid OD**

Hyperthermia from suspected stimulant intoxication
- Initiate cooling measures
- Obtain temperature, if possible

ALS

- Monitor/~~EKG~~ECG
- IV/IO ®
- Capnography ~~PRN~~

Ingestions
- 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 ®:
  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

Symptomatic suspected opioid OD with respiratory depression (RR<12, SpO_2<96%, or $EtCO_2$ ≥40 mmHg). Titrate slowly in opioid-dependent patients
- 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 ®
- 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 ®

Symptomatic organophosphate poisoning
- Atropine 2 mg IV/IO
- For continued signs/symptoms of SLUDGE/BBB, double prior atropine dose IV/IO q3-5 min

Extrapyramidal reactions
- Diphenhydramine 50 mg slow IV/IM

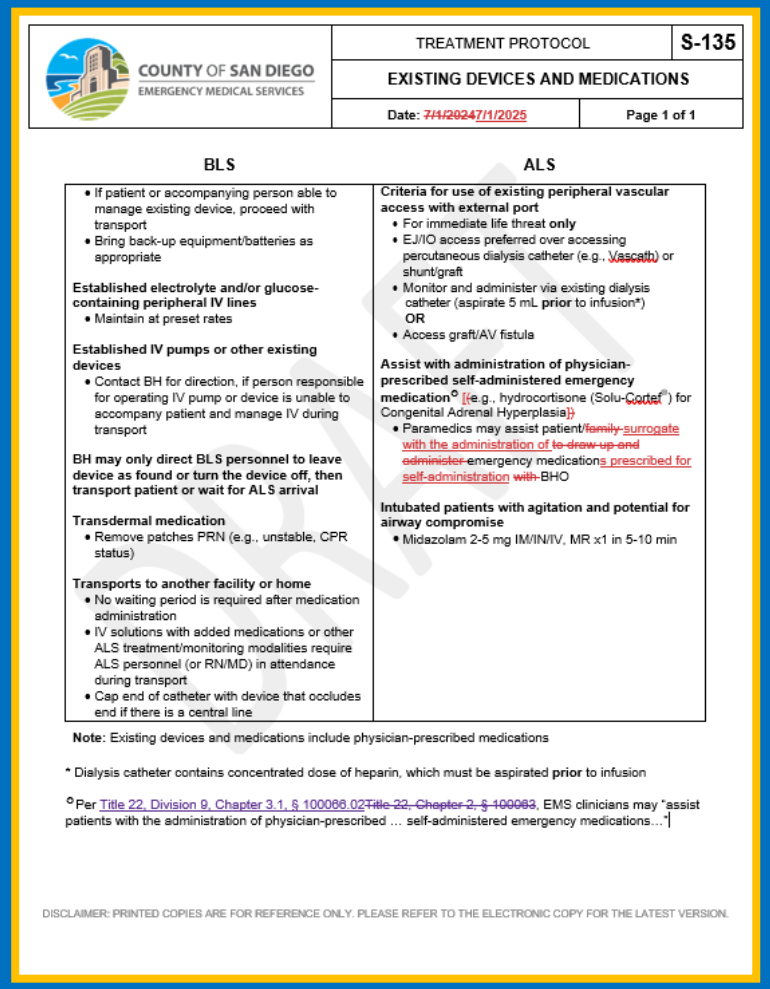
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

Revisions

- ALS
  - Suspected calcium channel blocker OD (SBP <90 mmHg)
    - $CaCl_2$ 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: ~~7/1/2024~~7/1/2025	Page 1 of 1

BLS	ALS
• If patient or accompanying person able to manage existing device, proceed with transport • Bring back-up equipment/batteries as appropriate **Established electrolyte and/or glucose-containing peripheral IV lines** • Maintain at preset rates **Established IV pumps or other existing devices** • Contact BH for direction, if person responsible for operating IV pump or device is unable to accompany patient and manage IV during transport **BH may only direct BLS personnel to leave device as found or turn the device off, then transport patient or wait for ALS arrival** **Transdermal medication** • Remove patches PRN (e.g., unstable, CPR status) **Transports to another facility or home** • 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	**Criteria for use of existing peripheral vascular access with external port** • For immediate life threat **only** • EJ/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 **Assist with administration of physician-prescribed self-administered emergency medication**° [(e.g., hydrocortisone (Solu-Cortef®) for Congenital Adrenal Hyperplasia)] • Paramedics may assist patient/~~family~~ surrogate with the administration of ~~to draw up and administer~~ emergency medications prescribed for self-administration ~~with~~ BHO **Intubated patients with agitation and potential for airway compromise** • 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

°Per Title 22, Division 9, Chapter 3.1, § 100086.02~~Title 22, Chapter 2, § 100083~~, EMS clinicians may "assist patients with the administration of physician-prescribed … self-administered emergency medications…"

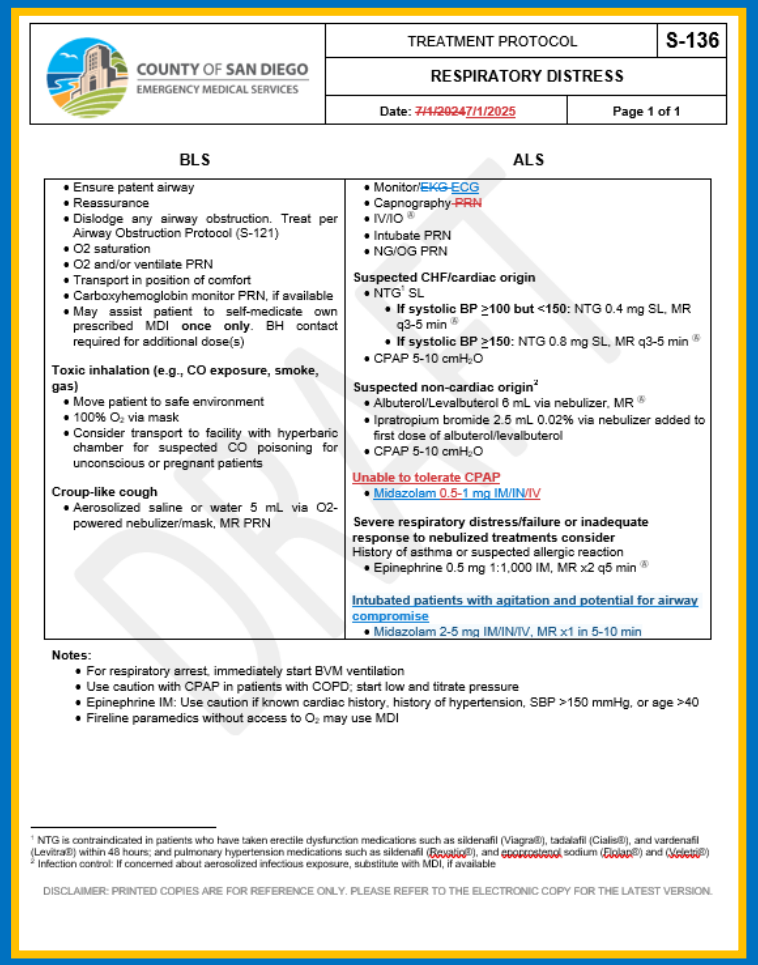
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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

BLS

- 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)

Toxic inhalation (e.g., CO exposure, smoke, gas)

- Move patient to safe environment
- 100% O_2 via mask
- Consider transport to facility with hyperbaric chamber for suspected CO poisoning for unconscious or pregnant patients

Croup-like cough

- Aerosolized saline or water 5 mL via O2-powered nebulizer/mask, MR PRN

ALS

- Monitor/~~EKG~~ ECG
- Capnography ~~PRN~~
- IV/IO ⑥
- Intubate PRN
- NG/OG PRN

Suspected CHF/cardiac origin

- NTG[1] SL
  - **If systolic BP ≥100 but <150:** NTG 0.4 mg SL, MR q3-5 min ⑥
  - **If systolic BP ≥150:** NTG 0.8 mg SL, MR q3-5 min ⑥
- CPAP 5-10 cmH_2O

Suspected non-cardiac origin[2]

