2024-2025 PROTOCOL & POLICY UPDATES

SANDIEGOCOUNTYEMS.COM

Updated 5/20/2024

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- S-102 Abbreviation List
- S-103 BLS/ALS Ambulance Inventory
- S-104 Skills List
- P-115 Medication List
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- S-122 Allergic Reaction / Anaphylaxis
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- S-127 CPR / Arrhythmias
- S-131 Hemodialysis Patient
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- P-115A Pediatric Weight-Based Dosage Standards
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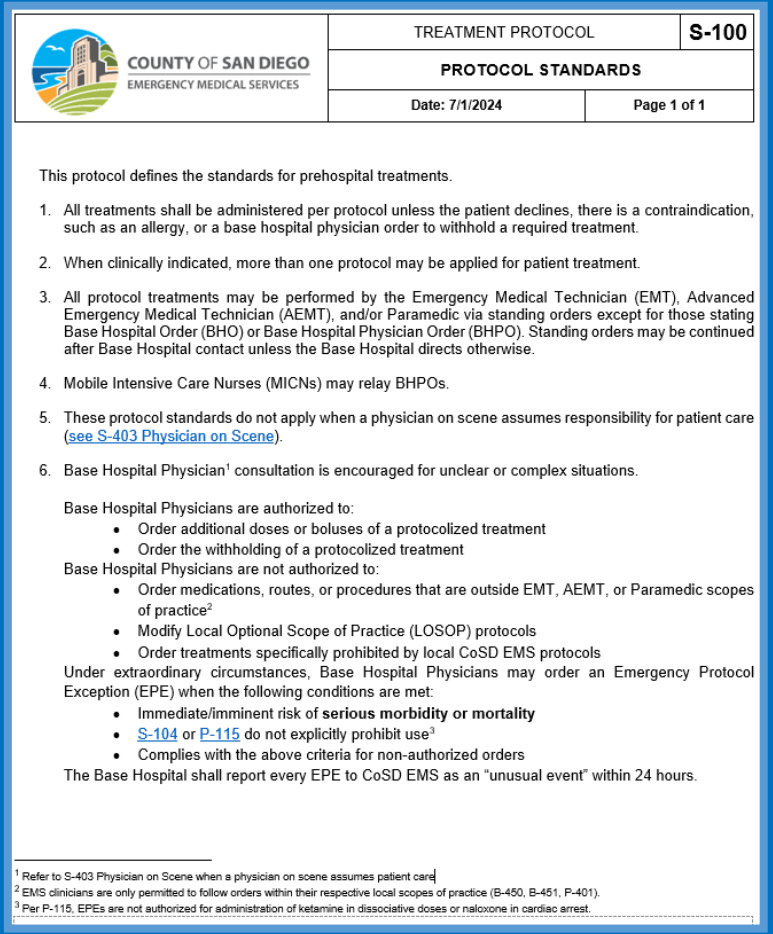
- S-163 CPR / Arrhythmias
- S-165 Poisoning / Overdose
- S-166 Obstetrical Emergencies / Newborn Deliveries
- S-167 Respiratory Distress
- S-168 Shock
- S-169 Trauma
- S-170 Burns
- S-173 Pain Management
- S-175 Psychiatric / Behavioral Emergencies
- S-177 Sepsis

S-100

Protocol Standards



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-100
PROTOCOL STANDARDS	
Date: 7/1/2024	Page 1 of 1

This protocol defines the standards for prehospital treatments.

1. 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.
2. When clinically indicated, more than one protocol may be applied for patient treatment.
3. 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.
4. Mobile Intensive Care Nurses (MICNs) may relay BHPOs.
5. These protocol standards do not apply when a physician on scene assumes responsibility for patient care (see S-403 Physician on Scene).
6. 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 use[3]
   - 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.

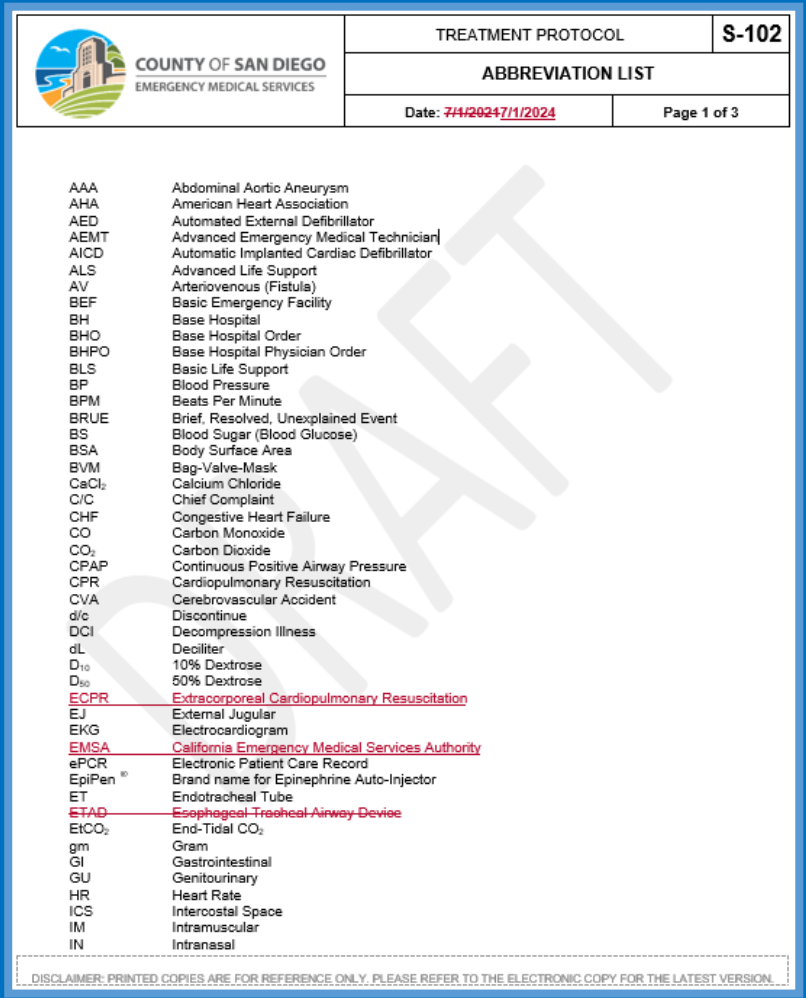
[1] Refer to S-403 Physician on Scene when a physician on scene assumes patient care
[2] EMS clinicians are only permitted to follow orders within their respective local scopes of practice (B-450, B-451, P-401).
[3] Per P-115, EPEs are not authorized for administration of ketamine in dissociative doses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

Revisions

- P-408 Variation from San Diego County Protocols for Advanced Life Support will be sunset on July 1, 2024
- S-100 was revised to establish the appropriate use of online medication direction in the absence of P-408
- S-100 includes clear and concise language regarding online medical direction that is in alignment with California EMS statutes and regulations

S-102

Abbreviation List



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-102
ABBREVIATION LIST	
Date: ~~7/1/2024~~7/1/2024	Page 1 of 3

AAA	Abdominal Aortic Aneurysm
AHA	American Heart Association
AED	Automated External Defibrillator
AEMT	Advanced Emergency Medical Technician
AICD	Automatic Implanted Cardiac Defibrillator
ALS	Advanced Life Support
AV	Arteriovenous (Fistula)
BEF	Basic Emergency Facility
BH	Base Hospital
BHO	Base Hospital Order
BHPO	Base Hospital Physician Order
BLS	Basic Life Support
BP	Blood Pressure
BPM	Beats Per Minute
BRUE	Brief, Resolved, Unexplained Event
BS	Blood Sugar (Blood Glucose)
BSA	Body Surface Area
BVM	Bag-Valve-Mask
$CaCl_2$	Calcium Chloride
C/C	Chief Complaint
CHF	Congestive Heart Failure
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
~~ETAD~~	~~Esophageal Tracheal Airway Device~~
$EtCO_2$	End-Tidal CO_2
gm	Gram
GI	Gastrointestinal
GU	Genitourinary
HR	Heart Rate
ICS	Intercostal Space
IM	Intramuscular
IN	Intranasal

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Revisions

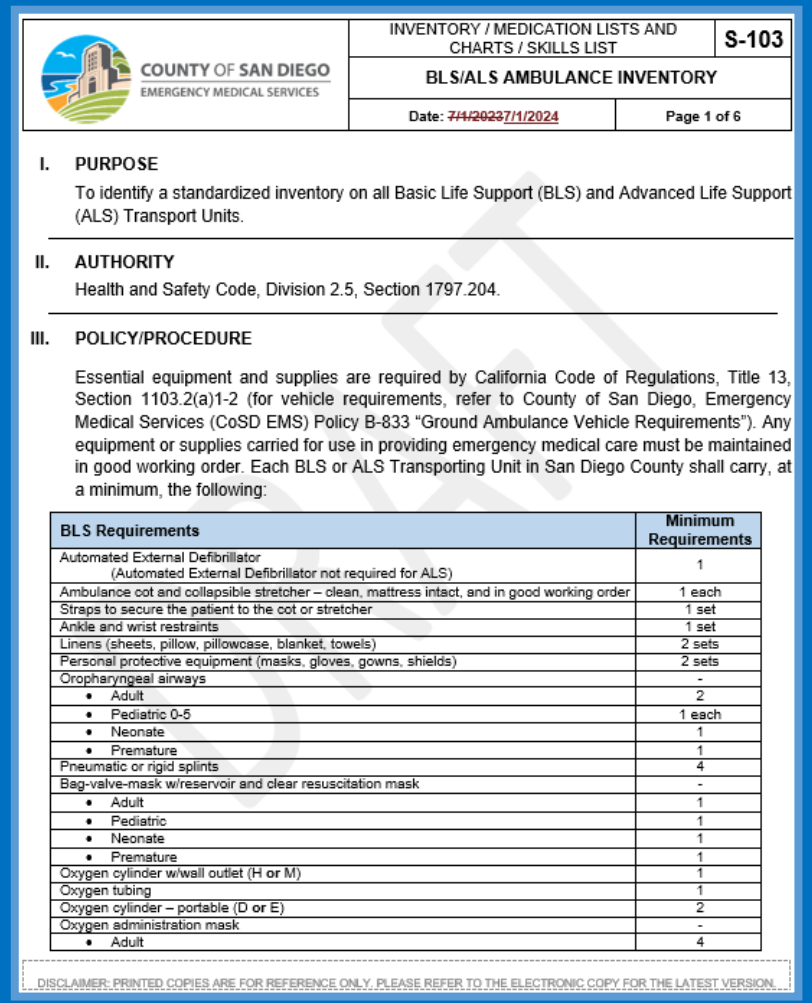
- Removed “ETAD – Esophageal Tracheal Airway ”
- ✪ – Revised to “Regulatory reference”

New Additions

- ECPR – Extracorporeal Cardiopulmonary Resuscitation
- EMSA – California Emergency Medical Services Authority
- LEMSA – Local Emergency Medical Services Agency
- LOSOP – Local Optional Scope of Practice
- SGA – Supraglottic Airway
- SLUDGE/BBB – Salivation, Lacrimation, Urination, Defecation, Gastric Emesis, Bronchorrhea, Bronchospasm, Bradycardia
- Ⓐ – Advanced Emergency Medical Technician (AEMT) Scope of Practice

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

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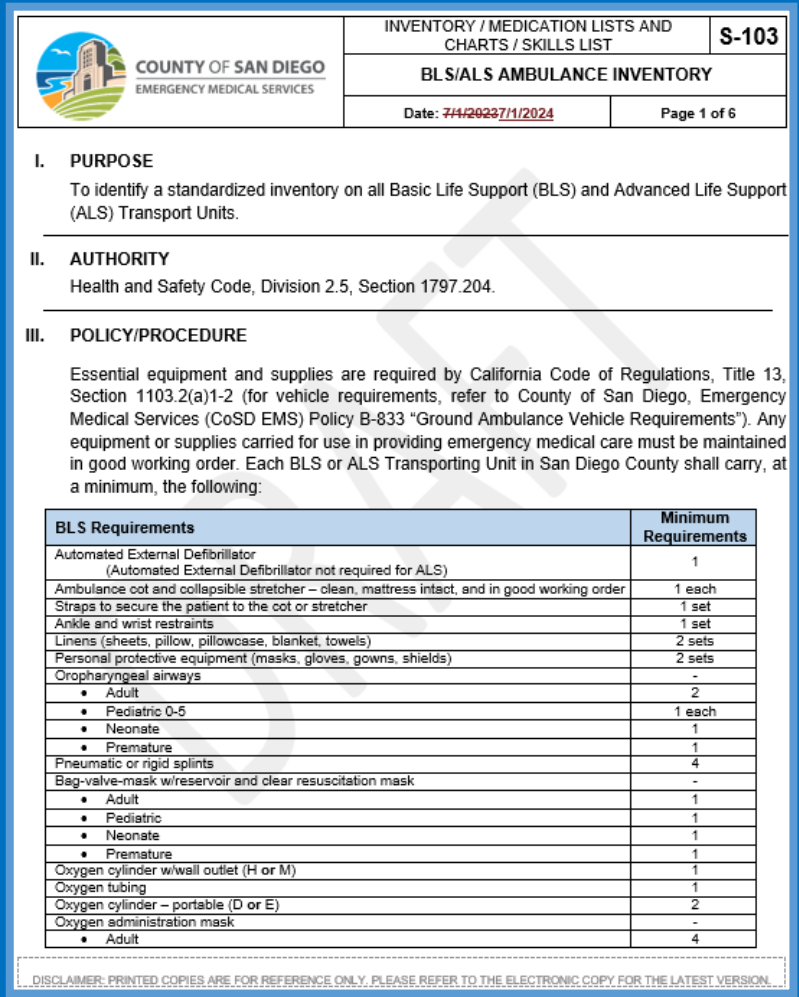
Revisions

- BLS Requirements
  - Removed PEEP valve as an optional item
  - Revised cardiac compression device to "Automated cardiac compression device (will become mandatory item for ALS on July 1, 2025)"
- ALS Requirements – Replaceable Medications
  - Removed amiodarone 150 mg/3 mL
- ALS Requirements – Optional Items
  - Revised video laryngoscope to "(recording capabilities preferred)"

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

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• Premature	1
Pneumatic or rigid splints	4
Bag-valve-mask w/reservoir and clear resuscitation mask	-
• Adult	1
• Pediatric	1
• Neonate	1
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Oxygen cylinder w/wall outlet (H or M)	1
Oxygen tubing	1
Oxygen cylinder – portable (D or E)	2
Oxygen administration mask	-
• Adult	4

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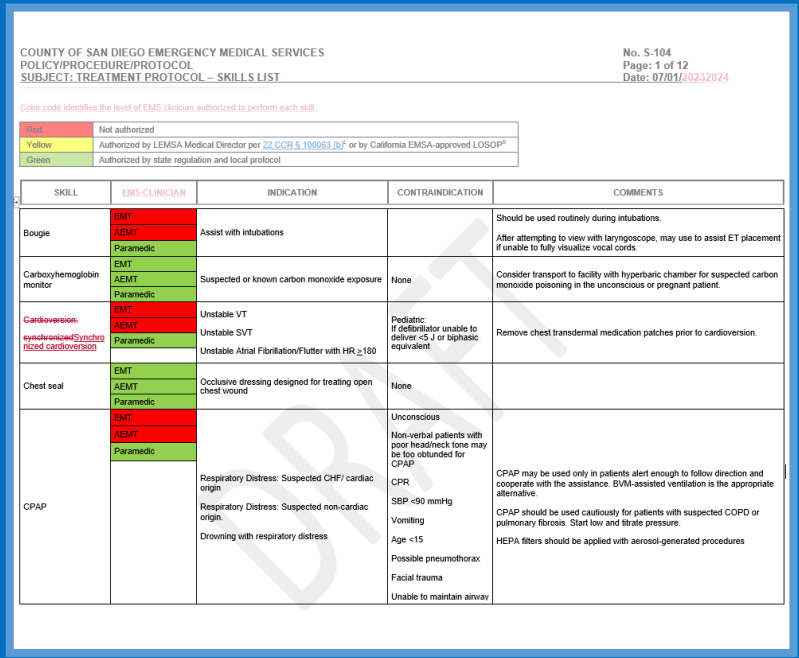
New Additions

- BLS Requirements
  - Added footnote for tourniquets "San Diego County EMS Office approves the Committee for Tactical Combat Casualty Care (CoTCCC) list of recommended tourniquets (limb non-pneumatic/limb pneumatic)."
- BLS Requirements – Optional Items
  - Added footnote for hemostatic gauze "The active hemostatic agent must be incorporated into the gauze (loose granules or granules delivered in an applicator, or particles sprinkled into the wound, are not authorized). The active hemostatic agent must not be exothermic (heat producing) upon contact with the wound"
- ALS Requirements – Airway Adjuncts
  - Added PEEP valve as a required item
- ALS Requirements – Optional Items
  - Added amiodarone 150 mg/3 mL
  - Added levalbuterol (adult and pediatric concentrations)

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 12
Date: 07/01/20232024

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[2]
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.
~~Cardioversion~~ synchronizedSynchronized 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 <15 Possible pneumothorax Facial trauma Unable to maintain airway	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures

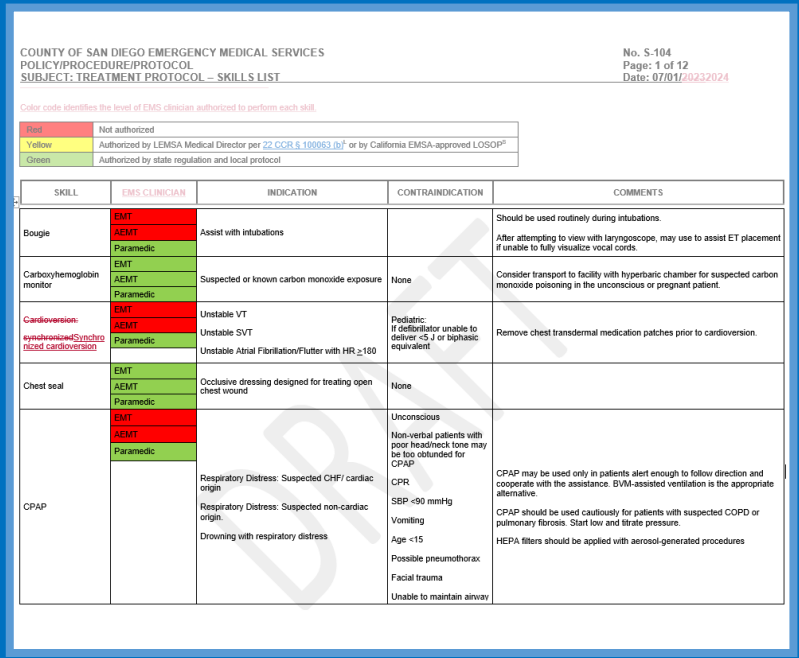
DRAFT

Revisions

- Revised cardioversion skill title to “Synchronized cardioversion”
- Revised defibrillation skill title to “Manual defibrillation”
- Revised pacing skill title to “External cardiac pacing”
- Intubation: ET/Stomal
  - Revised intubation attempts to “If able to maintain adequate ventilation, may attempt to insert ET tube up to 3 times. After 3 unsuccessful attempts, ventilate with BVM or SGA”
  - Revised ET attempt definition to “An ET attempt is defined as insertion of a laryngoscope into the oropharynx with intent to intubate”
- Intubation: Perilaryngeal airway adjuncts
  - Removed BHO for “Extubate if placement issues”

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 12
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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.
~~Cardioversion~~ synchronized/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 <15 Possible pneumothorax Facial trauma Unable to maintain airway	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures

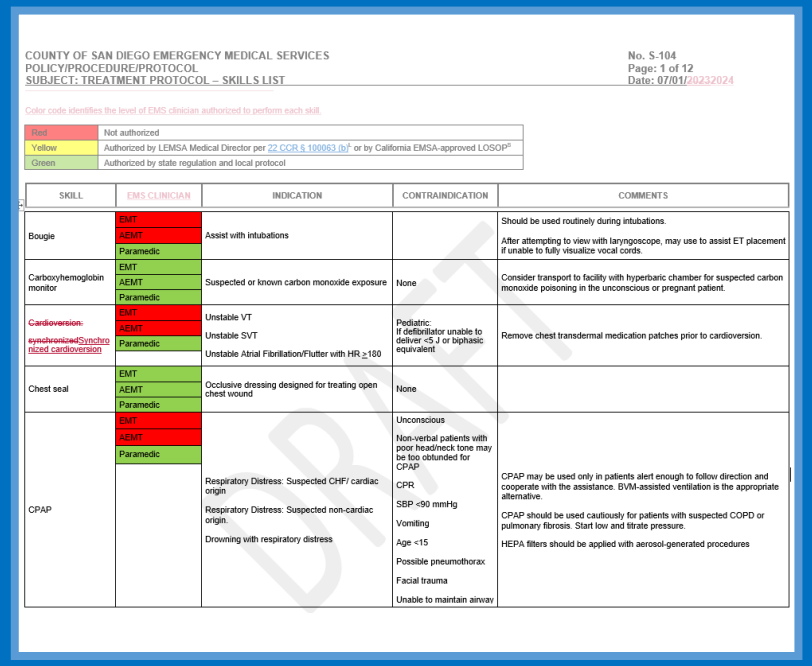
DRAFT

Revisions Continued

- Nebulizer, oxygen powered
  - Removed “albuterol” from MDI language in the comments section
- Revised removal of impaled object skill title to “Removal of impaled object obstructing airway”
- Video laryngoscope
  - Revised to include “(recording capabilities preferred)” in the comments section
- Vascular Access – Extremity
  - Removed “BHPO if other than upper extremities or external jugular”
- Vascular Access – Percutaneous Dialysis Catheter and Shunt/Graft
  - Removed BHPO
  - Only access if unable to obtain IV and for immediate life threat

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 12
Date: 07/01/~~2023~~2024

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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.
~~Cardioversion~~ synchronized 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 <15 Possible pneumothorax Facial trauma Unable to maintain airway	CPAP may be used only in patients alert enough to follow direction and cooperate with the assistance. BVM-assisted ventilation is the appropriate alternative. CPAP should be used cautiously for patients with suspected COPD or pulmonary fibrosis. Start low and titrate pressure. HEPA filters should be applied with aerosol-generated procedures

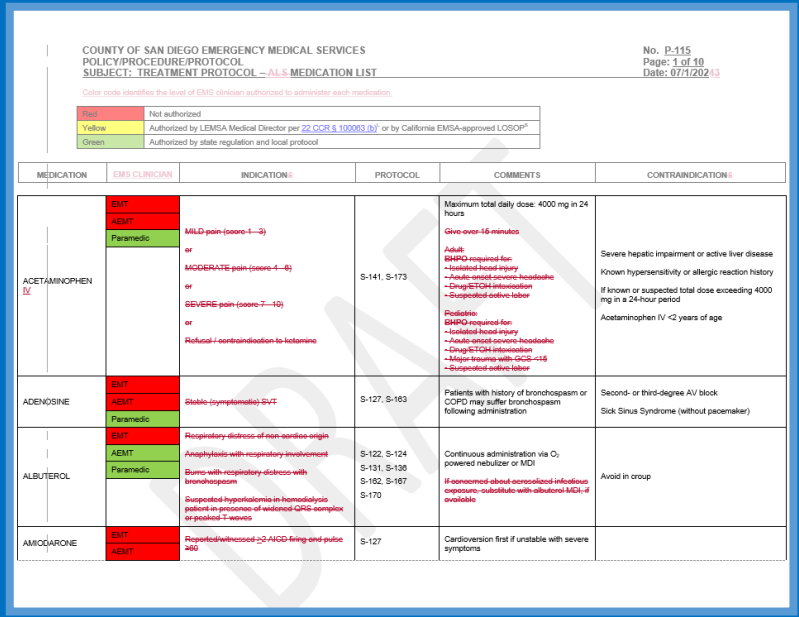
DRAFT

New Additions

- Added a table in the header with color codes to indicate the EMS clinician level authorized to perform each skill
- Added an "EMS Clinician" column to the table
- 12-lead EKG
  - Added "EMT/AEMT: May assist with placement of 12-lead EKG leads" in the comments section
- Positive end-expiratory pressure (PEEP) valve
  - Added "CPR" as a contraindication for both adult and pediatric patients
  - Added "Hypotensive for age" as a contraindication for pediatric patients
  - Added "EMT/AEMT: May perform BVM ventilations with PEEP valve in place, but not adjust settings"

P-115

Medication List



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

No. P-115
Page: 1 of 10
Date: 07/1/2023

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

Red	Not authorized
Yellow	Authorized by LEMSA Medical Director per 22 CCR § 100063 (b)[1] or by California EMSA-approved LOSOP[2]
Green	Authorized by state regulation and local protocol

MEDICATION	EMS CLINICIAN	INDICATIONS	PROTOCOL	COMMENTS	CONTRAINDICATIONS
ACETAMINOPHEN IV	EMT AEMT Paramedic	~~MILD pain (score 1 - 3)~~ ~~or~~ ~~MODERATE pain (score 4 - 6)~~ ~~or~~ ~~SEVERE pain (score 7 - 10)~~ ~~or~~ ~~Refusal / contraindication to ketamine~~	S-141, S-173	Maximum total daily dose: 4000 mg in 24 hours ~~Give over 15 minutes~~ ~~Adult:~~ ~~BHPO required for:~~ ~~• Isolated head injury~~ ~~• Acute onset severe headache~~ ~~• Drug/ETOH intoxication~~ ~~• Suspected active labor~~ ~~Pediatric:~~ ~~BHPO required for:~~ ~~• Isolated head injury~~ ~~• Acute onset severe headache~~ ~~• Drug/ETOH intoxication~~ ~~• Major trauma with GCS <15~~ ~~• Suspected active labor~~	Severe hepatic impairment or active liver disease Known hypersensitivity or allergic reaction history If known or suspected total dose exceeding 4000 mg in a 24-hour period Acetaminophen IV <2 years of age
ADENOSINE	EMT AEMT Paramedic	~~Stable (symptomatic) SVT~~	S-127, S-163	Patients with history of bronchospasm or COPD may suffer bronchospasm following administration	Second- or third-degree AV block Sick Sinus Syndrome (without pacemaker)
ALBUTEROL	EMT AEMT Paramedic	~~Respiratory distress of non-cardiac origin~~ ~~Anaphylaxis with respiratory involvement~~ ~~Burns with respiratory distress with bronchospasm~~ ~~Suspected hyperkalemia in hemodialysis patient in presence of widened QRS complex or peaked T waves~~	S-122, S-124 S-131, S-136 S-162, S-167 S-170	Continuous administration via O_2 powered nebulizer or MDI ~~If concerned about aerosolized infectious exposure, substitute with albuterol MDI, if available~~	Avoid in croup
AMIODARONE	EMT AEMT	~~Reported/witnessed ≥2 ACD firing and pulse~~ ~~≥60~~	S-127	Cardioversion first if unstable with severe symptoms	

DRAFT

Revisions

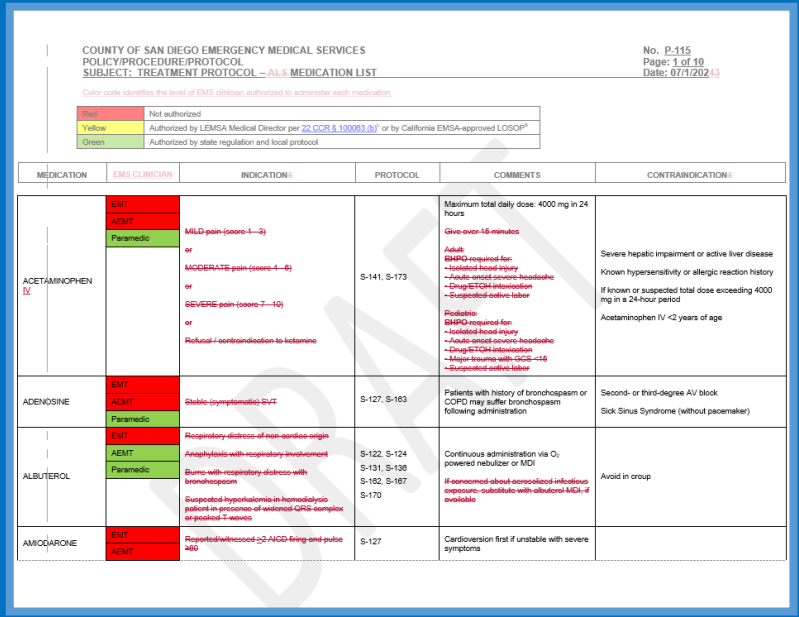
- Removed “Indications” column to avoid inconsistencies between treatment protocols and the medication list
- Removed redundant information in the “Comments” column to avoid inconsistencies between treatment protocols and the medication list

New Additions

- Added table in the header with color code to indicate the EMS clinician level authorized to administer each medication
- Added “EMS Clinician” column
- Added clarifying comments for EMT/AEMTs on authorized routes, medications, and devices (see dextrose, epinephrine, naloxone, nitroglycerin, normal saline)
- Added levalbuterol as a new medication with comments and contraindications

P-115

Medication List



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

No. P-115
Page: 1 of 10
Date: 07/1/2023

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

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Yellow	Authorized by LEMSA Medical Director per 22 CCR § 100063 (b)[1] or by California EMSA-approved LOSOP[2]
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ADENOSINE	EMT AEMT Paramedic	~~Stable (symptomatic) SVT~~	S-127, S-163	Patients with history of bronchospasm or COPD may suffer bronchospasm following administration	Second- or third-degree AV block Sick Sinus Syndrome (without pacemaker)
ALBUTEROL	EMT AEMT Paramedic	~~Respiratory distress of non-cardiac origin~~ ~~Anaphylaxis with respiratory involvement~~ ~~Burns with respiratory distress with bronchospasm~~ ~~Suspected hyperkalemia in hemodialysis patient in presence of widened QRS complex or peaked T waves~~	S-122, S-124 S-131, S-136 S-162, S-167 S-170	Continuous administration via O_2 powered nebulizer or MDI ~~If concerned about aerosolized infectious exposure, substitute with albuterol MDI, if available~~	Avoid in croup
AMIODARONE	EMT AEMT	~~Reported/witnessed ≥2 AICD firing and pulse ≥60~~	S-127	Cardioversion first if unstable with severe symptoms	

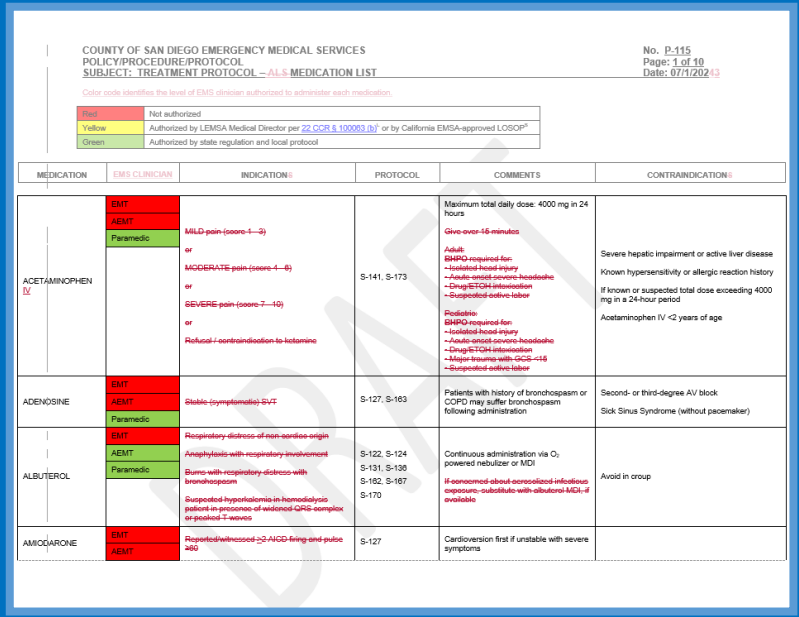
DRAFT

New Additions Continued

- Added clarification to the contraindications for activated charcoal
- Atropine
  - Added "May omit atropine in patients unlikely to have clinical benefit (e.g., heart transplant patients, 2nd degree type II, or 3rd degree heart block)" comment
- Added endnote "EMT/AEMT/Paramedics or supervised EMT/AEMT/Paramedic students are authorized to administer these medications when on-duty as part of the organized EMS system, while at the scene of a medical emergency or during transport, or during interfacility transfer"

P-115

Medication List



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

No. P-115
Page: 1 of 10
Date: 07/1/2023

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

Red	Not authorized
Yellow	Authorized by LEMSA Medical Director per 22 CCR § 100063 (b)[1] or by California EMSA-approved LOSOP[2]
Green	Authorized by state regulation and local protocol

MEDICATION	EMS CLINICIAN	INDICATIONS	PROTOCOL	COMMENTS	CONTRAINDICATIONS
ACETAMINOPHEN IV	EMT AEMT Paramedic	~~MILD pain (score 1 - 3)~~ ~~or~~ ~~MODERATE pain (score 4 - 6)~~ ~~or~~ ~~SEVERE pain (score 7 - 10)~~ ~~or~~ ~~Refusal / contraindication to ketamine~~	S-141, S-173	Maximum total daily dose: 4000 mg in 24 hours ~~Give over 15 minutes~~ ~~Adult:~~ ~~BHPO required for:~~ ~~• Isolated head injury~~ ~~• Acute onset severe headache~~ ~~• Drug/ETOH intoxication~~ ~~• Suspected active labor~~ ~~Pediatric:~~ ~~BHPO required for:~~ ~~• Isolated head injury~~ ~~• Acute onset severe headache~~ ~~• Drug/ETOH intoxication~~ ~~• Major trauma with GCS <15~~ ~~• Suspected active labor~~	Severe hepatic impairment or active liver disease Known hypersensitivity or allergic reaction history If known or suspected total dose exceeding 4000 mg in a 24-hour period Acetaminophen IV <2 years of age
ADENOSINE	EMT AEMT Paramedic	~~Stable (symptomatic) SVT~~	S-127, S-163	Patients with history of bronchospasm or COPD may suffer bronchospasm following administration	Second- or third-degree AV block Sick Sinus Syndrome (without pacemaker)
ALBUTEROL	EMT AEMT Paramedic	~~Respiratory distress of non-cardiac origin~~ ~~Anaphylaxis with respiratory involvement~~ ~~Burns with respiratory distress with bronchospasm~~ ~~Suspected hyperkalemia in hemodialysis patient in presence of widened QRS complex or peaked T waves~~	S-122, S-124 S-131, S-136 S-162, S-167 S-170	Continuous administration via O_2 powered nebulizer or MDI ~~If concerned about aerosolized infectious exposure, substitute with albuterol MDI, if available~~	Avoid in croup
AMIODARONE	EMT AEMT	~~Reported/witnessed ≥2 AICD firing and pulse ≥60~~	S-127	Cardioversion first if unstable with severe symptoms	