- Albuterol/Levalbuterol 6 mL via nebulizer, MR ⑥
- Ipratropium bromide 2.5 mL 0.02% via nebulizer added to first dose of albuterol/levalbuterol
- CPAP 5-10 cmH_2O

Unable to tolerate CPAP

- Midazolam 0.5-1 mg IM/IN/IV

Severe respiratory distress/failure or inadequate response to nebulized treatments consider
History of asthma or suspected allergic reaction

- Epinephrine 0.5 mg 1:1,000 IM, MR x2 q5 min ⑥

Intubated patients with agitation and potential for airway compromise

- 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 O_2 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 epoprostenol sodium (Flolan®) and (Veletri®)
[2] Infection control: If concerned about aerosolized infectious exposure, substitute with MDI, if available

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

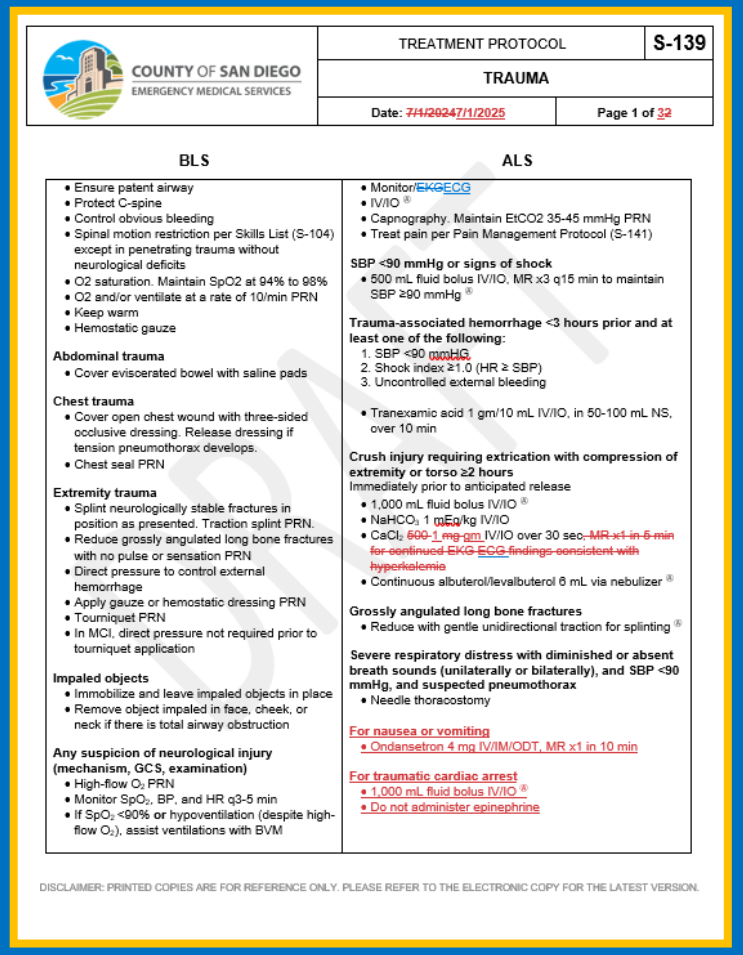
DRAFT

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/IO, MR x1 in 5-10 min

S-139

Trauma



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-139
TRAUMA	
Date: ~~7/1/2024~~7/1/2025	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 evisoerated 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 O_2 PRN
- Monitor SpO_2, BP, and HR q3-5 min
- If SpO_2 <90% or hypoventilation (despite high-flow O_2), 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
- $NaHCO_3$ 1 mEq/kg IV/IO
- $CaCl_2$ ~~500~~ 1 ~~mg~~ gm 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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

DRAFT

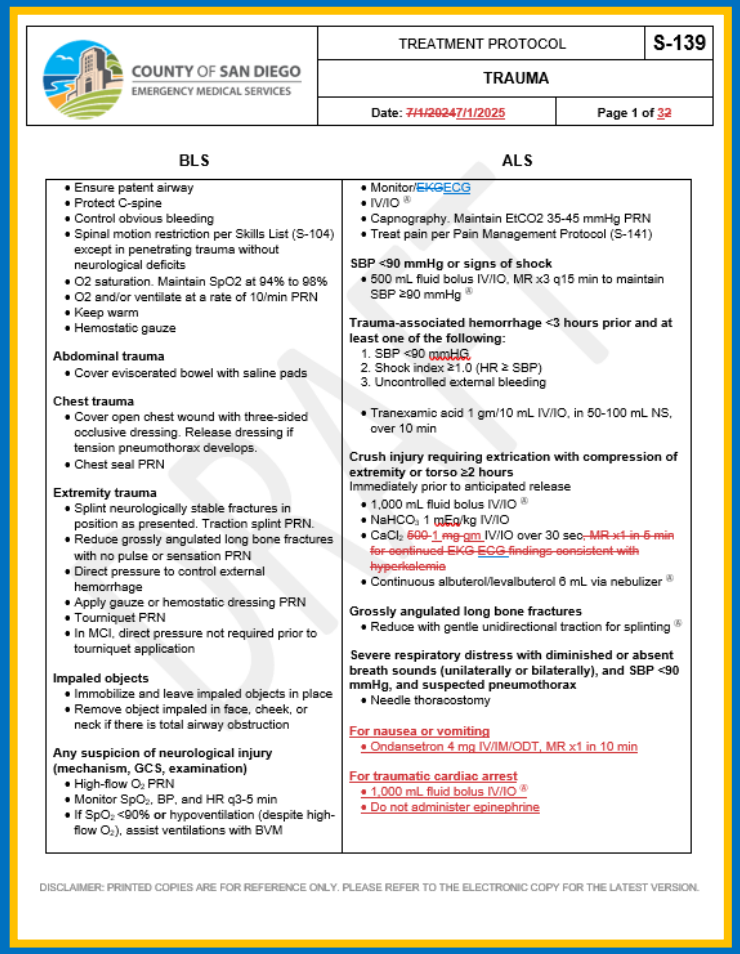
COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES

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

S-139

Trauma



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-139
TRAUMA	
Date: ~~7/1/2024~~7/1/2025	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 evisoerated 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 O_2 PRN
- Monitor SpO_2, BP, and HR q3-5 min
- If SpO_2 <90% or hypoventilation (despite high-flow O_2), 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 Ⓐ
- $NaHCO_3$ 1 mEq/kg IV/IO
- $CaCl_2$ ~~500~~ 1 ~~mg~~ gm 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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

DRAFT

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

S-139

Trauma

COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-139
TRAUMA	
Date: ~~7/1/2024~~7/1/2025	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 evisoerated 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 O_2 PRN
- Monitor SpO_2, BP, and HR q3-5 min
- If SpO_2 <90% or hypoventilation (despite high-flow O_2), assist ventilations with BVM

ALS

- Monitor/~~EKG~~ECG
- IV/IO [6]
- 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 [6]

Trauma-associated hemorrhage <3 hours prior and at least one of the following:
1. SBP <90 ~~mm~~mHG
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 [6]
- $NaHCO_3$ 1 ~~mEq~~/kg IV/IO
- $CaCl_2$ ~~500~~ 1 ~~mg~~ gm 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 [6]