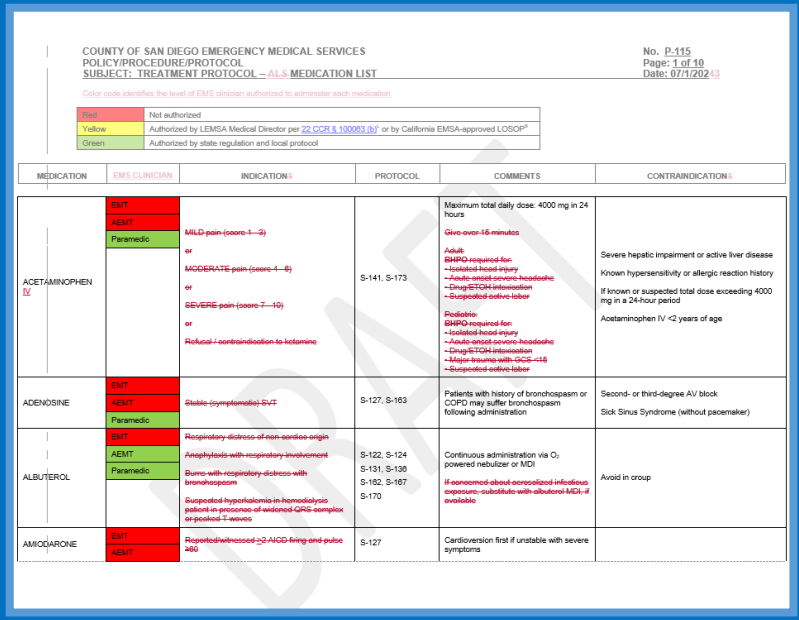
DRAFT

New Additions Continued

- Ketamine
  - Added “Not authorized for sedation or use of dissociative doses” comment
  - Added IV/IM administration comments with maximum doses
  - Add “Sedation” and “Use of dissociative doses” as contraindications

P-115

Medication List



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

No. P-115
Page: 1 of 10
Date: 07/1/2023

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MEDICATION	EMS CLINICIAN	INDICATIONS	PROTOCOL	COMMENTS	CONTRAINDICATIONS
ACETAMINOPHEN IV	EMT AEMT Paramedic	~~MILD pain (score 1 - 3)~~ ~~or~~ ~~MODERATE pain (score 4 - 6)~~ ~~or~~ ~~SEVERE pain (score 7 - 10)~~ ~~or~~ ~~Refusal / contraindication to ketamine~~	S-141, S-173	Maximum total daily dose: 4000 mg in 24 hours ~~Give over 15 minutes~~ ~~Adult:~~ ~~BHPO required for:~~ ~~• Isolated head injury~~ ~~• Acute onset severe headache~~ ~~• Drug/ETOH intoxication~~ ~~• Suspected active labor~~ ~~Pediatric:~~ ~~BHPO required for:~~ ~~• Isolated head injury~~ ~~• Acute onset severe headache~~ ~~• Drug/ETOH intoxication~~ ~~• Major trauma with GCS <15~~ ~~• Suspected active labor~~	Severe hepatic impairment or active liver disease Known hypersensitivity or allergic reaction history If known or suspected total dose exceeding 4000 mg in a 24-hour period Acetaminophen IV <2 years of age
ADENOSINE	EMT AEMT Paramedic	~~Stable (symptomatic) SVT~~	S-127, S-163	Patients with history of bronchospasm or COPD may suffer bronchospasm following administration	Second- or third-degree AV block Sick Sinus Syndrome (without pacemaker)
ALBUTEROL	EMT AEMT Paramedic	~~Respiratory distress of non-cardiac origin~~ ~~Anaphylaxis with respiratory involvement~~ ~~Burns with respiratory distress with bronchospasm~~ ~~Suspected hyperkalemia in hemodialysis patient in presence of widened QRS complex or peaked T waves~~	S-122, S-124 S-131, S-136 S-162, S-167 S-170	Continuous administration via O_2 powered nebulizer or MDI ~~If concerned about aerosolized infectious exposure, substitute with albuterol MDI, if available~~	Avoid in croup
AMIODARONE	EMT AEMT	~~Reported/witnessed ≥2 AICD firing and pulse ≥60~~	S-127	Cardioversion first if unstable with severe symptoms	

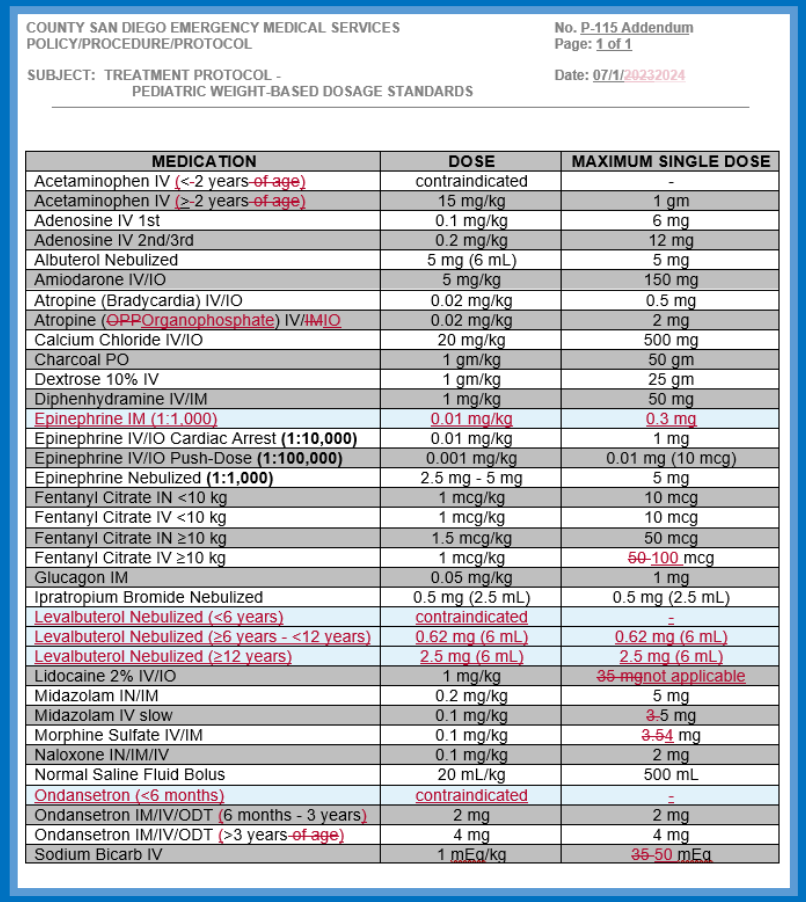
DRAFT

New Additions Continued

- Naloxone
  - Added “Not authorized in cardiac arrest” comment
  - Added “Ineffective for patients in cardiac arrest” contraindication

P-115A

Pediatric Weight-Based Dosage Standards



COUNTY SAN DIEGO EMERGENCY MEDICAL SERVICES
POLICY/PROCEDURE/PROTOCOL

No. P-115 Addendum
Page: 1 of 1

SUBJECT: TREATMENT PROTOCOL -
PEDIATRIC WEIGHT-BASED DOSAGE STANDARDS

Date: 07/1/~~2023~~2024

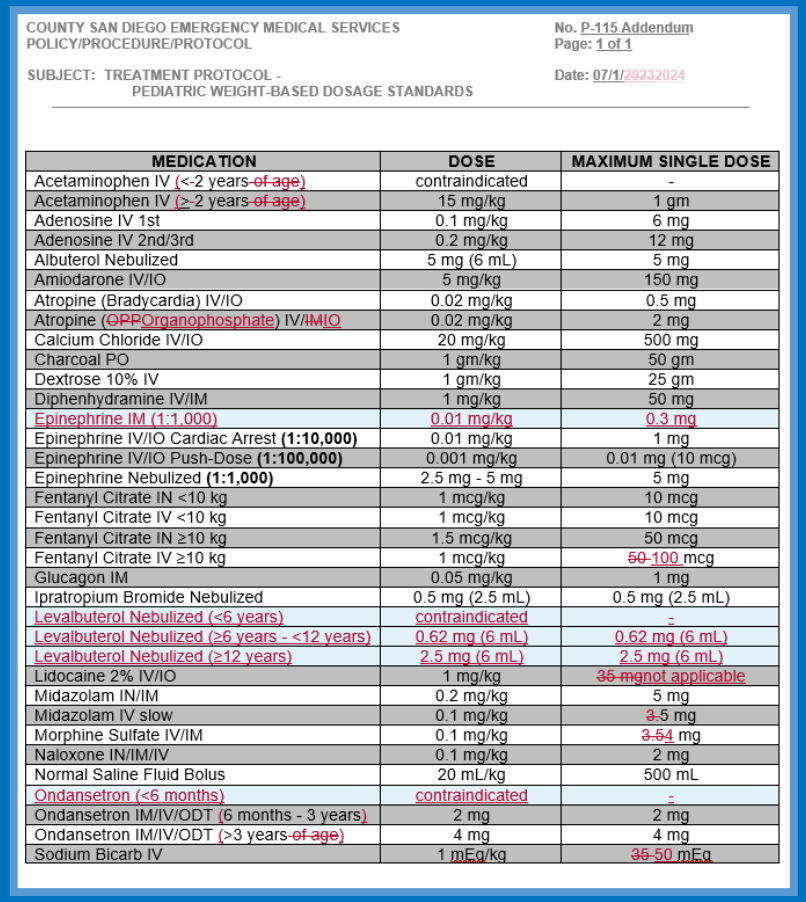
MEDICATION	DOSE	MAXIMUM SINGLE DOSE
Acetaminophen IV (<-2 years ~~of age~~)	contraindicated	-
Acetaminophen IV (>-2 years ~~of age~~)	15 mg/kg	1 gm
Adenosine IV 1st	0.1 mg/kg	6 mg
Adenosine IV 2nd/3rd	0.2 mg/kg	12 mg
Albuterol Nebulized	5 mg (6 mL)	5 mg
Amiodarone IV/IO	5 mg/kg	150 mg
Atropine (Bradycardia) IV/IO	0.02 mg/kg	0.5 mg
Atropine (~~OPP~~Organophosphate) IV/~~IM~~IO	0.02 mg/kg	2 mg
Calcium Chloride IV/IO	20 mg/kg	500 mg
Charcoal PO	1 gm/kg	50 gm
Dextrose 10% IV	1 gm/kg	25 gm
Diphenhydramine IV/IM	1 mg/kg	50 mg
Epinephrine IM (1:1,000)	0.01 mg/kg	0.3 mg
Epinephrine IV/IO Cardiac Arrest **(1:10,000)**	0.01 mg/kg	1 mg
Epinephrine IV/IO Push-Dose **(1:100,000)**	0.001 mg/kg	0.01 mg (10 mcg)
Epinephrine Nebulized **(1:1,000)**	2.5 mg - 5 mg	5 mg
Fentanyl Citrate IN <10 kg	1 mcg/kg	10 mcg
Fentanyl Citrate IV <10 kg	1 mcg/kg	10 mcg
Fentanyl Citrate IN ≥10 kg	1.5 mcg/kg	50 mcg
Fentanyl Citrate IV ≥10 kg	1 mcg/kg	~~50~~ 100 mcg
Glucagon IM	0.05 mg/kg	1 mg
Ipratropium Bromide Nebulized	0.5 mg (2.5 mL)	0.5 mg (2.5 mL)
Levalbuterol Nebulized (<6 years)	contraindicated	-
Levalbuterol Nebulized (≥6 years - <12 years)	0.62 mg (6 mL)	0.62 mg (6 mL)
Levalbuterol Nebulized (≥12 years)	2.5 mg (6 mL)	2.5 mg (6 mL)
Lidocaine 2% IV/IO	1 mg/kg	~~35 mg~~not applicable
Midazolam IN/IM	0.2 mg/kg	5 mg
Midazolam IV slow	0.1 mg/kg	~~3~~ 5 mg
Morphine Sulfate IV/IM	0.1 mg/kg	~~3~~ 54 mg
Naloxone IN/IM/IV	0.1 mg/kg	2 mg
Normal Saline Fluid Bolus	20 mL/kg	500 mL
Ondansetron (<6 months)	contraindicated	-
Ondansetron IM/IV/ODT (6 months - 3 years)	2 mg	2 mg
Ondansetron IM/IV/ODT (>3 years ~~of age~~)	4 mg	4 mg
Sodium Bicarb IV	1 mEq/kg	~~35~~ 50 mEq

Revisions

- Removed “of age” language at the end of an age range for consistency
- Revised “Atropine (OPP) IV/IM” to “Atropine (Organophosphate) IV/IO”
- Increased fentanyl citrate IV ≥10 kg maximum single dose to 100 mcg
- Revised lidocaine maximum single dose from 35 mg to not applicable
- Increased midazolam IV slow maximum single dose to 5 mg
- Increased morphine sulfate IV/IM maximum single dose to 4 mg
- Increased sodium bicarbonate maximum single dose to 50 mEq

P-115A

Pediatric Weight-Based Dosage Standards



COUNTY SAN DIEGO EMERGENCY MEDICAL SERVICES
POLICY/PROCEDURE/PROTOCOL

No. P-115 Addendum
Page: 1 of 1

SUBJECT: TREATMENT PROTOCOL -
PEDIATRIC WEIGHT-BASED DOSAGE STANDARDS

Date: 07/1/~~2023~~2024

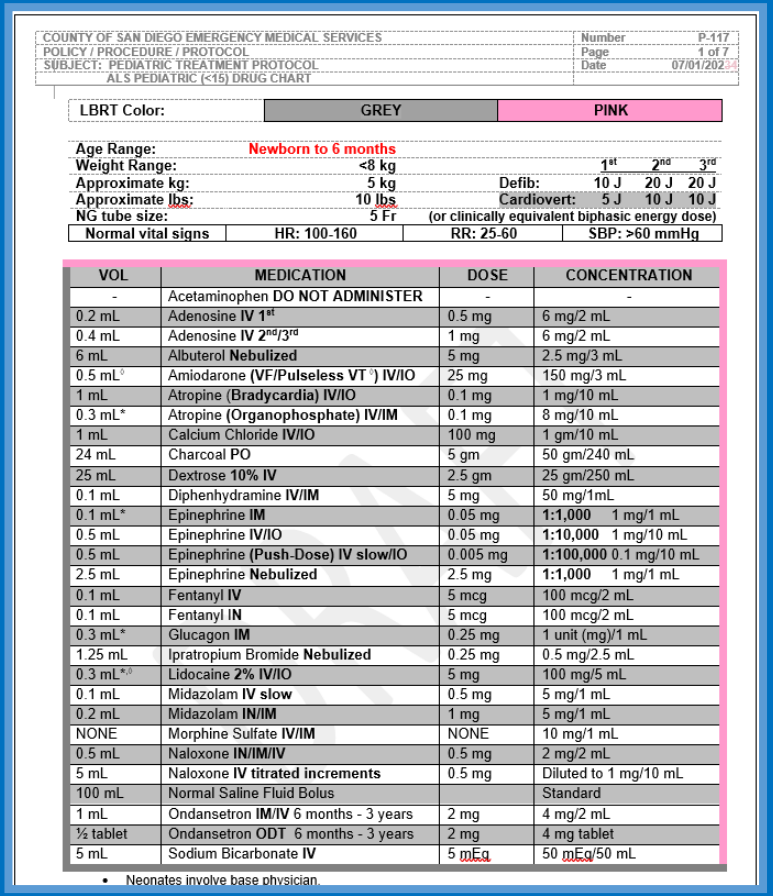
MEDICATION	DOSE	MAXIMUM SINGLE DOSE
Acetaminophen IV (<-2 years ~~of age~~)	contraindicated	-
Acetaminophen IV (>-2 years ~~of age~~)	15 mg/kg	1 gm
Adenosine IV 1st	0.1 mg/kg	6 mg
Adenosine IV 2nd/3rd	0.2 mg/kg	12 mg
Albuterol Nebulized	5 mg (6 mL)	5 mg
Amiodarone IV/IO	5 mg/kg	150 mg
Atropine (Bradycardia) IV/IO	0.02 mg/kg	0.5 mg
Atropine (~~OPP~~Organophosphate) IV/~~IM~~IO	0.02 mg/kg	2 mg
Calcium Chloride IV/IO	20 mg/kg	500 mg
Charcoal PO	1 gm/kg	50 gm
Dextrose 10% IV	1 gm/kg	25 gm
Diphenhydramine IV/IM	1 mg/kg	50 mg
Epinephrine IM (1:1,000)	0.01 mg/kg	0.3 mg
Epinephrine IV/IO Cardiac Arrest **(1:10,000)**	0.01 mg/kg	1 mg
Epinephrine IV/IO Push-Dose **(1:100,000)**	0.001 mg/kg	0.01 mg (10 mcg)
Epinephrine Nebulized **(1:1,000)**	2.5 mg - 5 mg	5 mg
Fentanyl Citrate IN <10 kg	1 mcg/kg	10 mcg
Fentanyl Citrate IV <10 kg	1 mcg/kg	10 mcg
Fentanyl Citrate IN ≥10 kg	1.5 mcg/kg	50 mcg
Fentanyl Citrate IV ≥10 kg	1 mcg/kg	~~50~~ 100 mcg
Glucagon IM	0.05 mg/kg	1 mg
Ipratropium Bromide Nebulized	0.5 mg (2.5 mL)	0.5 mg (2.5 mL)
Levalbuterol Nebulized (<6 years)	contraindicated	-
Levalbuterol Nebulized (≥6 years - <12 years)	0.62 mg (6 mL)	0.62 mg (6 mL)
Levalbuterol Nebulized (≥12 years)	2.5 mg (6 mL)	2.5 mg (6 mL)
Lidocaine 2% IV/IO	1 mg/kg	~~35 mg~~not applicable
Midazolam IN/IM	0.2 mg/kg	5 mg
Midazolam IV slow	0.1 mg/kg	~~3~~ 5 mg
Morphine Sulfate IV/IM	0.1 mg/kg	~~3~~ 54 mg
Naloxone IN/IM/IV	0.1 mg/kg	2 mg
Normal Saline Fluid Bolus	20 mL/kg	500 mL
Ondansetron (<6 months)	contraindicated	-
Ondansetron IM/IV/ODT (6 months - 3 years)	2 mg	2 mg
Ondansetron IM/IV/ODT (>3 years ~~of age~~)	4 mg	4 mg
Sodium Bicarb IV	1 mEq/kg	~~35~~ 50 mEq