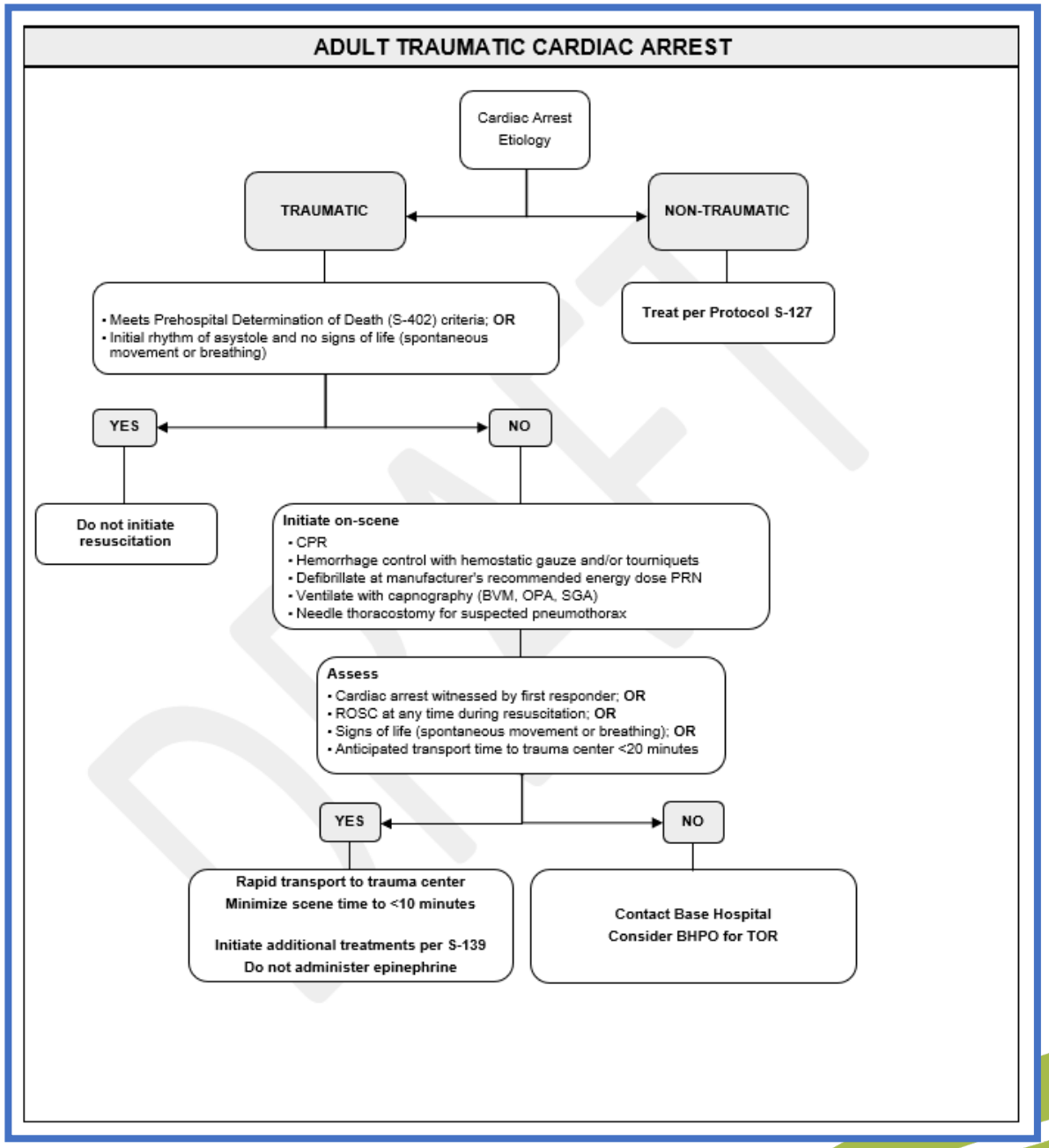
Grossly angulated long bone fractures
- Reduce with gentle unidirectional traction for splinting [6]

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 [6]
- Do not administer epinephrine

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

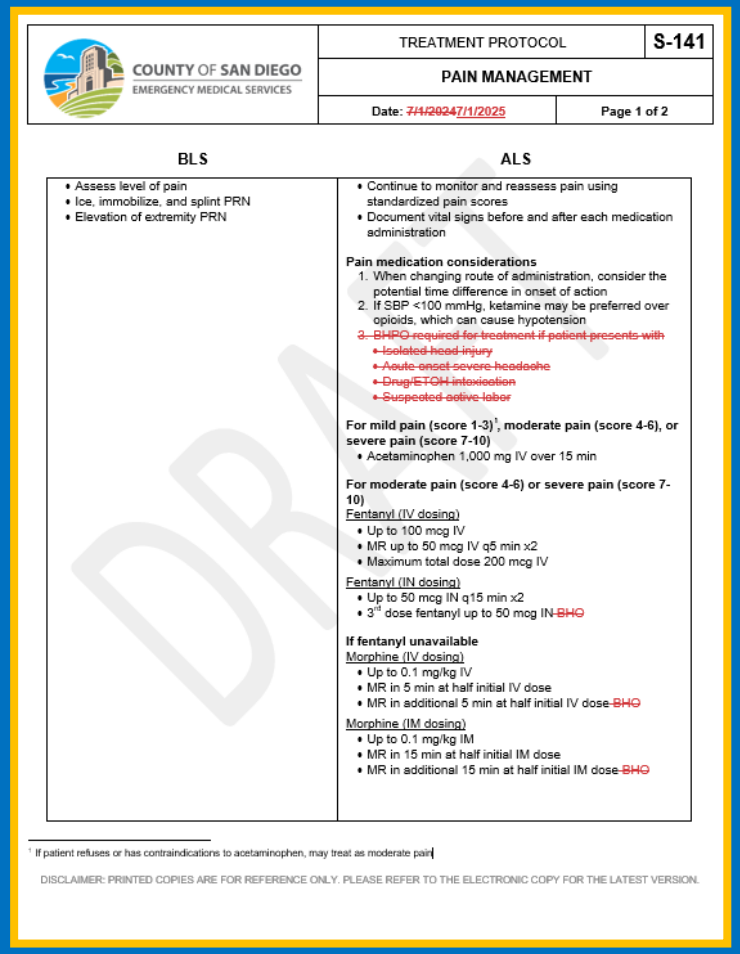


COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

SANDIEGOCOUNTYEMS.COM

S-141

Pain Management



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-141
PAIN MANAGEMENT	
Date: ~~7/1/2024~~7/1/2025	Page 1 of 2

BLS

- Assess level of pain
- Ice, immobilize, and splint PRN
- Elevation of extremity PRN

ALS

- Continue to monitor and reassess pain using standardized pain scores
- Document vital signs before and after each medication administration

Pain medication considerations

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
3. ~~BHPO required for treatment if patient presents with~~
   - ~~Isolated head injury~~
   - ~~Acute onset severe headache~~
   - ~~Drug/ETOH intoxication~~
   - ~~Suspected active labor~~

For mild pain (score 1-3)[1], moderate pain (score 4-6), or severe pain (score 7-10)

- Acetaminophen 1,000 mg IV over 15 min

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

Fentanyl (IV dosing)
- Up to 100 mcg IV
- MR up to 50 mcg IV q5 min x2
- Maximum total dose 200 mcg IV

Fentanyl (IN dosing)
- Up to 50 mcg IN q15 min x2
- 3rd dose fentanyl up to 50 mcg IN ~~BHO~~

If fentanyl unavailable

Morphine (IV dosing)
- 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~~

Morphine (IM dosing)
- 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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

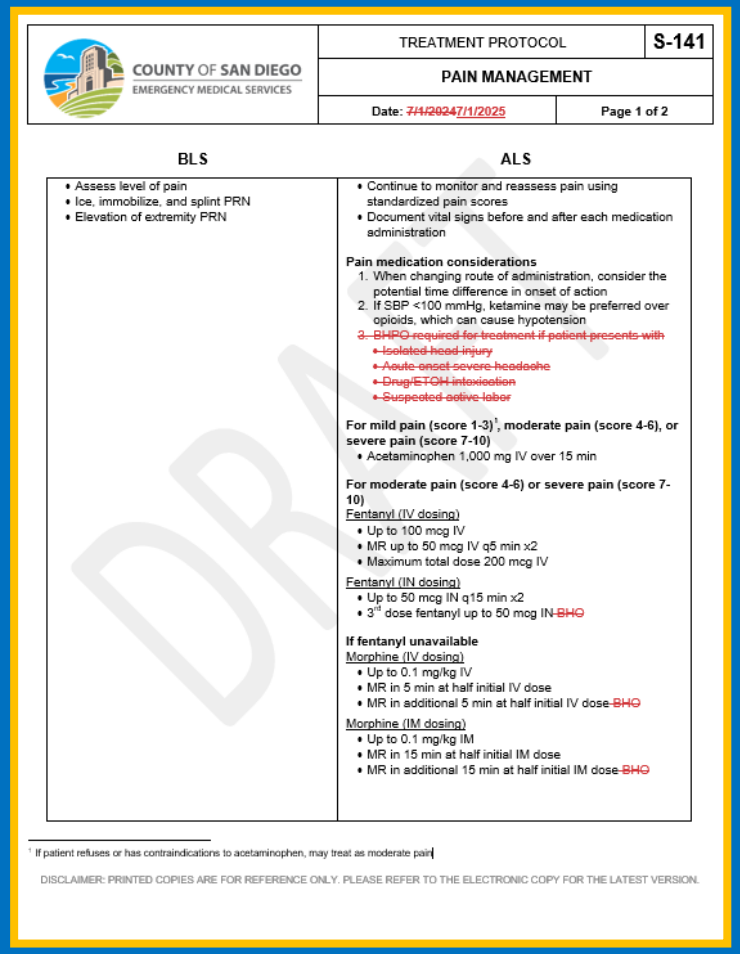
COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES

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

S-141

Pain Management



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-141
PAIN MANAGEMENT	
Date: ~~7/1/2024~~7/1/2025	Page 1 of 2

BLS

- Assess level of pain
- Ice, immobilize, and splint PRN
- Elevation of extremity PRN

ALS

- Continue to monitor and reassess pain using standardized pain scores
- Document vital signs before and after each medication administration

Pain medication considerations

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
3. ~~BHPC required for treatment if patient presents with~~
   - ~~Isolated head injury~~
   - ~~Acute onset severe headache~~
   - ~~Drug/ETOH intoxication~~
   - ~~Suspected active labor~~

For mild pain (score 1-3)[1], moderate pain (score 4-6), or severe pain (score 7-10)

- Acetaminophen 1,000 mg IV over 15 min

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

Fentanyl (IV dosing)
- Up to 100 mcg IV
- MR up to 50 mcg IV q5 min x2
- Maximum total dose 200 mcg IV

Fentanyl (IN dosing)
- Up to 50 mcg IN q15 min x2
- 3rd dose fentanyl up to 50 mcg IN ~~BHO~~

If fentanyl unavailable

Morphine (IV dosing)
- 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~~

Morphine (IM dosing)
- 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

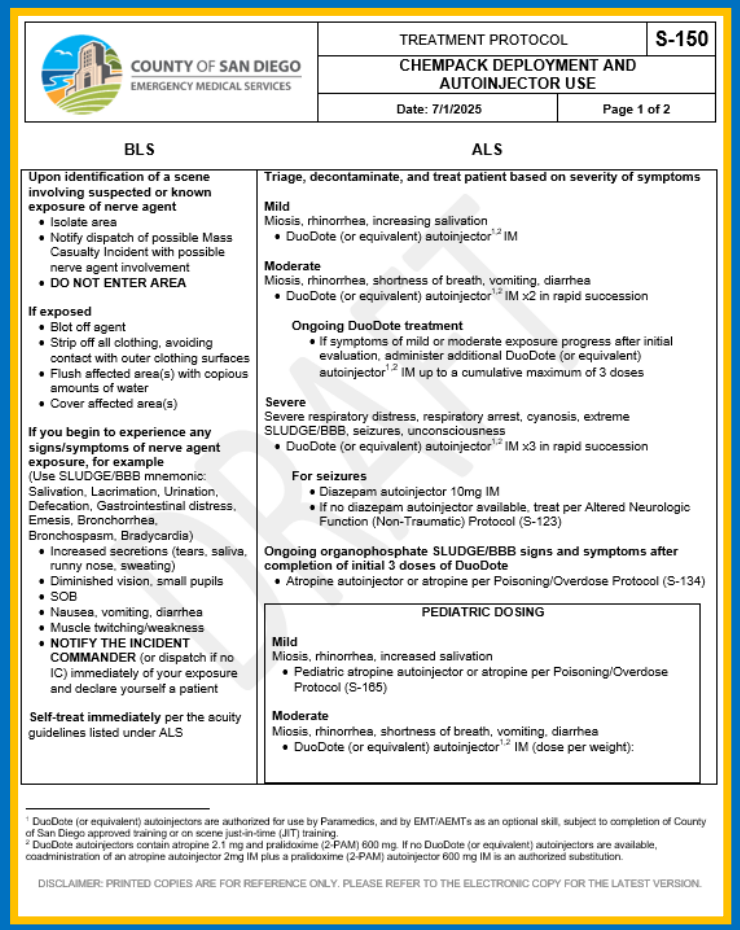
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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”

S-150

CHEMPACK Deployment and Autoinjector Use



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-150

CHEMPACK DEPLOYMENT AND AUTOINJECTOR USE

Date: 7/1/2025 | Page 1 of 2

BLS

Upon identification of a scene involving suspected or known exposure of nerve agent
- Isolate area
- Notify dispatch of possible Mass Casualty Incident with possible nerve agent involvement
- **DO NOT ENTER AREA**

If exposed
- 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)

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)
- Increased secretions (tears, saliva, runny nose, sweating)
- Diminished vision, small pupils
- SOB
- Nausea, vomiting, diarrhea
- Muscle twitching/weakness
- **NOTIFY THE INCIDENT COMMANDER** (or dispatch if no IC) immediately of your exposure and declare yourself a patient

Self-treat immediately per the acuity guidelines listed under ALS

ALS

Triage, decontaminate, and treat patient based on severity of symptoms

Mild
Miosis, rhinorrhea, increasing salivation
- DuoDote (or equivalent) autoinjector[1,2] IM

Moderate
Miosis, rhinorrhea, shortness of breath, vomiting, diarrhea
- DuoDote (or equivalent) autoinjector[1,2] IM x2 in rapid succession

Ongoing DuoDote treatment
- 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

Severe
Severe respiratory distress, respiratory arrest, cyanosis, extreme SLUDGE/BBB, seizures, unconsciousness
- DuoDote (or equivalent) autoinjector[1,2] IM x3 in rapid succession

For seizures
- Diazepam autoinjector 10mg IM
- If no diazepam autoinjector available, treat per Altered Neurologic Function (Non-Traumatic) Protocol (S-123)

Ongoing organophosphate SLUDGE/BBB signs and symptoms after completion of initial 3 doses of DuoDote
- Atropine autoinjector or atropine per Poisoning/Overdose Protocol (S-134)

PEDIATRIC DOSING

Mild
Miosis, rhinorrhea, increased salivation
- Pediatric atropine autoinjector or atropine per Poisoning/Overdose Protocol (S-165)

Moderate
Miosis, rhinorrhea, shortness of breath, vomiting, diarrhea
- 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.

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

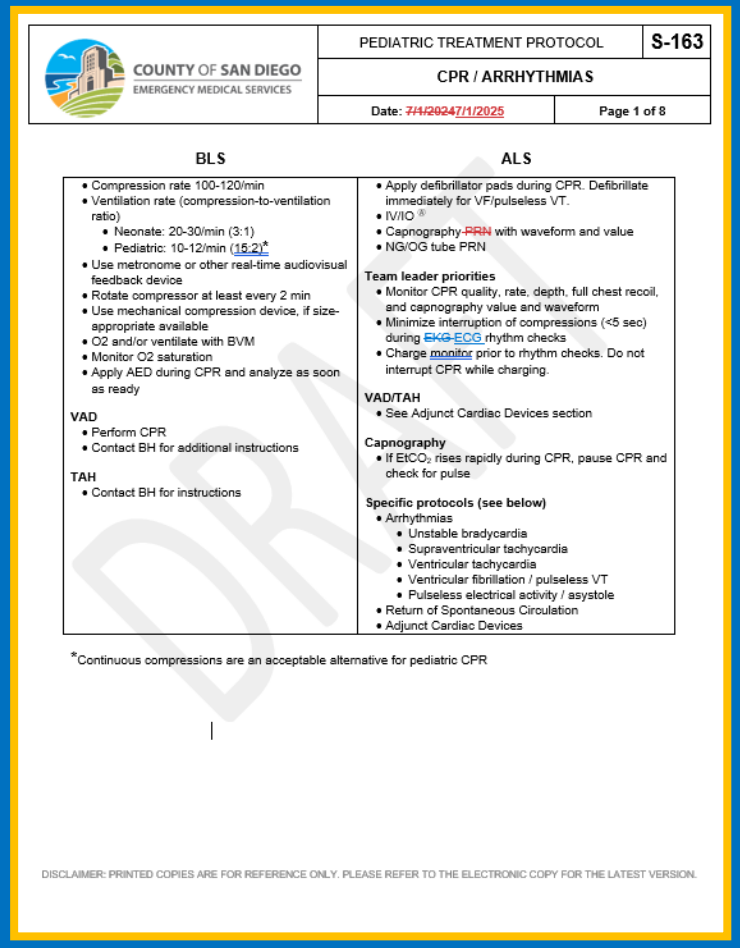
DRAFT

Revisions

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

S-163

CPR / Arrythmias



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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

BLS

- Compression rate 100-120/min
- Ventilation rate (compression-to-ventilation ratio)
  - 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

VAD

- Perform CPR
- Contact BH for additional instructions

TAH

- Contact BH for instructions

ALS

- Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT.
- IV/IO ®
- Capnography ~~PRN~~ with waveform and value
- NG/OG tube PRN

Team leader priorities

- 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.