New Additions

- Added epinephrine IM (1:1,000)
- Added levalbuterol nebulized for <6 years
- Added levalbuterol nebulized for ≥6 - <12 years
- Added levalbuterol nebulized for ≥12 years
- Added ondansetron for <6 months as contraindicated for consistency across protocols

P-117

ALS Pediatric Drug Chart



COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES — Number P-117
POLICY / PROCEDURE / PROTOCOL — Page 1 of 7
SUBJECT: PEDIATRIC TREATMENT PROTOCOL — Date 07/01/202
ALS PEDIATRIC (<15) DRUG CHART

LBRT Color:	GREY	PINK

			1st	2nd	3rd
Age Range:	Newborn to 6 months				
Weight Range:	<8 kg				
Approximate kg:	5 kg	Defib:	10 J	20 J	20 J
Approximate lbs:	10 lbs	Cardiovert:	5 J	10 J	10 J
NG tube size:	5 Fr	(or clinically equivalent biphasic energy dose)			

Normal vital signs	HR: 100-160	RR: 25-60	SBP: >60 mmHg

VOL	MEDICATION	DOSE	CONCENTRATION
-	Acetaminophen DO NOT ADMINISTER	-	-
0.2 mL	Adenosine **IV 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/IM**	0.1 mg	8 mg/10 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

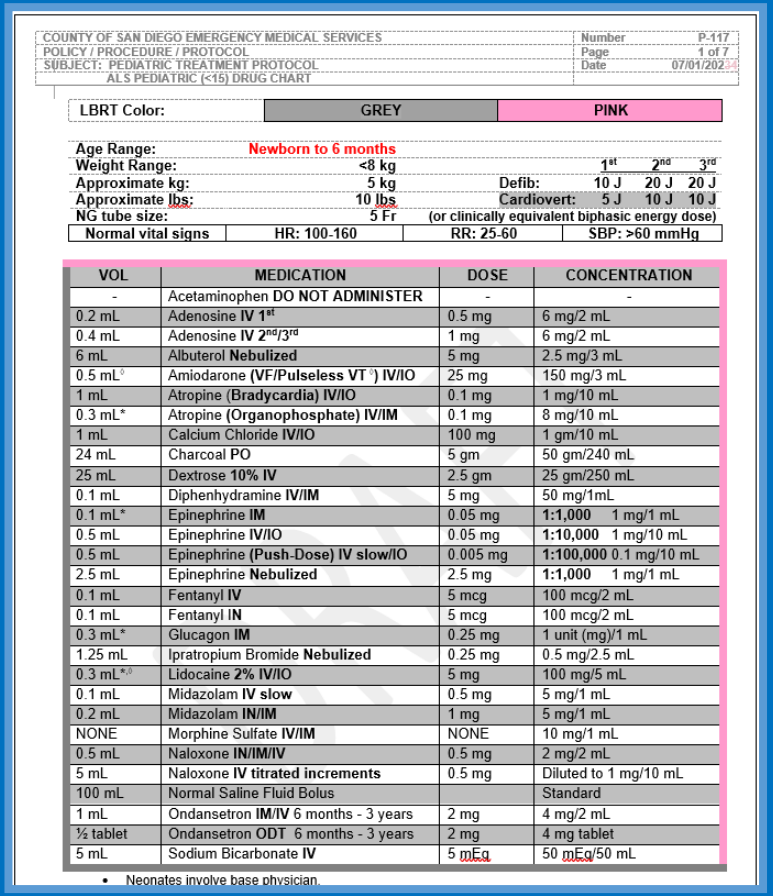
- Neonates involve base physician.

Revisions

- Revised “Atropine (Organophosphate) IV/IM” to “Atropine (Organophosphate) IV/IO”
- Turquoise
  - Revised “… are treated with adult doses, except for amiodarone” to “… are treated with the following doses. Use estimated weight in kilograms to calculate doses.”
  - Revised “Administer appropriate adult weight-based medication dosages” to “Administer 1 mg/kg (note this differs from 1.5 mg/kg in adults)” in the footnote for lidocaine
  - Revised morphine sulfate IV/IM to a dose of 4 mg
  - Revised sodium bicarbonate IV to a dose of 1 mEq/kg

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 07/01/202

LBRT Color: GREY PINK

Age Range:	Newborn to 6 months				
Weight Range:	<8 kg		1st	2nd	3rd
Approximate kg:	5 kg	Defib:	10 J	20 J	20 J
Approximate lbs:	10 lbs	Cardiovert:	5 J	10 J	10 J
NG tube size:	5 Fr	(or clinically equivalent biphasic energy dose)			

Normal vital signs	HR: 100-160	RR: 25-60	SBP: >60 mmHg

VOL	MEDICATION	DOSE	CONCENTRATION
-	Acetaminophen DO NOT ADMINISTER	-	-
0.2 mL	Adenosine **IV 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/IM**	0.1 mg	8 mg/10 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

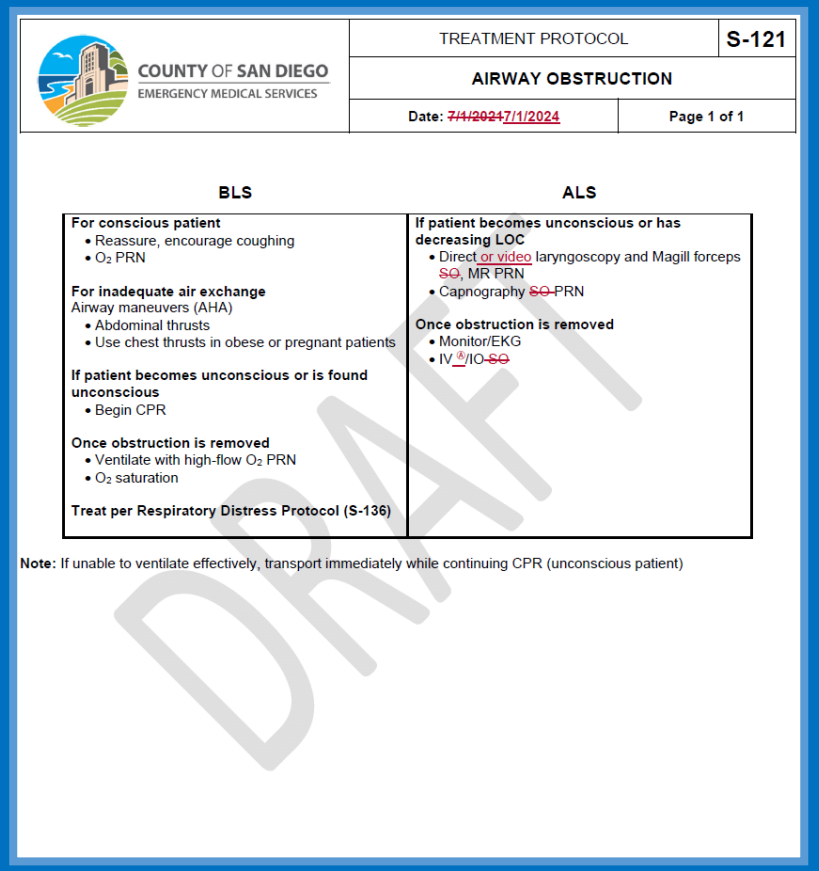
- Neonates involve base physician.

New Additions

- Blue/Orange
  - Added “Levalbuterol Nebulized (≥6 – 12 years)”
- Green
  - Added “Levalbuterol Nebulized (≥6 – 12 years)”
  - Added “Levalbuterol Nebulized (≥12 years)”
- Turquoise
  - Added “Levalbuterol Nebulized”

S-121

Airway Obstruction



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-121
AIRWAY OBSTRUCTION	
Date: ~~7/1/2024~~7/1/2024	Page 1 of 1

BLS	ALS
For conscious patient • Reassure, encourage coughing • O_2 PRN **For inadequate air exchange** Airway maneuvers (AHA) • Abdominal thrusts • Use chest thrusts in obese or pregnant patients **If patient becomes unconscious or is found unconscious** • Begin CPR **Once obstruction is removed** • Ventilate with high-flow O_2 PRN • O_2 saturation **Treat per Respiratory Distress Protocol (S-136)**	**If patient becomes unconscious or has decreasing LOC** • Direct or video laryngoscopy and Magill forceps ~~SO~~, MR PRN • Capnography ~~SO~~ PRN **Once obstruction is removed** • Monitor/EKG • IV ®/IO ~~SO~~

Note: If unable to ventilate effectively, transport immediately while continuing CPR (unconscious patient)

DRAFT

Revisions

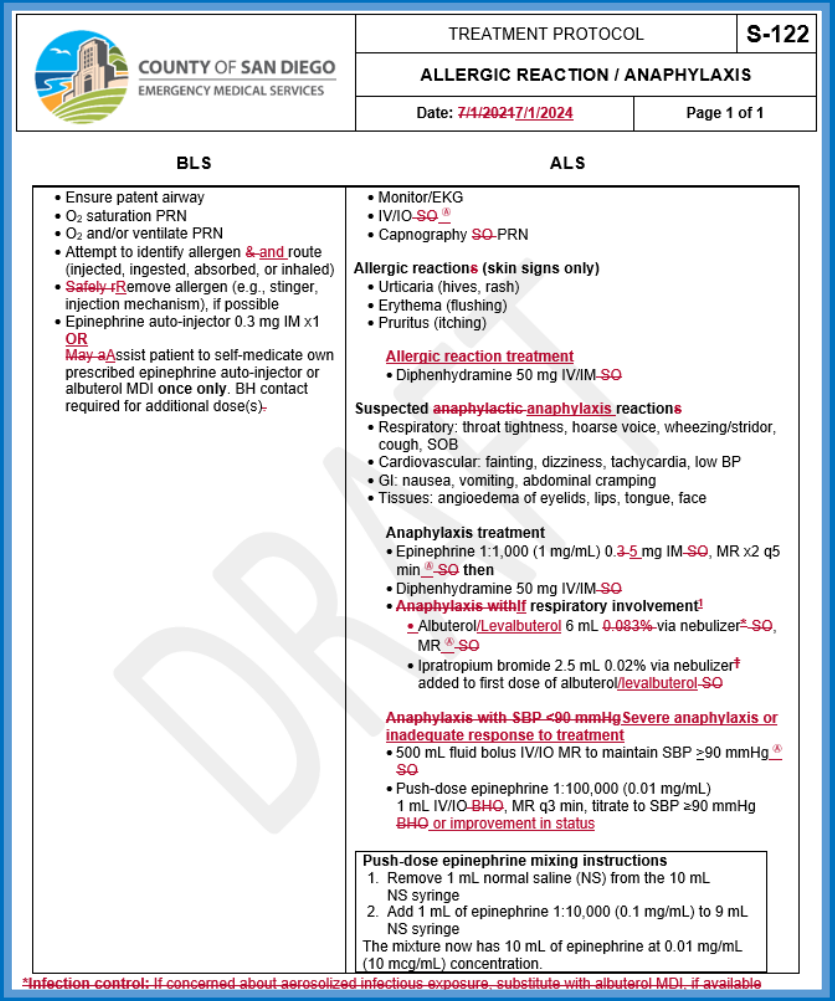
- ALS
  - Revised laryngoscopy to “Direct or video laryngoscopy and Magill forceps”

New Additions

- None

S-122

Allergic Reaction / Anaphylaxis



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-122
ALLERGIC REACTION / ANAPHYLAXIS	
Date: ~~7/1/2021~~7/1/2024	Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation PRN
- O_2 and/or ventilate PRN
- Attempt to identify allergen ~~&~~ and route (injected, ingested, absorbed, or inhaled)
- ~~Safely r~~Remove allergen (e.g., stinger, injection mechanism), if possible
- Epinephrine auto-injector 0.3 mg IM x1

OR

~~May a~~Assist patient to self-medicate own prescribed epinephrine auto-injector or albuterol MDI **once only**. BH contact required for additional dose(s)~~.~~

ALS

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

Allergic reaction~~s~~ (skin signs only)

- Urticaria (hives, rash)
- Erythema (flushing)
- Pruritus (itching)

Allergic reaction treatment

- Diphenhydramine 50 mg IV/IM ~~SO~~

Suspected ~~anaphylactic~~ anaphylaxis reaction~~s~~

- Respiratory: throat tightness, hoarse voice, wheezing/stridor, cough, SOB
- Cardiovascular: fainting, dizziness, tachycardia, low BP
- GI: nausea, vomiting, abdominal cramping
- Tissues: angioedema of eyelids, lips, tongue, face

Anaphylaxis treatment

- Epinephrine 1:1,000 (1 mg/mL) 0.~~3~~ 5 mg IM ~~SO~~, MR x2 q5 min Ⓐ ~~SO~~ **then**
- Diphenhydramine 50 mg IV/IM ~~SO~~
- ~~**Anaphylaxis with**~~**If respiratory involvement**‡
  - Albuterol/Levalbuterol 6 mL ~~0.083%~~ via nebulizer~~*~~ ~~SO~~, MR Ⓐ ~~SO~~
  - Ipratropium bromide 2.5 mL 0.02% via nebulizer‡ added to first dose of albuterol/levalbuterol ~~SO~~

~~Anaphylaxis with SBP <90 mmHg~~Severe anaphylaxis or inadequate response to treatment

- 500 mL fluid bolus IV/IO MR to maintain SBP ≥90 mmHg Ⓐ ~~SO~~
- Push-dose epinephrine 1:100,000 (0.01 mg/mL) 1 mL IV/IO ~~BHO~~, MR q3 min, titrate to SBP ≥90 mmHg ~~BHO~~ or improvement in status

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.

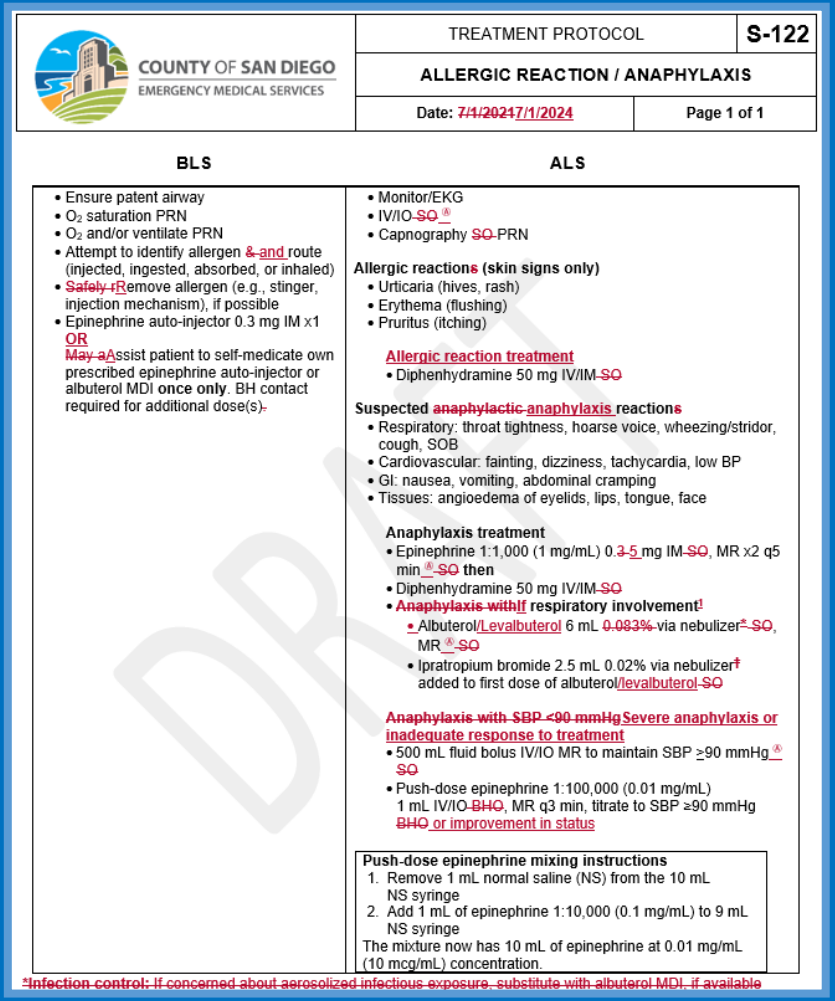
~~*Infection control: If concerned about aerosolized infectious exposure, substitute with albuterol MDI, if available~~

Revisions

- BLS
  - Revised attempt to identify allergen and route from “&” to “and”
  - Revised “Safely remove allergen” to “Remove allergen”
  - Revised “May assist patient to self-medicate…” to “Assist patient to self-medicate…”
- ALS
  - Revised “Suspected anaphylactic reactions” to “Suspected anaphylaxis reaction”
  - Increased IM epinephrine from 0.3 mg to 0.5 mg
  - Revised “Anaphylaxis with respiratory involvement” to “If respiratory involvement”
  - Removed “0.083%” to accommodate the addition of levalbuterol
  - Revised “Anaphylaxis with SBP <90” to “Severe anaphylaxis or inadequate response to treatment”

S-122

Allergic Reaction / Anaphylaxis



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-122
ALLERGIC REACTION / ANAPHYLAXIS	
Date: ~~7/1/2021~~7/1/2024	Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation PRN
- O_2 and/or ventilate PRN
- Attempt to identify allergen ~~&~~ and route (injected, ingested, absorbed, or inhaled)
- ~~Safely r~~Remove allergen (e.g., stinger, injection mechanism), if possible
- Epinephrine auto-injector 0.3 mg IM x1

OR

~~May a~~Assist patient to self-medicate own prescribed epinephrine auto-injector or albuterol MDI **once only**. BH contact required for additional dose(s)~~.~~

ALS

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

Allergic reaction~~s~~ (skin signs only)

- Urticaria (hives, rash)
- Erythema (flushing)
- Pruritus (itching)

Allergic reaction treatment

- Diphenhydramine 50 mg IV/IM ~~SO~~

Suspected ~~anaphylactic~~ anaphylaxis reaction~~s~~

- Respiratory: throat tightness, hoarse voice, wheezing/stridor, cough, SOB
- Cardiovascular: fainting, dizziness, tachycardia, low BP
- GI: nausea, vomiting, abdominal cramping
- Tissues: angioedema of eyelids, lips, tongue, face

Anaphylaxis treatment

- Epinephrine 1:1,000 (1 mg/mL) 0.~~3~~ 5 mg IM ~~SO~~, MR x2 q5 min Ⓐ ~~SO~~ **then**
- Diphenhydramine 50 mg IV/IM ~~SO~~
- ~~Anaphylaxis with~~**If respiratory involvement**‡
  - Albuterol/Levalbuterol 6 mL ~~0.083%~~ via nebulizer~~*~~ ~~SO~~, MR Ⓐ ~~SO~~
  - Ipratropium bromide 2.5 mL 0.02% via nebulizer‡ added to first dose of albuterol/levalbuterol ~~SO~~

~~Anaphylaxis with SBP <90 mmHg~~Severe anaphylaxis or inadequate response to treatment

- 500 mL fluid bolus IV/IO MR to maintain SBP ≥90 mmHg Ⓐ ~~SO~~
- Push-dose epinephrine 1:100,000 (0.01 mg/mL) 1 mL IV/IO ~~BHO~~, MR q3 min, titrate to SBP ≥90 mmHg ~~BHO~~ or improvement in status

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.

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

Revisions Continued

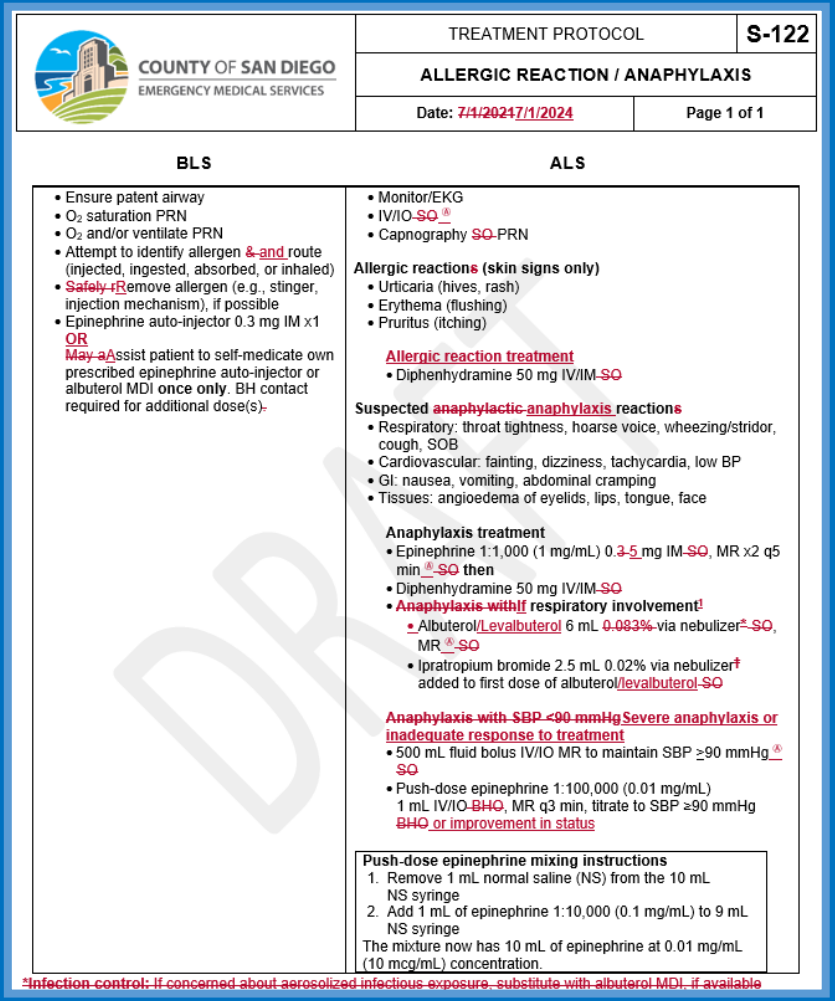
- ALS
  - Removed BHO for push-dose epinephrine
  - Removed infection control footnotes for albuterol and ipratropium bromide

New Additions

- BLS
  - Added “OR” between epinephrine auto-injector and assisting patient to self-medicate own prescribed epinephrine auto-injector

S-122

Allergic Reaction / Anaphylaxis



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-122

ALLERGIC REACTION / ANAPHYLAXIS

Date: ~~7/1/2021~~7/1/2024 | Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation PRN
- O_2 and/or ventilate PRN
- Attempt to identify allergen ~~&~~ and route (injected, ingested, absorbed, or inhaled)
- ~~Safely r~~Remove allergen (e.g., stinger, injection mechanism), if possible
- Epinephrine auto-injector 0.3 mg IM x1
  OR
  ~~May a~~Assist patient to self-medicate own prescribed epinephrine auto-injector or albuterol MDI **once only**. BH contact required for additional dose(s)~~.~~

ALS

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

Allergic reaction~~s~~ (skin signs only)

- Urticaria (hives, rash)
- Erythema (flushing)
- Pruritus (itching)

Allergic reaction treatment

- Diphenhydramine 50 mg IV/IM ~~SO~~

Suspected ~~anaphylactic~~ anaphylaxis reaction~~s~~

- Respiratory: throat tightness, hoarse voice, wheezing/stridor, cough, SOB
- Cardiovascular: fainting, dizziness, tachycardia, low BP
- GI: nausea, vomiting, abdominal cramping
- Tissues: angioedema of eyelids, lips, tongue, face

Anaphylaxis treatment

- Epinephrine 1:1,000 (1 mg/mL) 0.~~3~~ 5 mg IM ~~SO~~, MR x2 q5 min Ⓐ ~~SO~~ **then**
- Diphenhydramine 50 mg IV/IM ~~SO~~
- ~~**Anaphylaxis with**~~**If respiratory involvement**‡
  - Albuterol/Levalbuterol 6 mL ~~0.083%~~ via nebulizer~~*~~ ~~SO~~, MR Ⓐ ~~SO~~
  - Ipratropium bromide 2.5 mL 0.02% via nebulizer‡ added to first dose of albuterol/levalbuterol ~~SO~~

~~Anaphylaxis with SBP <90 mmHg~~Severe anaphylaxis or inadequate response to treatment

- 500 mL fluid bolus IV/IO MR to maintain SBP ≥90 mmHg Ⓐ ~~SO~~
- Push-dose epinephrine 1:100,000 (0.01 mg/mL) 1 mL IV/IO ~~BHO~~, MR q3 min, titrate to SBP ≥90 mmHg ~~BHO~~ or improvement in status

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.

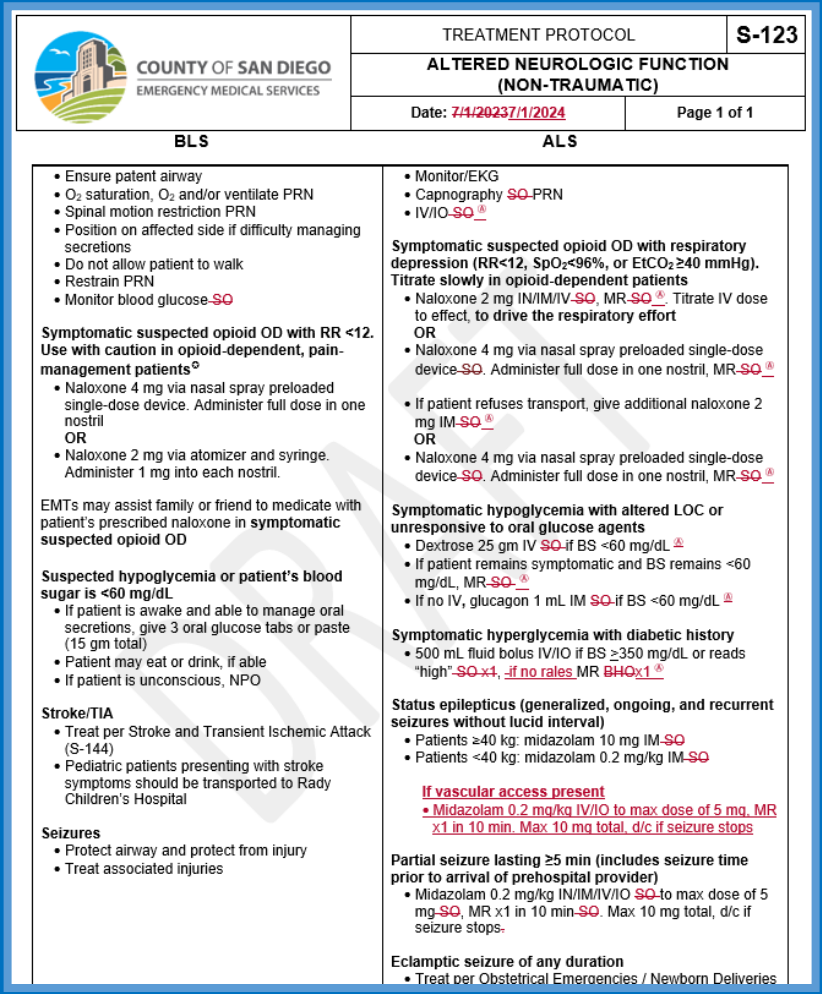
~~‡Infection control: If concerned about aerosolized infectious exposure, substitute with albuterol MDI, if available~~

New Additions Continued

- BLS
  - Added “OR” between epinephrine auto-injector and assisting patient to self-medicate own prescribed epinephrine auto-injector
- ALS
  - Added “Allergic reaction treatment” subheading
  - Added levalbuterol to each instance of albuterol
  - Added “or improvement in status” to language for push-dose epinephrine
  - Added new infection control footnote for albuterol, levalbuterol, and ipratropium bromide that states, “If concerned about aerosolized infectious exposure, substitute with MDI, if available”

S-123

Altered Neurologic Function (Non-Traumatic)



COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-123

ALTERED NEUROLOGIC FUNCTION (NON-TRAUMATIC)

Date: ~~7/1/2023~~7/1/2024 | 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 ~~SO~~

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
- Capnography ~~SO~~ PRN
- IV/IO ~~SO~~ Ⓐ

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 ~~SO~~, MR ~~SO~~ Ⓐ. Titrate IV dose to effect, **to drive the respiratory effort**
  OR
- Naloxone 4 mg via nasal spray preloaded single-dose device ~~SO~~. Administer full dose in one nostril, MR ~~SO~~ Ⓐ
- If patient refuses transport, give additional naloxone 2 mg IM ~~SO~~ Ⓐ
  OR
- Naloxone 4 mg via nasal spray preloaded single-dose device ~~SO~~. Administer full dose in one nostril, MR ~~SO~~ Ⓐ

Symptomatic hypoglycemia with altered LOC or unresponsive to oral glucose agents

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

Symptomatic hyperglycemia with diabetic history

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

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

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

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 ~~SO~~ to max dose of 5 mg ~~SO~~, MR x1 in 10 min ~~SO~~. Max 10 mg total, d/c if seizure stops

Eclamptic seizure of any duration

- Treat per Obstetrical Emergencies / Newborn Deliveries

DRAFT

Revisions

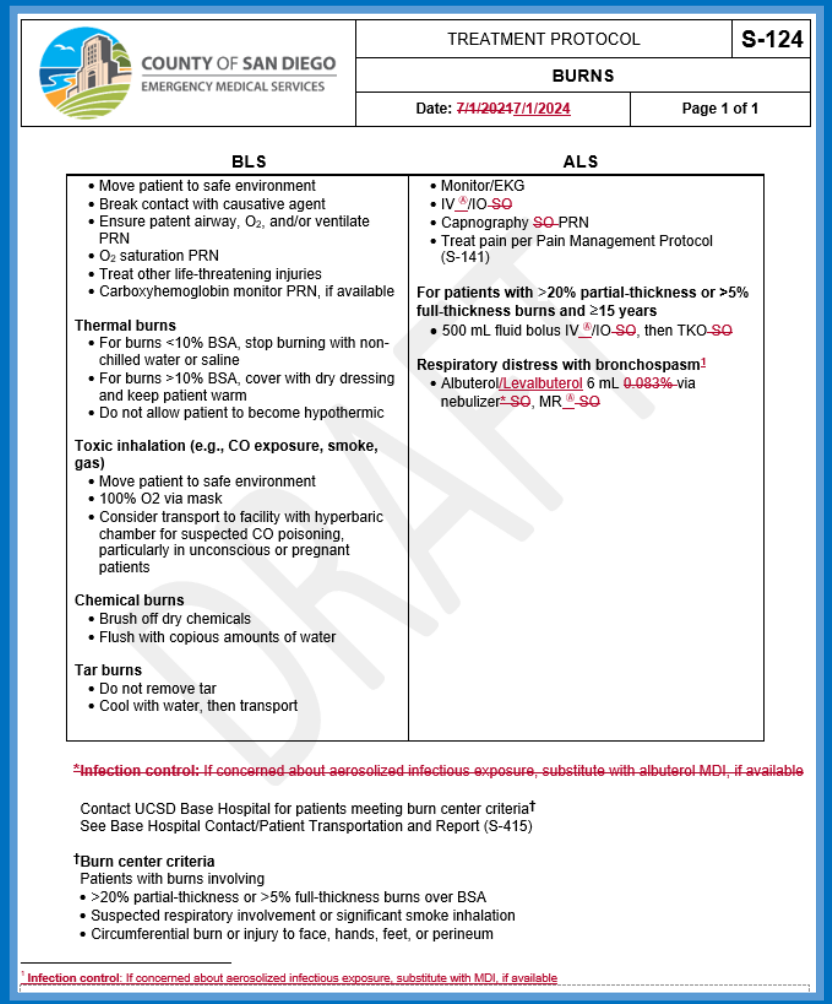
- ALS
  - Updated treatment for symptomatic hyperglycemia with diabetic history:
    - 500 mL fluid bolus IV/IO if BS >350 mg/dL or reads "high", if no rales MR x1

New Additions

- ALS
  - Added "If vascular access present" subheading with the following treatment:
    - 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

S-124

Burns



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-124

BURNS

Date: ~~7/1/2021~~7/1/2024 | 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 • IV/~~IO~~ • Capnography ~~SO~~ • 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~~, then TKO~~SO~~ **Respiratory distress with bronchospasm**[1] • Albuterol/Levalbuterol 6 mL ~~0.083%~~ via nebulizer~~* SO~~, MR~~SO~~

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

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 to face, hands, feet, or perineum