VAD/TAH

- See Adjunct Cardiac Devices section

Capnography

- If $EtCO_2$ rises rapidly during CPR, pause CPR and check for pulse

Specific protocols (see below)

- Arrhythmias
  - 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

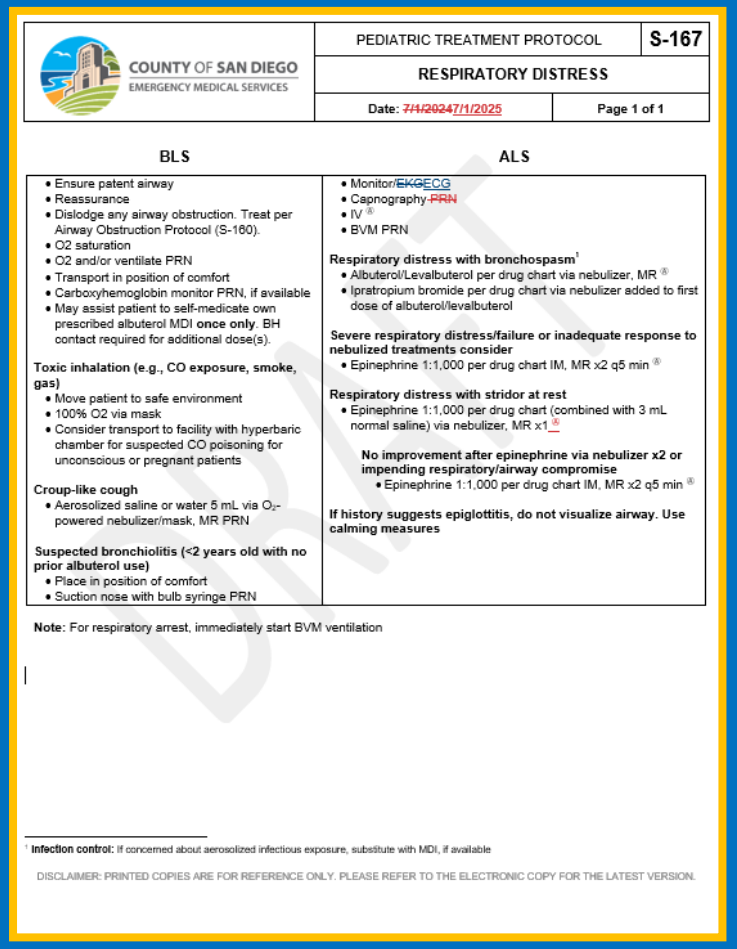
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

Revisions

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

S-167

Respiratory Distress



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-167

RESPIRATORY DISTRESS

Date: ~~7/1/2024~~7/1/2025 | Page 1 of 1

BLS

- Ensure patent airway
- Reassurance
- Dislodge any airway obstruction. Treat per Airway Obstruction Protocol (S-160).
- 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).

Toxic inhalation (e.g., CO exposure, smoke, gas)

- 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

Croup-like cough

- Aerosolized saline or water 5 mL via O_2-powered nebulizer/mask, MR PRN

Suspected bronchiolitis (<2 years old with no prior albuterol use)

- Place in position of comfort
- Suction nose with bulb syringe PRN

ALS

- Monitor/~~EKG~~ECG
- Capnography ~~PRN~~
- IV Ⓐ
- BVM PRN

Respiratory distress with bronchospasm[1]

- Albuterol/Levalbuterol per drug chart via nebulizer, MR Ⓐ
- Ipratropium bromide per drug chart via nebulizer added to first dose of albuterol/levalbuterol

Severe respiratory distress/failure or inadequate response to nebulized treatments consider

- Epinephrine 1:1,000 per drug chart IM, MR x2 q5 min Ⓐ

Respiratory distress with stridor at rest

- Epinephrine 1:1,000 per drug chart (combined with 3 mL normal saline) via nebulizer, MR x1 Ⓐ

No improvement after epinephrine via nebulizer x2 or impending respiratory/airway compromise

- Epinephrine 1:1,000 per drug chart IM, MR x2 q5 min Ⓐ

If history suggests epiglottitis, do not visualize airway. Use calming measures

Note: For respiratory arrest, immediately start BVM ventilation

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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

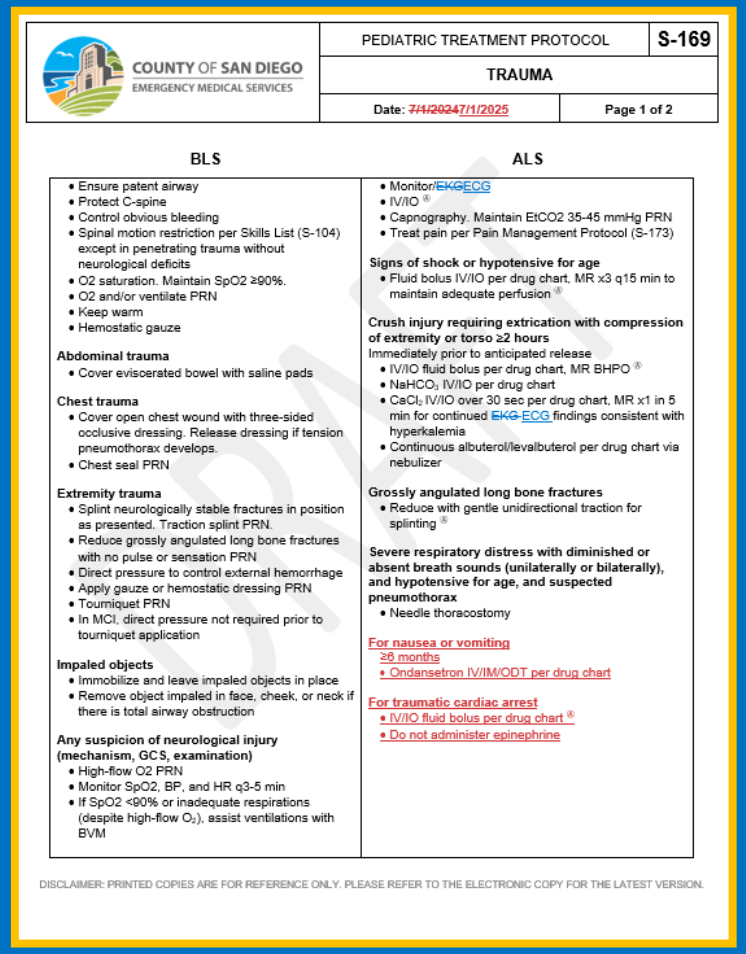
DRAFT

New Additions

- ALS
  - Respiratory distress with stridor at rest
    - Added "Ⓐ" to the treatment to authorize AEMTs to administer nebulized epinephrine

S-169

Trauma



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-169

TRAUMA

Date: ~~7/1/2024~~7/1/2025 | Page 1 of 2

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 ≥90%.
- O2 and/or ventilate PRN
- Keep warm
- Hemostatic gauze

Abdominal trauma

- Cover evisoerated 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 inadequate respirations (despite high-flow O_2), assist ventilations with BVM

ALS

- Monitor/~~EKG~~ECG
- IV/IO ®
- Capnography. Maintain EtCO2 35-45 mmHg PRN
- Treat pain per Pain Management Protocol (S-173)

Signs of shock or hypotensive for age

- Fluid bolus IV/IO per drug chart, MR x3 q15 min to maintain adequate perfusion ®

Crush injury requiring extrication with compression of extremity or torso ≥2 hours

Immediately prior to anticipated release

- IV/IO fluid bolus per drug chart, MR BHPO ®
- $NaHCO_3$ IV/IO per drug chart
- $CaCl_2$ 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

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 hypotensive for age, and suspected pneumothorax

- Needle thoracostomy

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

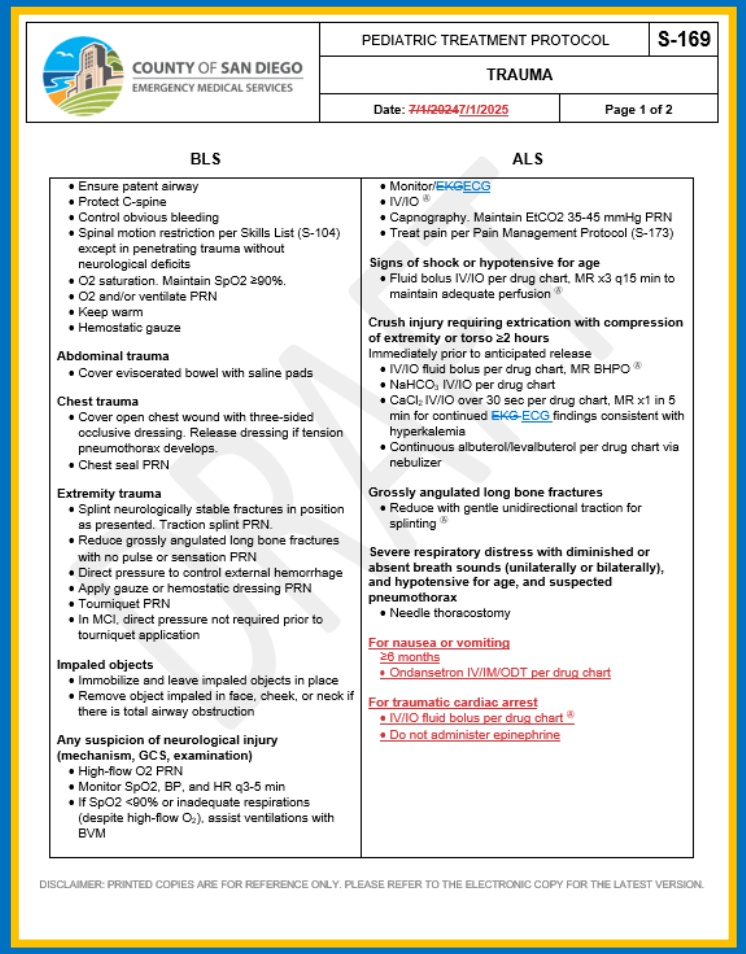
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

Revisions

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

S-169

Trauma



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-169

TRAUMA

Date: ~~7/1/2024~~7/1/2025 | Page 1 of 2

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 ≥90%.
- O2 and/or ventilate PRN
- Keep warm
- Hemostatic gauze

Abdominal trauma

- Cover evisoerated 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 inadequate respirations (despite high-flow O_2), assist ventilations with BVM

ALS

- Monitor/~~EKG~~ECG
- IV/IO Ⓐ
- Capnography. Maintain EtCO2 35-45 mmHg PRN
- Treat pain per Pain Management Protocol (S-173)

Signs of shock or hypotensive for age

- Fluid bolus IV/IO per drug chart, MR x3 q15 min to maintain adequate perfusion Ⓐ

Crush injury requiring extrication with compression of extremity or torso ≥2 hours

Immediately prior to anticipated release

- IV/IO fluid bolus per drug chart, MR BHPO Ⓐ
- $NaHCO_3$ IV/IO per drug chart
- $CaCl_2$ 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

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 hypotensive for age, and suspected pneumothorax

- Needle thoracostomy

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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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

S-169

Trauma

COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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

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 ≥90%.
- O2 and/or ventilate PRN
- Keep warm
- Hemostatic gauze

Abdominal trauma
- Cover evisoerated 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 inadequate respirations (despite high-flow O_2), assist ventilations with BVM

ALS

- Monitor/~~EKG~~ECG
- IV/IO [8]
- Capnography. Maintain EtCO2 35-45 mmHg PRN
- Treat pain per Pain Management Protocol (S-173)

Signs of shock or hypotensive for age
- Fluid bolus IV/IO per drug chart, MR x3 q15 min to maintain adequate perfusion [8]

Crush injury requiring extrication with compression of extremity or torso ≥2 hours
Immediately prior to anticipated release
- IV/IO fluid bolus per drug chart, MR BHPO [8]
- $NaHCO_3$ IV/IO per drug chart
- $CaCl_2$ 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

Grossly angulated long bone fractures
- Reduce with gentle unidirectional traction for splinting [8]

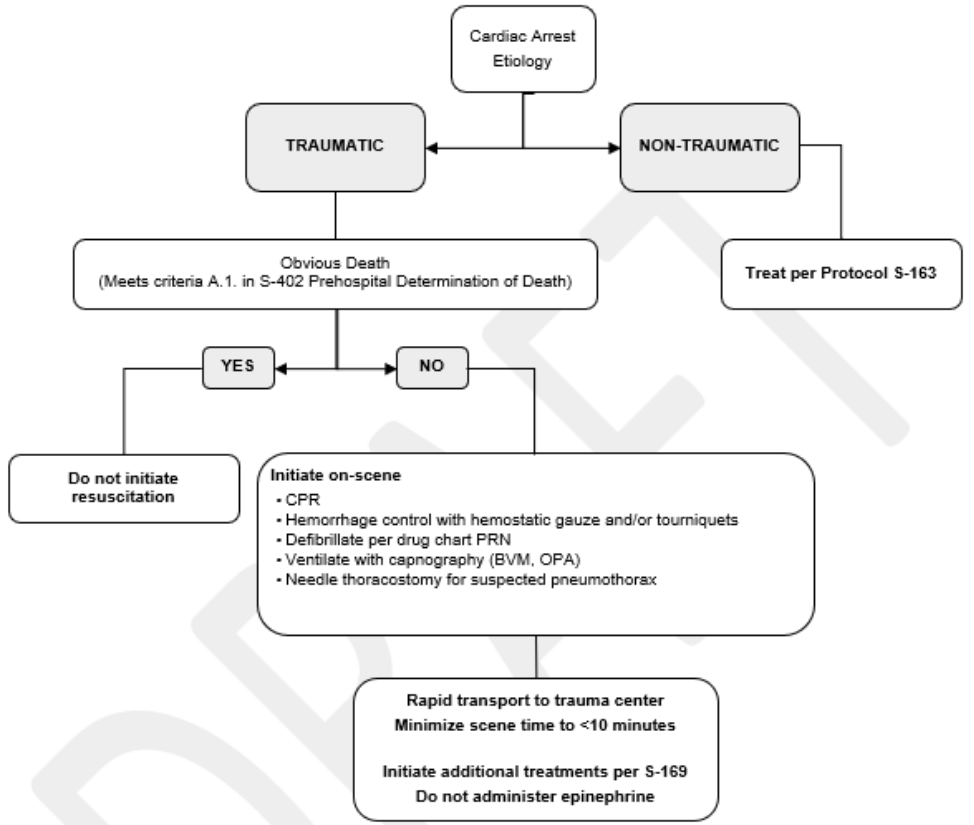
Severe respiratory distress with diminished or absent breath sounds (unilaterally or bilaterally), and hypotensive for age, and suspected pneumothorax
- Needle thoracostomy

For nausea or vomiting
≥6 months
- Ondansetron IV/IM/ODT per drug chart

For traumatic cardiac arrest
- IV/IO fluid bolus per drug chart [8]
- Do not administer epinephrine