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

DRAFT

Revisions

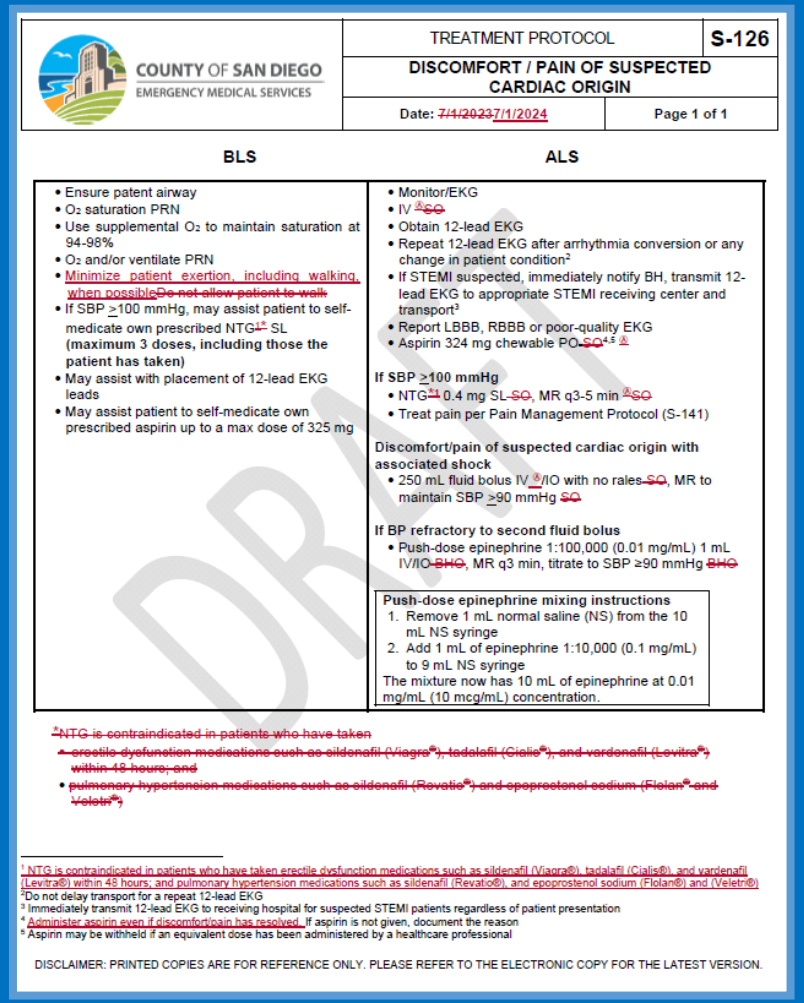
- ALS
  - Removed “0.083%” to accommodate the addition of levalbuterol
  - Removed infection control footnote for albuterol

New Additions

- ALS
  - Added levalbuterol to each instance of albuterol

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: ~~7/1/2023~~7/1/2024 | 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~~Do not allow patient to walk~~
- If SBP ≥100 mmHg, may assist patient to self-medicate own prescribed NTG[1,2] SL **(maximum 3 doses, including those the patient has taken)**
- May assist with placement of 12-lead EKG leads
- May assist patient to self-medicate own prescribed aspirin up to a max dose of 325 mg

ALS

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

If SBP ≥100 mmHg

- NTG[1,2] 0.4 mg SL ~~SO~~, MR q3-5 min [3] ~~SO~~
- Treat pain per Pain Management Protocol (S-141)

Discomfort/pain of suspected cardiac origin with associated shock

- 250 mL fluid bolus IV [3]/IO with no rales ~~SO~~, MR to maintain SBP ≥90 mmHg ~~SO~~

If BP refractory to second fluid bolus

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

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®).~~

[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
[3] Immediately transmit 12-lead EKG 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

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Revisions

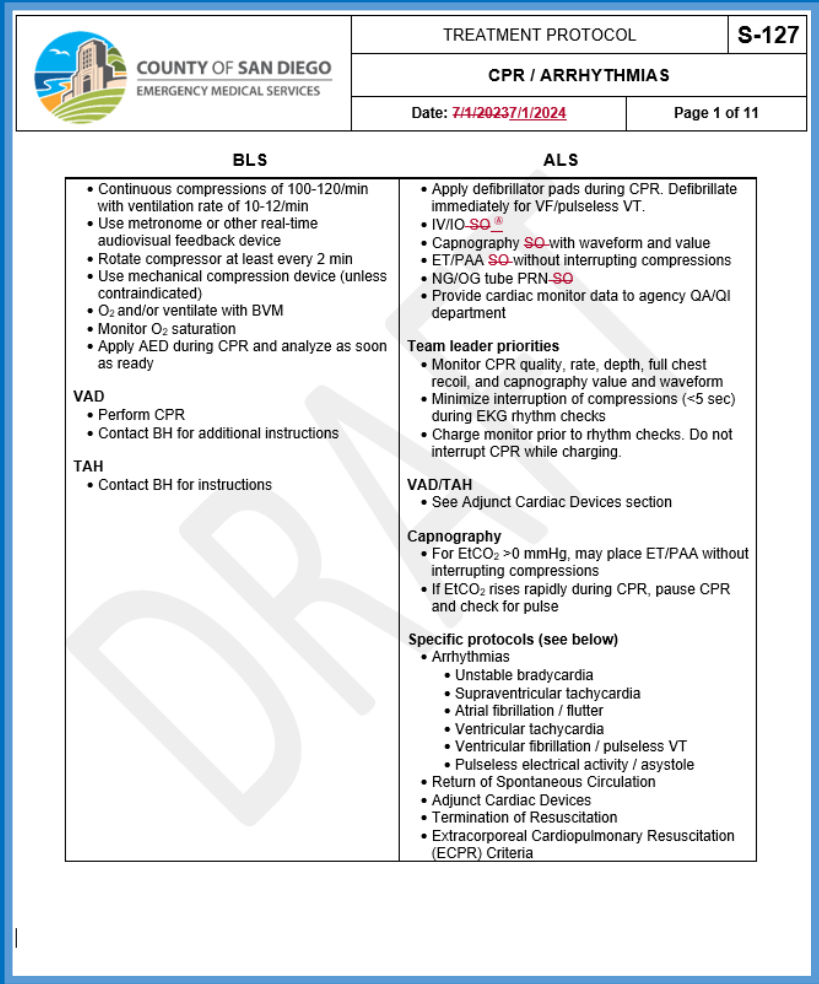
- BLS
  - Revised not allowing the patient to walk to "Minimize patient exertion, including walking, when possible"
  - Updated the NTG contraindications to a footnote for formatting consistency
- ALS
  - Revised aspirin footnote to include "Administer aspirin even if discomfort/pain has resolved"
  - Removed BHO for push-dose epinephrine

New Additions

- None

S-127

CPR / Arrhythmias



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-127
CPR / ARRHYTHMIAS	
Date: ~~7/1/2023~~7/1/2024	Page 1 of 11

BLS	ALS

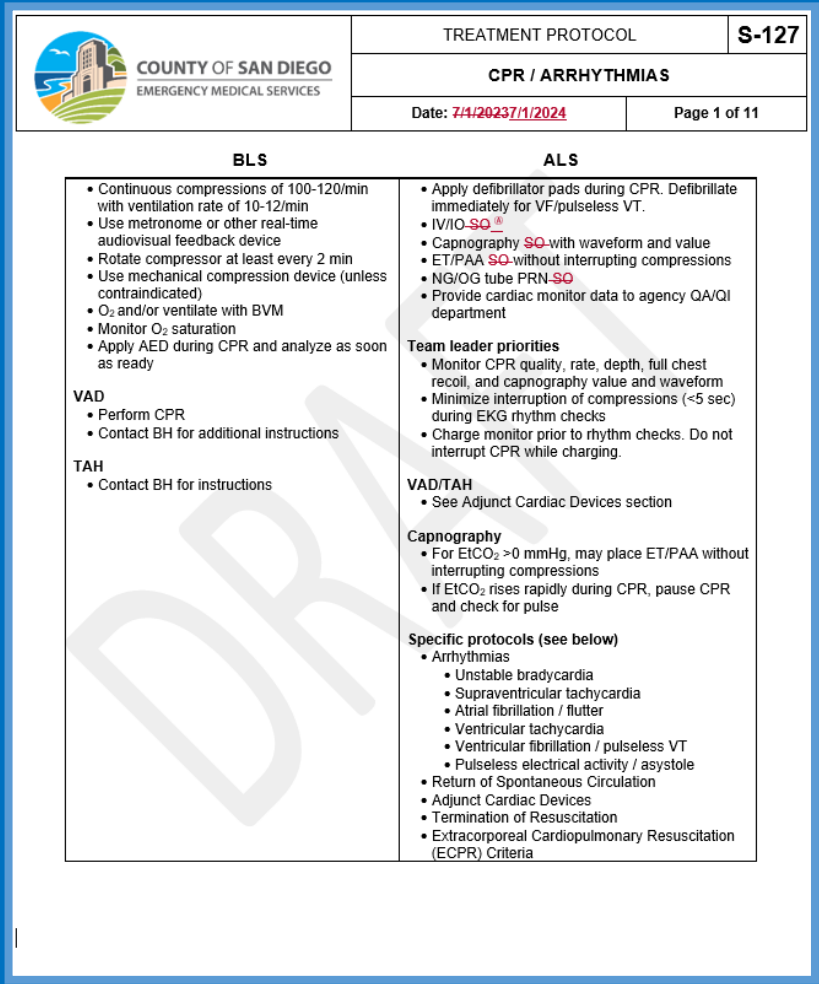
• Continuous compressions of 100-120/min with ventilation rate of 10-12/min
• Use metronome or other real-time audiovisual feedback device
• Rotate compressor at least every 2 min
• Use mechanical compression device (unless contraindicated)
• O_2 and/or ventilate with BVM
• Monitor O_2 saturation
• Apply AED during CPR and analyze as soon as ready
 	
VAD
• Perform CPR
• Contact BH for additional instructions
 	
TAH
• Contact BH for instructions
	• Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT.
	• IV/IO ~~SO~~ Ⓐ
	• Capnography ~~SO~~ with waveform and value
	• ET/PAA ~~SO~~ without interrupting compressions
	• NG/OG tube PRN ~~SO~~
	• 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 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

Revisions

- Unstable Bradycardia
  - Removed BHO for push-dose epinephrine
- Supraventricular Tachycardia
  - Removed “(or refractory to treatment)”
- Ventricular Fibrillation / Pulseless VT
  - Revised defibrillation to “at manufacturer’s recommended energy dose”

S-127

CPR / Arrhythmias



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-127
CPR / ARRHYTHMIAS	
Date: ~~7/1/2023~~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 ~~SO~~ Ⓐ
- Capnography ~~SO~~ with waveform and value
- ET/PAA ~~SO~~ without interrupting compressions
- NG/OG tube PRN ~~SO~~
- 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 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)

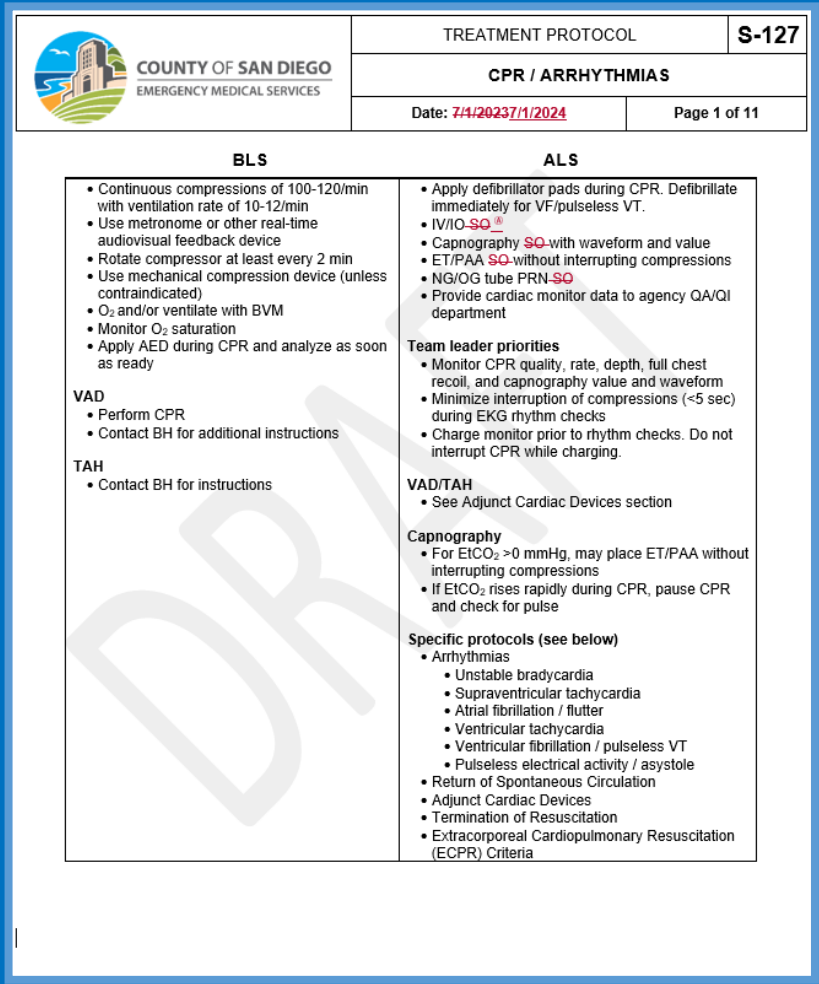
- Arrhythmias
  - Unstable bradycardia
  - Supraventricular tachycardia
  - Atrial fibrillation / flutter
  - Ventricular tachycardia
  - Ventricular fibrillation / pulseless VT
  - Pulseless electrical activity / asystole
- Return of Spontaneous Circulation
- Adjunct Cardiac Devices
- Termination of Resuscitation
- Extracorporeal Cardiopulmonary Resuscitation (ECPR) Criteria

Revisions Continued

- Pulseless Electrical Activity
  - For suspected hyperkalemia:
    - Removed BHO for sodium bicarbonate
  - For suspected hypovolemia:
    - Revised “1L fluid bolus” to “1,000 mL fluid bolus” for consistency across protocols
  - For suspected poisoning/OD:
    - Removed “Contact BH”
    - Revised “May consider treatment per … “ to “For suspected tricyclic antidepressant, beta blocker, or calcium channel blocker overdoses, consider treatment per …”

S-127

CPR / Arrhythmias



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-127
CPR / ARRHYTHMIAS	
Date: ~~7/1/2023~~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 ~~SO~~ Ⓐ
- Capnography ~~SO~~ with waveform and value
- ET/PAA ~~SO~~ without interrupting compressions
- NG/OG tube PRN ~~SO~~
- 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 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

Revisions Continued

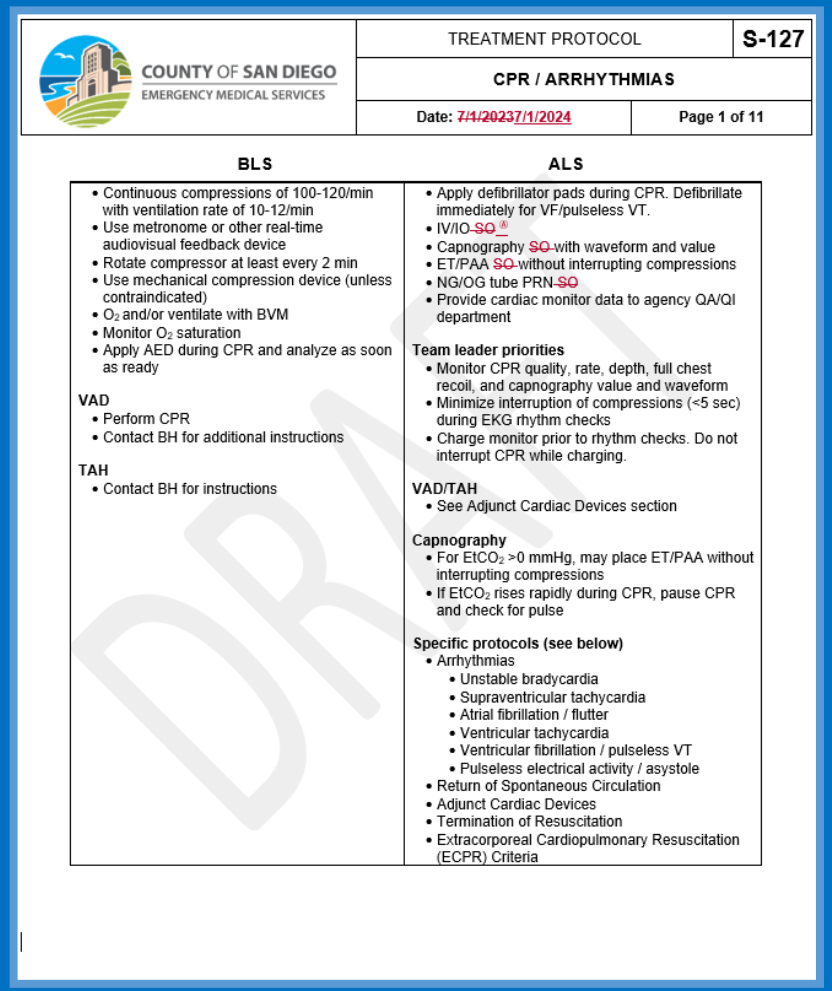
- Return of Spontaneous Circulation
  - Removed BHO for push-dose epinephrine
- Adjunct Cardiac Devices
  - Revised “Contact BH and TAH coordinator” to “Contact TAH Coordinator”
  - Removed “Treatment per BHO”

New Additions

- Unstable Bradycardia
  - Added note “May omit atropine in patients unlikely to have clinical benefit (e.g., heart transplant patients, 2nd degree type II, or 3rd degree heart block)”

S-127

CPR / Arrhythmias



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-127
CPR / ARRHYTHMIAS	
Date: ~~7/1/2023~~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 ~~SO~~ [A]
- Capnography ~~SO~~ with waveform and value
- ET/PAA ~~SO~~ without interrupting compressions
- NG/OG tube PRN ~~SO~~
- 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 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)

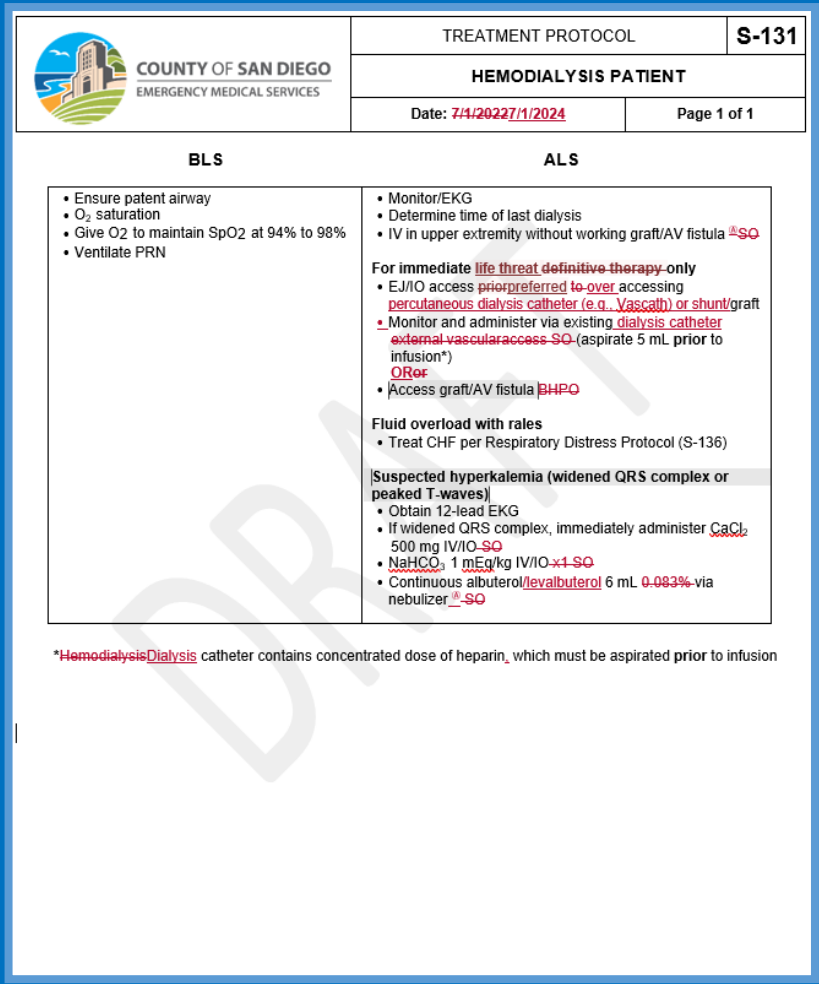
- Arrhythmias
  - Unstable bradycardia
  - Supraventricular tachycardia
  - Atrial fibrillation / flutter
  - Ventricular tachycardia
  - Ventricular fibrillation / pulseless VT
  - Pulseless electrical activity / asystole
- Return of Spontaneous Circulation
- Adjunct Cardiac Devices
- Termination of Resuscitation
- Extracorporeal Cardiopulmonary Resuscitation (ECPR) Criteria

New Additions Continued

- Pulseless Electrical Activity
  - For suspected hyperkalemia:
    - Added “MR x1 in 5 min for continued EKG findings consistent with hyperkalemia”
    - Added “Continuous albuterol/levalbuterol 6 mL via nebulizer”
  - For suspected poisoning / OD
    - Added footnote “Naloxone is not authorized in cardiac arrest”
- Return of Spontaneous Circulation
  - Added “Monitor blood glucose PRN”
- Adjunct Cardiac Devices
  - Added “Consult BH Physician for orders for TAH recommended treatments”

S-131

Hemodialysis Patient



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-131
HEMODIALYSIS PATIENT	
Date: ~~7/1/2022~~7/1/2024	Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation
- Give O_2 to maintain SpO_2 at 94% to 98%
- Ventilate PRN

ALS

- Monitor/EKG
- Determine time of last dialysis
- IV in upper extremity without working graft/AV fistula ~~Ⓐ SO~~

For immediate life threat ~~definitive therapy~~ only

- EJ/IO access ~~prior~~preferred ~~to~~ over accessing percutaneous dialysis catheter (e.g., Vascath) or shunt/graft
- Monitor and administer via existing dialysis catheter ~~external vascularaccess SO~~ (aspirate 5 mL **prior** to infusion*)
  ~~OR~~or
- Access graft/AV fistula ~~BHPO~~

Fluid overload with rales

- Treat CHF per Respiratory Distress Protocol (S-136)

Suspected hyperkalemia (widened QRS complex or peaked T-waves)

- Obtain 12-lead EKG
- If widened QRS complex, immediately administer $CaCl_2$ 500 mg IV/IO ~~SO~~
- $NaHCO_3$ 1 mEq/kg IV/IO ~~x1 SO~~
- Continuous albuterol/levalbuterol 6 mL ~~0.083%~~ via nebulizer ~~Ⓐ SO~~

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

DRAFT

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES

Revisions

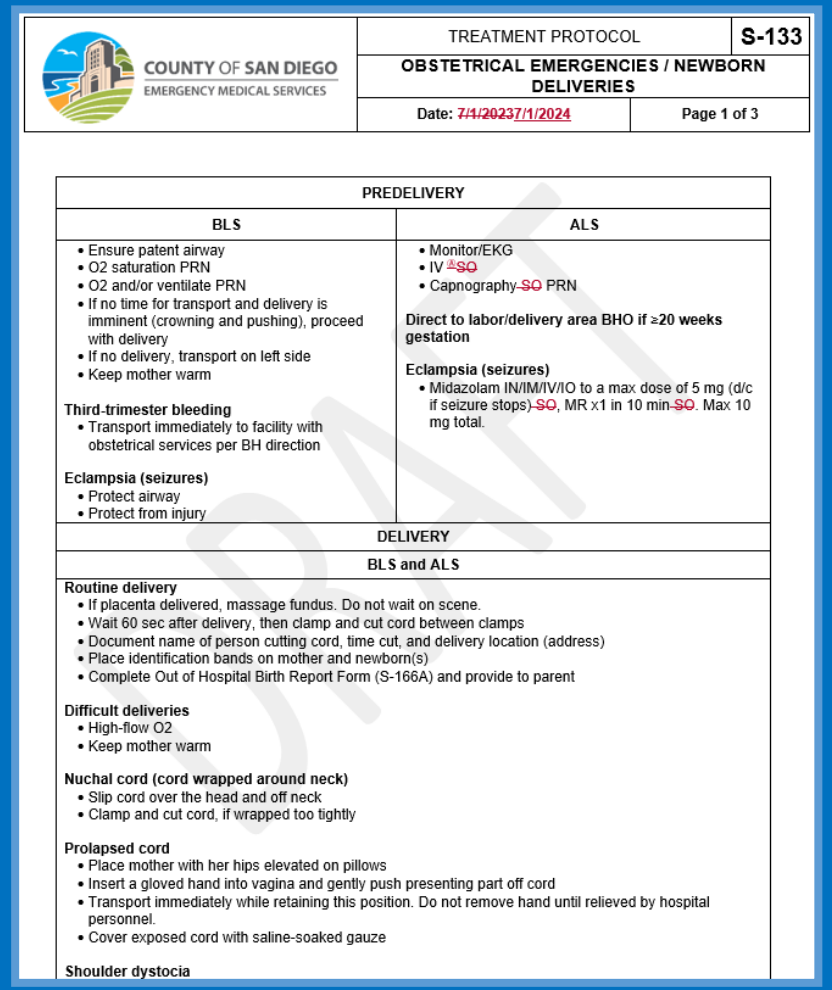
- ALS
  - Revised “For immediate definitive therapy only” to “For immediate life threat only” to better define when it is appropriate to access these devices
  - Revised EJ/IO access to “preferred over”
  - Revised graft to “percutaneous dialysis catheter (e.g., Vascath) or shunt/graft”
  - Revised external vascular access to “dialysis catheter”
  - Removed “BHPO” for accessing graft/AV fistula
  - Removed “0.083%” to accommodate the addition of levalbuterol
  - Revised “Hemodialysis catheter” at the bottom note to “Dialysis catheter” for consistency

New Additions

- ALS
  - Added levalbuterol to each instance of albuterol

S-133

Obstetrical Emergencies / Newborn Deliveries



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-133
OBSTETRICAL EMERGENCIES / NEWBORN DELIVERIES	
Date: ~~7/1/2023~~7/1/2024	Page 1 of 3

PREDELIVERY

BLS	ALS
• Ensure patent airway • O2 saturation PRN • O2 and/or ventilate PRN • If no time for transport and delivery is imminent (crowning and pushing), proceed with delivery • If no delivery, transport on left side • Keep mother warm **Third-trimester bleeding** • Transport immediately to facility with obstetrical services per BH direction **Eclampsia (seizures)** • Protect airway • Protect from injury	• Monitor/EKG • IV ~~SO~~ • Capnography ~~SO~~ PRN **Direct to labor/delivery area BHO if ≥20 weeks gestation** **Eclampsia (seizures)** • Midazolam IN/IM/IV/IO to a max dose of 5 mg (d/c if seizure stops) ~~SO~~, MR x1 in 10 min ~~SO~~. Max 10 mg total.

DELIVERY

BLS and ALS

Routine delivery
- If placenta delivered, massage fundus. Do not wait on scene.
- Wait 60 sec after delivery, then clamp and cut cord between clamps
- Document name of person cutting cord, time cut, and delivery location (address)
- Place identification bands on mother and newborn(s)
- Complete Out of Hospital Birth Report Form (S-166A) and provide to parent

Difficult deliveries
- High-flow O2
- Keep mother warm

Nuchal cord (cord wrapped around neck)
- Slip cord over the head and off neck
- Clamp and cut cord, if wrapped too tightly

Prolapsed cord
- Place mother with her hips elevated on pillows
- Insert a gloved hand into vagina and gently push presenting part off cord
- Transport immediately while retaining this position. Do not remove hand until relieved by hospital personnel.
- Cover exposed cord with saline-soaked gauze

Shoulder dystocia

Revisions

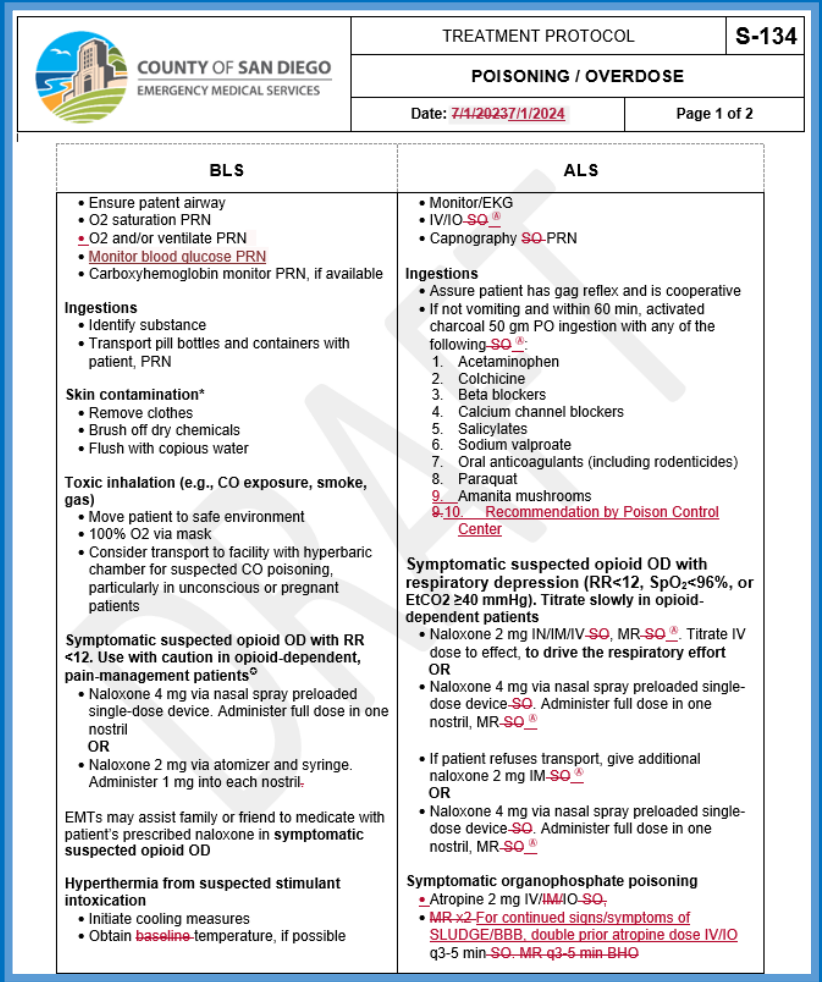
- ALS
  - Removed BHO for tranexamic acid

New Additions

- None

S-134

Poisoning / Overdose



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-134
POISONING / OVERDOSE	
Date: ~~7/1/2023~~7/1/2024	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 ~~baseline~~ temperature, if possible

ALS

- Monitor/EKG
- IV/IO ~~SO~~ Ⓐ
- Capnography ~~SO~~ 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 ~~SO~~ Ⓐ:
  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
  ~~9.~~ 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 ~~SO~~, MR ~~SO~~ Ⓐ. Titrate IV dose to effect, **to drive the respiratory effort**
  OR
- Naloxone 4 mg via nasal spray preloaded single-dose device ~~SO~~. Administer full dose in one nostril, MR ~~SO~~ Ⓐ

- If patient refuses transport, give additional naloxone 2 mg IM ~~SO~~ Ⓐ
  OR
- Naloxone 4 mg via nasal spray preloaded single-dose device ~~SO~~. Administer full dose in one nostril, MR ~~SO~~ Ⓐ

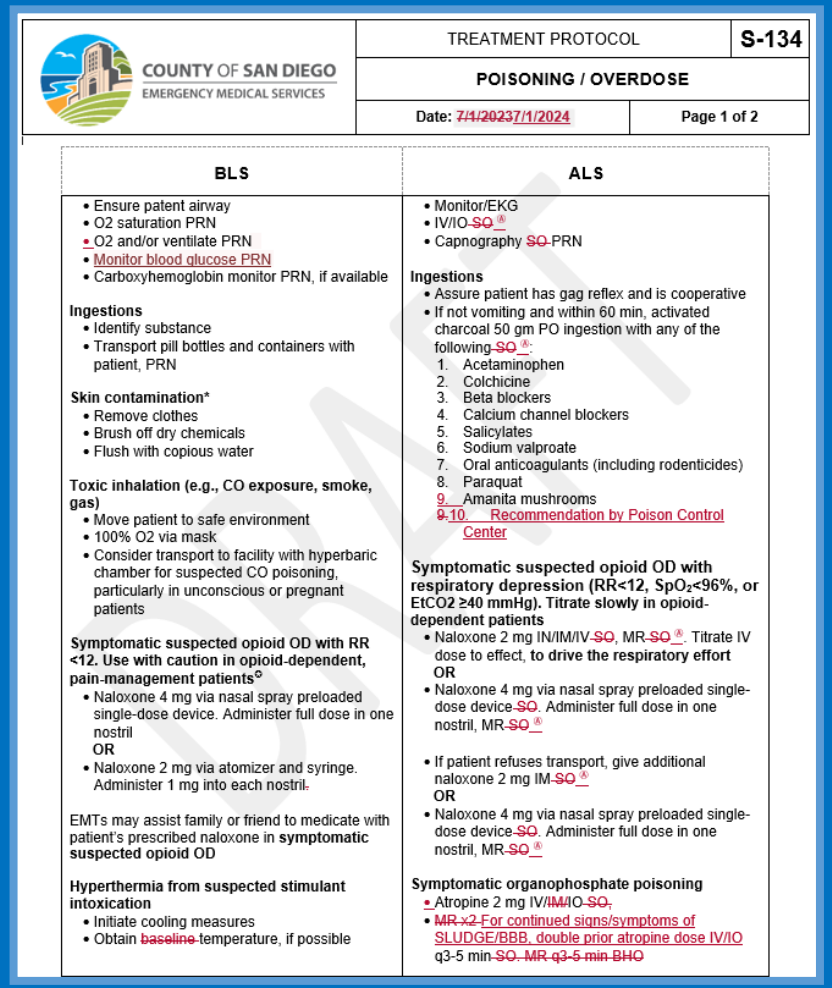
Symptomatic organophosphate poisoning
- Atropine 2 mg IV/~~IM~~/IO ~~SO~~,
- ~~MR x2~~ For continued signs/symptoms of SLUDGE/BBB, double prior atropine dose IV/IO q3-5 min ~~SO. MR q3-5 min BHO~~

Revisions

- BLS
  - Removed "baseline" from "baseline temperature" for consistency across protocols
- ALS
  - Updated treatment for symptomatic organophosphate poisoning:
    - Removed IM route
    - Revised "MR x2" to "For continued signs/symptoms of SLUDGE/BBB, double prior atropine dose IV/IO"
    - Removed BHO for repeat doses of atropine
  - Updated treatment for suspected beta blocker OD:
    - Increased dose range from "1-3 mg" to "1-5 mg"
    - Removed BHO for glucagon
  - Removed BHO for calcium chloride in suspected calcium channel blocker OD

S-134

Poisoning / Overdose



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-134
POISONING / OVERDOSE	
Date: ~~7/1/2023~~7/1/2024	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 ~~baseline~~ temperature, if possible

ALS

- Monitor/EKG
- IV/IO ~~SO~~ Ⓐ
- Capnography ~~SO~~ 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 ~~SO~~ Ⓐ:
  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
  ~~9.~~ 10. Recommendation by Poison Control Center