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

PEDIATRIC TRAUMATIC CARDIAC ARREST

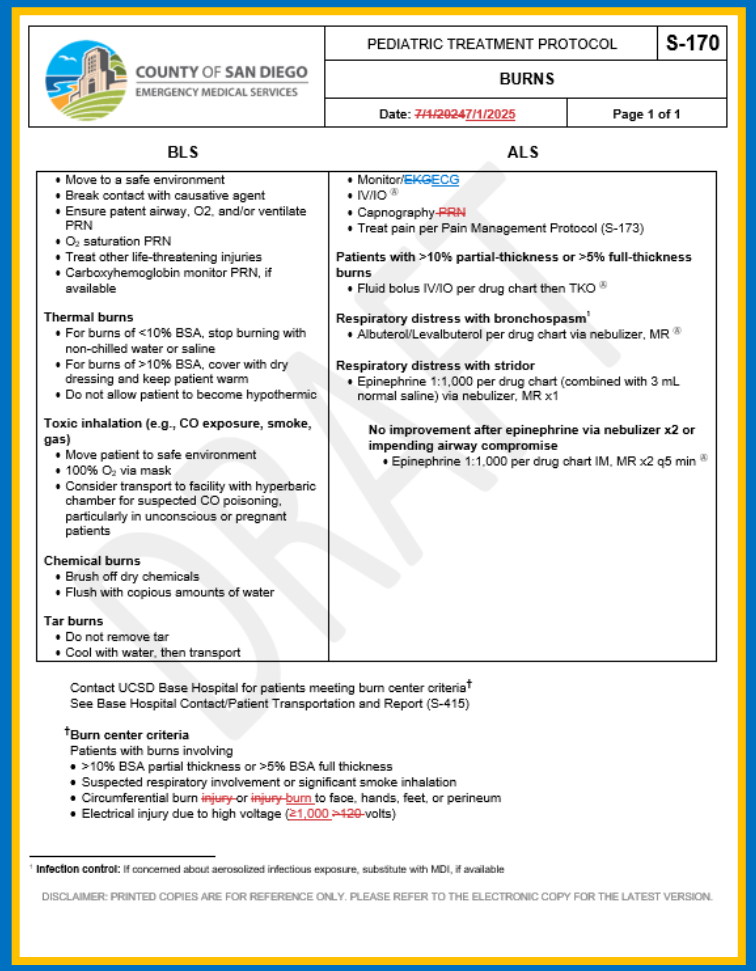


COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

SANDIEGOCOUNTYEMS.COM

S-170

Burns



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-170

BURNS

Date: ~~7/1/2024~~7/1/2025 | Page 1 of 1

BLS

- Move to a safe environment
- Break contact with causative agent
- Ensure patent airway, O2, and/or ventilate PRN
- O_2 saturation PRN
- Treat other life-threatening injuries
- Carboxyhemoglobin monitor PRN, if available

Thermal burns

- For burns of <10% BSA, stop burning with non-chilled water or saline
- For burns of >10% BSA, cover with dry dressing and keep patient warm
- Do not allow patient to become hypothermic

Toxic inhalation (e.g., CO exposure, smoke, gas)

- Move patient to safe environment
- 100% O_2 via mask
- Consider transport to facility with hyperbaric chamber for suspected CO poisoning, particularly in unconscious or pregnant patients

Chemical burns

- Brush off dry chemicals
- Flush with copious amounts of water

Tar burns

- Do not remove tar
- Cool with water, then transport

ALS

- Monitor/~~EKG~~ECG
- IV/IO ⑧
- Capnography ~~PRN~~
- Treat pain per Pain Management Protocol (S-173)

Patients with >10% partial-thickness or >5% full-thickness burns

- Fluid bolus IV/IO per drug chart then TKO ⑧

Respiratory distress with bronchospasm[1]

- Albuterol/Levalbuterol per drug chart via nebulizer, MR ⑧

Respiratory distress with stridor

- Epinephrine 1:1,000 per drug chart (combined with 3 mL normal saline) via nebulizer, MR x1

No improvement after epinephrine via nebulizer x2 or impending airway compromise

- Epinephrine 1:1,000 per drug chart IM, MR x2 q5 min ⑧

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

- >10% BSA partial thickness or >5% BSA full thickness
- Suspected respiratory involvement or significant smoke inhalation
- Circumferential burn ~~injury~~ or ~~injury~~ burn to face, hands, feet, or perineum
- Electrical injury due to high voltage (≥1,000 ~~>120~~ volts)

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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

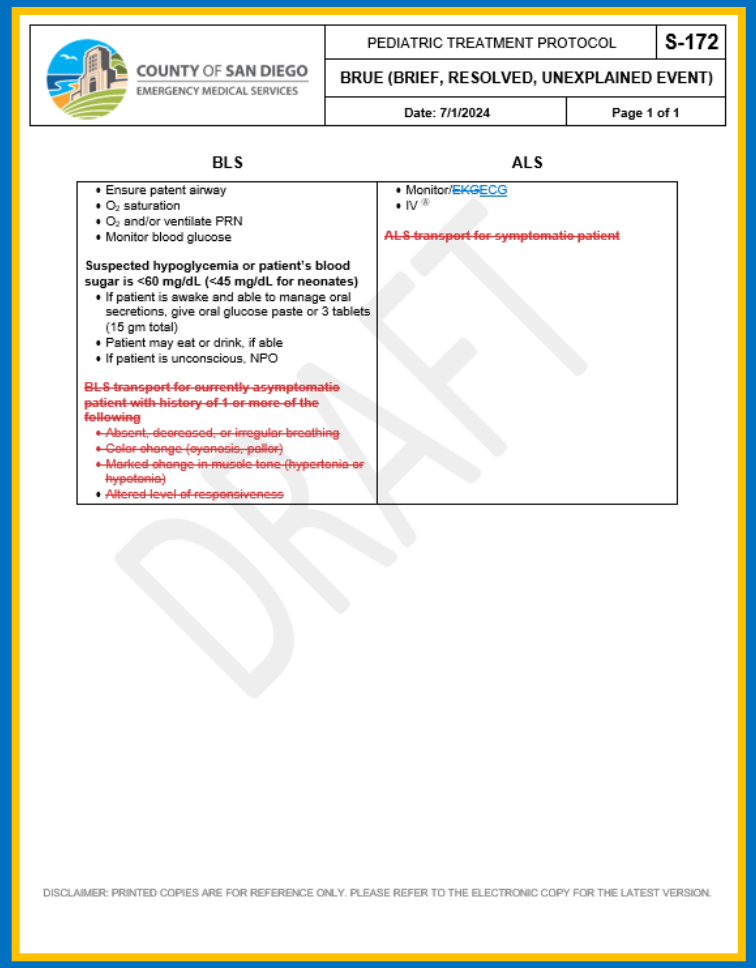
DRAFT

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-172

BRUE (Brief, Resolved, Unexplained Event)



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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

BLS	ALS
• Ensure patent airway • O_2 saturation • O_2 and/or ventilate PRN • Monitor blood glucose **Suspected hypoglycemia or patient's blood sugar is <60 mg/dL (<45 mg/dL for neonates)** • 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 ~~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~~	• Monitor/~~EKG~~ECG • IV ® ~~ALS transport for symptomatic patient~~

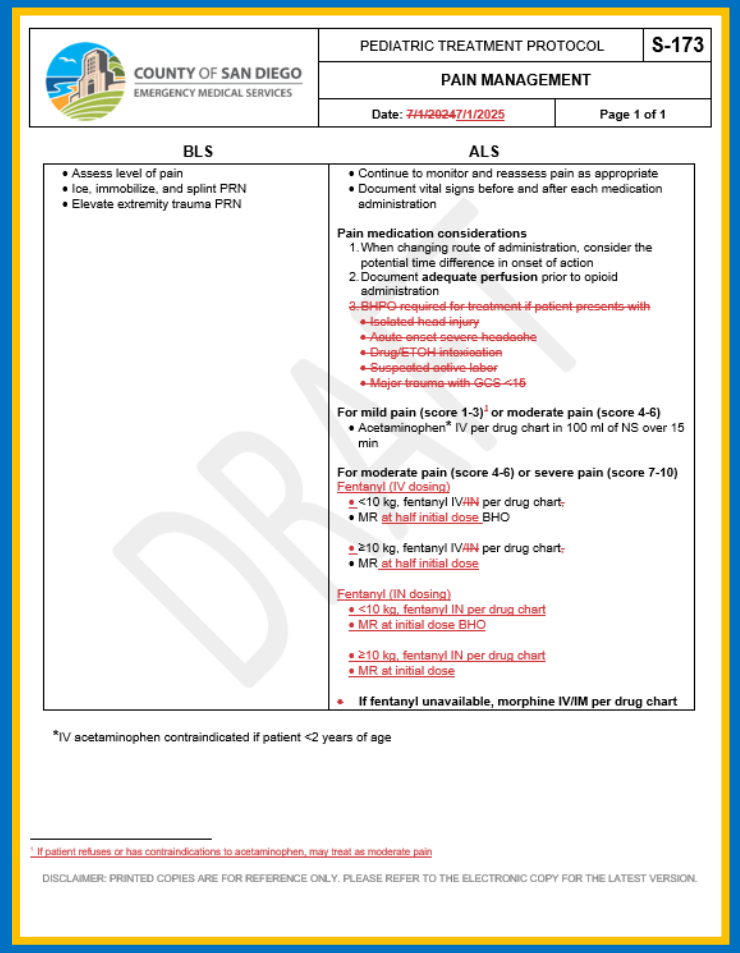
DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-173

PAIN MANAGEMENT

Date: ~~7/1/2024~~7/1/2025 | Page 1 of 1

BLS

- Assess level of pain
- Ice, immobilize, and splint PRN
- Elevate extremity trauma PRN

ALS

- Continue to monitor and reassess pain as appropriate
- Document vital signs before and after each medication administration

Pain medication considerations

1. When changing route of administration, consider the potential time difference in onset of action
2. Document **adequate perfusion** prior to opioid administration

~~3. 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~~

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~~/IN~~ per drug chart~~.~~
- MR at half initial dose BHO

- ≥10 kg, fentanyl IV~~/IN~~ per drug chart~~.~~
- MR at half initial dose

Fentanyl (IN dosing)
- <10 kg, fentanyl IN per drug chart
- MR at initial dose BHO

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

- **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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

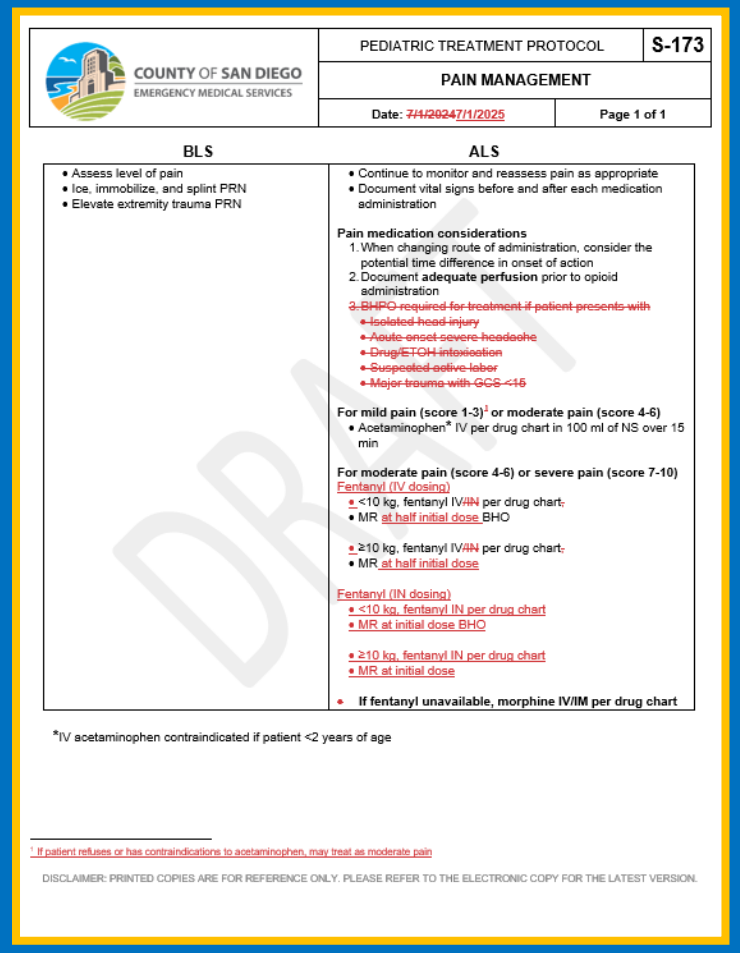
DRAFT

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”.

S-173

Pain Management



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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

BLS

- Assess level of pain
- Ice, immobilize, and splint PRN
- Elevate extremity trauma PRN

ALS

- Continue to monitor and reassess pain as appropriate
- Document vital signs before and after each medication administration

Pain medication considerations

1. When changing route of administration, consider the potential time difference in onset of action
2. Document **adequate perfusion** prior to opioid administration
3. ~~BHPC 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~~

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~~/IN~~ per drug chart~~.~~
- MR at half initial dose BHO

- ≥10 kg, fentanyl IV~~/IN~~ per drug chart~~.~~
- MR at half initial dose

Fentanyl (IN dosing)

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

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

- **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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

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)

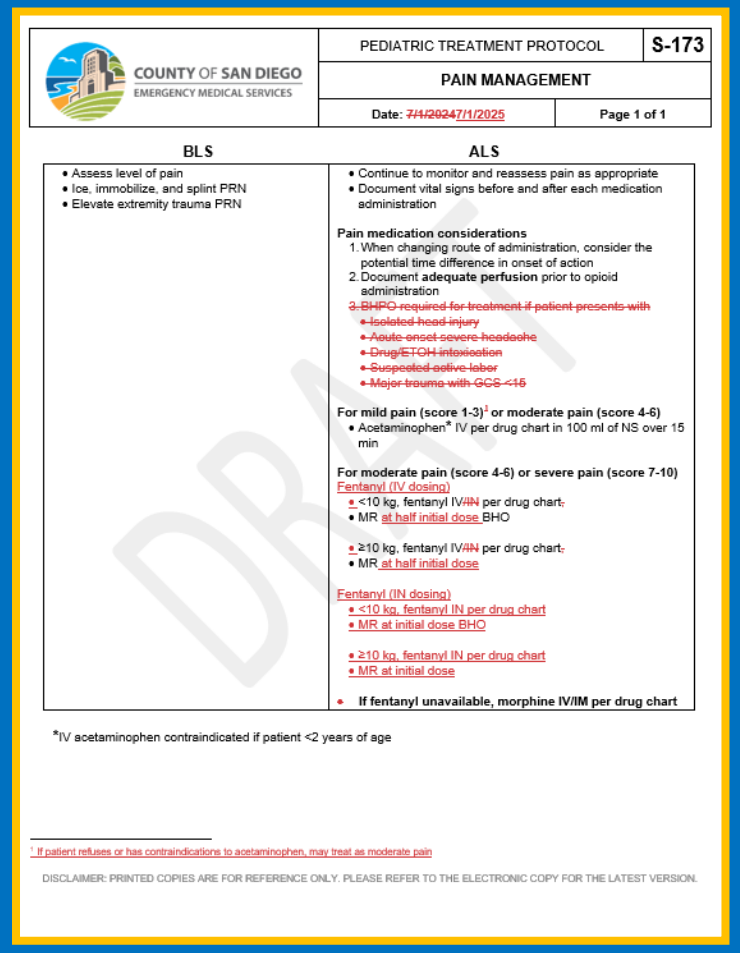
- <10 kg, fentanyl IN per drug chart
- MR at initial IN dose BHO

- ≥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



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

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

BLS

- Assess level of pain
- Ice, immobilize, and splint PRN
- Elevate extremity trauma PRN

ALS

- Continue to monitor and reassess pain as appropriate
- Document vital signs before and after each medication administration

Pain medication considerations

1. When changing route of administration, consider the potential time difference in onset of action
2. Document **adequate perfusion** prior to opioid administration

~~3. BHPC 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~~

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~~/IN~~ per drug chart~~.~~
- MR at half initial dose BHO

- ≥10 kg, fentanyl IV~~/IN~~ per drug chart~~.~~
- MR at half initial dose

Fentanyl (IN dosing)
- <10 kg, fentanyl IN per drug chart
- MR at initial dose BHO

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

- **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

DISCLAIMER: PRINTED COPIES ARE FOR REFERENCE ONLY. PLEASE REFER TO THE ELECTRONIC COPY FOR THE LATEST VERSION.

DRAFT

New Additions

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

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