Symptomatic suspected opioid OD with respiratory depression (RR<12, SpO_2<96%, or EtCO2 ≥40 mmHg). Titrate slowly in opioid-dependent patients
- Naloxone 2 mg IN/IM/IV ~~SO~~, MR ~~SO~~ Ⓐ. Titrate IV dose to effect, **to drive the respiratory effort**
  OR
- Naloxone 4 mg via nasal spray preloaded single-dose device ~~SO~~. Administer full dose in one nostril, MR ~~SO~~ Ⓐ

- If patient refuses transport, give additional naloxone 2 mg IM ~~SO~~ Ⓐ
  OR
- Naloxone 4 mg via nasal spray preloaded single-dose device ~~SO~~. Administer full dose in one nostril, MR ~~SO~~ Ⓐ

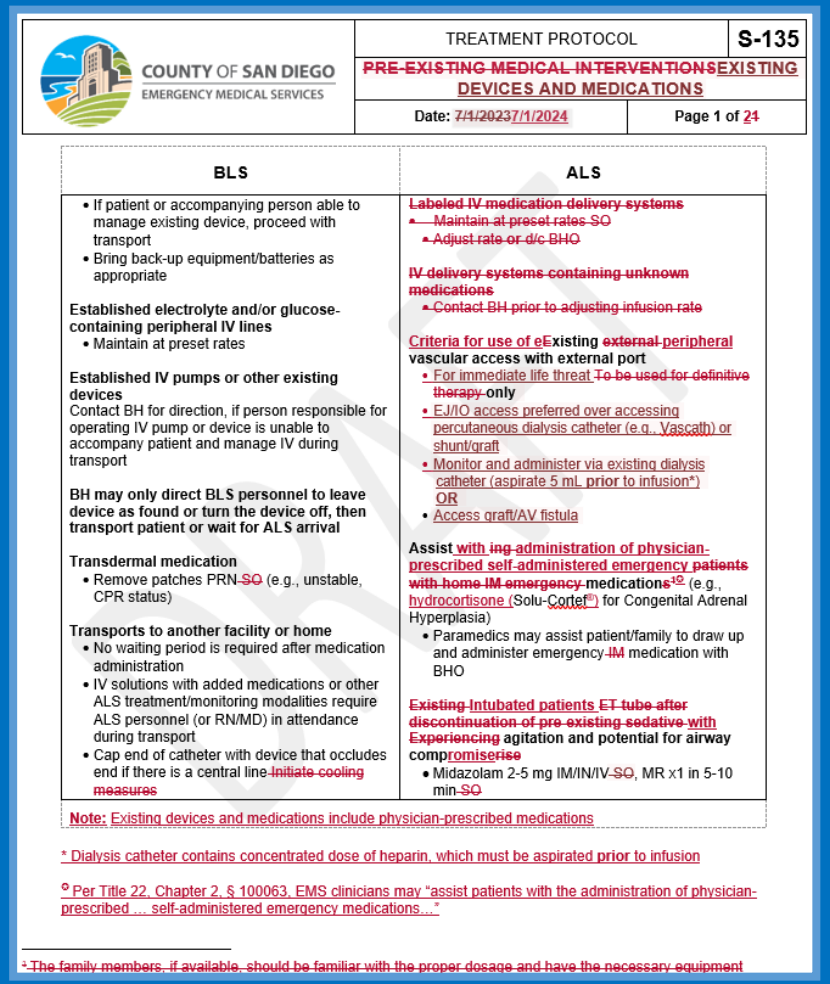
Symptomatic organophosphate poisoning
- Atropine 2 mg IV/~~IM~~/IO ~~SO~~.
- ~~MR x2~~ For continued signs/symptoms of SLUDGE/BBB, double prior atropine dose IV/IO q3-5 min ~~SO. MR q3-5 min BHO~~

New Additions

- BLS
  - Added "Monitor blood glucose PRN"
- ALS
  - Added "Recommendation by Poison Control Center" as an indication for activated charcoal

S-135

Existing Devices and Medications



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-135

~~PRE-EXISTING MEDICAL INTERVENTIONS~~EXISTING DEVICES AND MEDICATIONS

Date: ~~7/1/2023~~7/1/2024 | Page 1 of ~~21~~

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 ~~SO~~ (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 ~~Initiate cooling measures~~	~~**Labeled IV medication delivery systems**~~ ~~• Maintain at preset rates SO~~ ~~• Adjust rate or d/c BHO~~ ~~**IV delivery systems containing unknown medications**~~ ~~• Contact BH prior to adjusting infusion rate~~ Criteria for use of e~~E~~xisting ~~external~~ peripheral vascular access with external port • For immediate life threat ~~To be used for definitive therapy~~ 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 ~~ing~~ administration of physician-prescribed self-administered emergency ~~patients with home IM emergency~~ medications[1][◊] (e.g., hydrocortisone (Solu-Cortef®) for Congenital Adrenal Hyperplasia) • Paramedics may assist patient/family to draw up and administer emergency ~~IM~~ medication with BHO ~~Existing Intubated patients ET tube after discontinuation of pre existing sedative with Experiencing~~ **agitation and potential for airway comp**romise~~s~~ • Midazolam 2-5 mg IM/IN/IV ~~SO~~, MR x1 in 5-10 min ~~SO~~

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, Chapter 2, § 100063, EMS clinicians may "assist patients with the administration of physician-prescribed … self-administered emergency medications…"

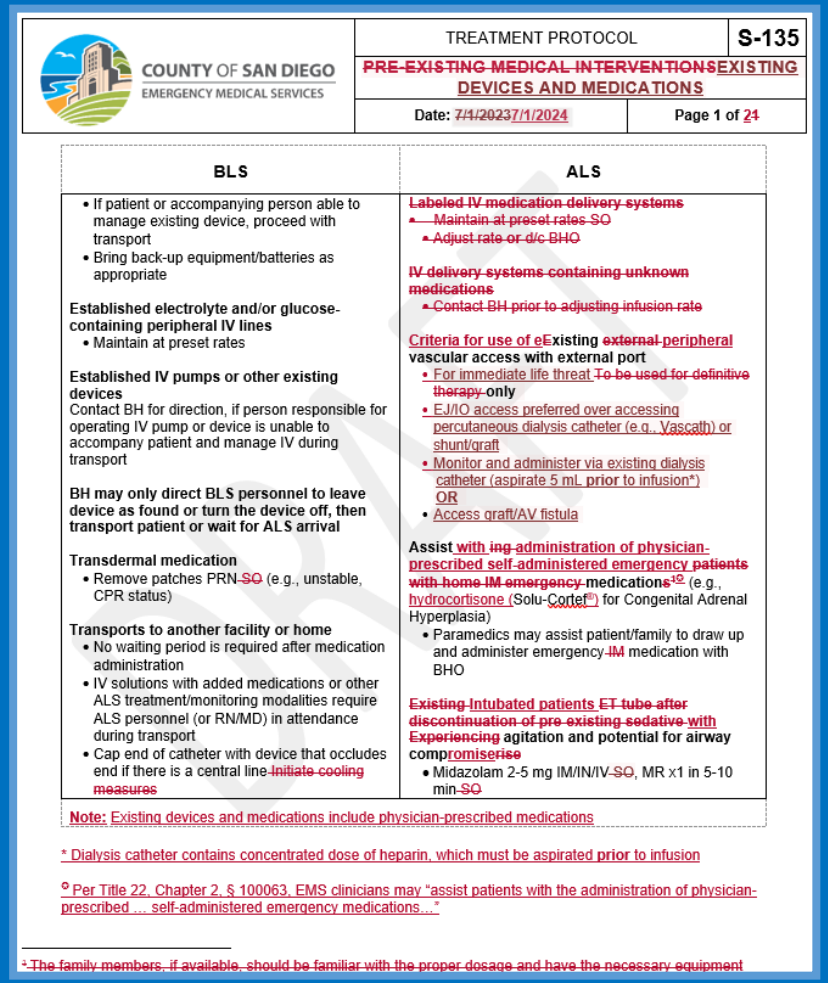
~~[1] The family members, if available, should be familiar with the proper dosage and have the necessary equipment~~

Revisions

- Protocol title updated to "Existing Devices and Medications"
- BLS
  - For the "Transports to another facility or home" heading, removed the "Initiate cooling measures" treatment
- ALS
  - Removed "Labeled IV medication delivery systems" heading and the following treatments:
    - Maintain at preset rates
    - Adjust rate or d/c BHO
  - Removed "IV delivery systems containing unknown medications" heading and the following treatment:
    - Contact BH prior to adjusting infusion rate

S-135

Existing Devices and Medications



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-135
~~PRE-EXISTING MEDICAL INTERVENTIONS~~EXISTING DEVICES AND MEDICATIONS	
Date: ~~7/1/2023~~7/1/2024	Page 1 of ~~21~~

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 ~~SO~~ (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 ~~Initiate cooling measures~~	~~Labeled IV medication delivery systems~~ ~~• Maintain at preset rates SO~~ ~~• Adjust rate or d/c BHO~~ ~~IV delivery systems containing unknown medications~~ ~~• Contact BH prior to adjusting infusion rate~~ Criteria for use of e~~E~~xisting ~~external~~ peripheral vascular access with external port • For immediate life threat ~~To be used for definitive therapy~~ 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 ~~ing~~ administration of physician-prescribed self-administered emergency patients ~~with home IM emergency~~ medications[10] (e.g., hydrocortisone (Solu-Cortef®) for Congenital Adrenal Hyperplasia) • Paramedics may assist patient/family to draw up and administer emergency ~~IM~~ medication with BHO ~~Existing Intubated patients ET tube after discontinuation of pre existing sedative with Experiencing~~ agitation and potential for airway comp~~romiserise~~ • Midazolam 2-5 mg IM/IN/IV ~~SO~~, MR x1 in 5-10 min ~~SO~~

Note: Existing devices and medications include physician-prescribed medications

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

[10] Per Title 22, Chapter 2, § 100063, EMS clinicians may "assist patients with the administration of physician-prescribed … self-administered emergency medications…"

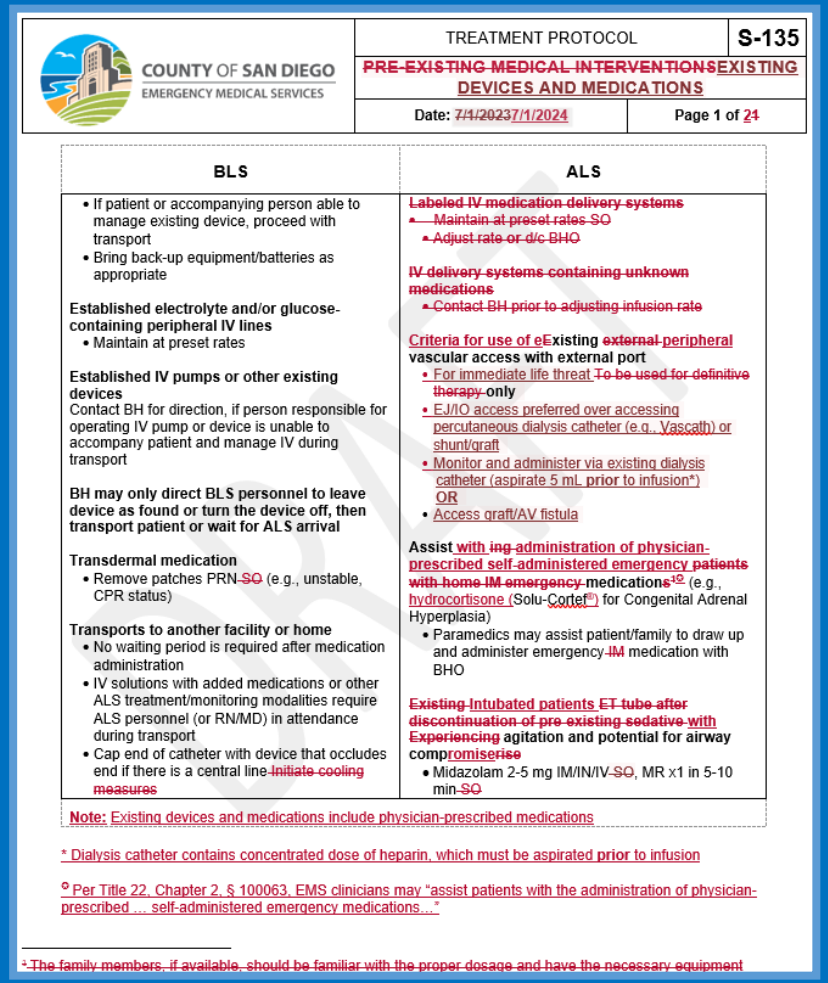
~~[a] The family members, if available, should be familiar with the proper dosage and have the necessary equipment~~

Revisions Continued

- Revised "Existing external vascular access with external port" to "Criteria for use of existing peripheral vascular access with external port"
- Revised "Assisting patients with home IM emergency medications" to "Assist with administration of physician-prescribed self-administered emergency medication"
  - Removed "IM" from "administer emergency medication" to allow for other routes
  - Removed footnote "The family members, if available, should be familiar with the proper dosage and have the necessary equipment"
- Revised "Existing ET tube after discontinuation of pre-existing sedative experiencing agitation and potential for airway compromise" to "Intubated patients with agitation and potential for airway compromise"

S-135

Existing Devices and Medications



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-135

~~PRE-EXISTING MEDICAL INTERVENTIONS~~EXISTING DEVICES AND MEDICATIONS

Date: ~~7/1/2023~~7/1/2024 | Page 1 of ~~21~~4

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 ~~SO~~ (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 ~~Initiate cooling measures~~	~~Labeled IV medication delivery systems~~ ~~• Maintain at preset rates SO~~ ~~• Adjust rate or d/c BHO~~ ~~IV delivery systems containing unknown medications~~ ~~• Contact BH prior to adjusting infusion rate~~ Criteria for use of e~~E~~xisting ~~external~~ peripheral vascular access with external port • For immediate life threat ~~To be used for definitive therapy~~ 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 ~~ing~~ administration of physician-prescribed self-administered emergency ~~patients with home IM emergency~~ medications[1][◇] (e.g., hydrocortisone (Solu-Cortef®) for Congenital Adrenal Hyperplasia) • Paramedics may assist patient/family to draw up and administer emergency ~~IM~~ medication with BHO ~~Existing Intubated patients ET tube after discontinuation of pre existing sedative with Experiencing~~ agitation and potential for airway comp~~romiserise~~ • Midazolam 2-5 mg IM/IN/IV ~~SO~~, MR x1 in 5-10 min ~~SO~~

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, Chapter 2, § 100063, EMS clinicians may "assist patients with the administration of physician-prescribed … self-administered emergency medications…"

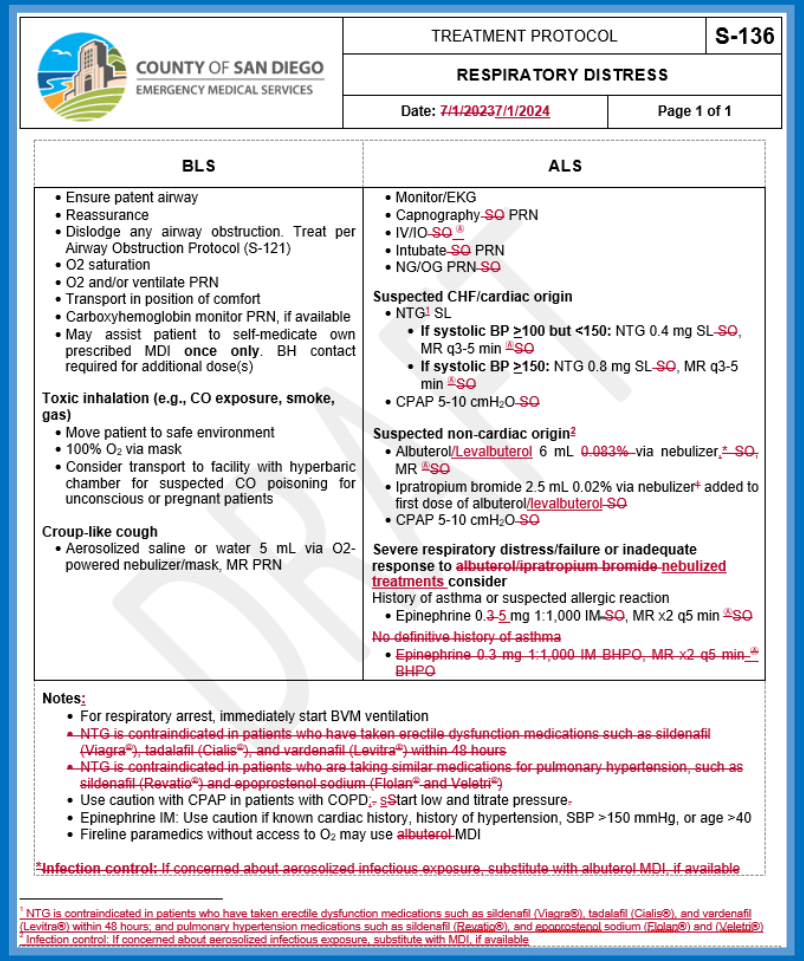
~~[1] The family members, if available, should be familiar with the proper dosage and have the necessary equipment~~

New Additions

- ALS
  - For "Criteria for use of existing peripheral vascular access with external port" added:
    - 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
  - Added note "Note: Existing devices and medications include physician-prescribed medications"
  - Added note "Dialysis catheter contains concentrated dose of heparin, which must be aspirated prior to infusion"
  - Added note "Per Title 22, Chapter 2, § 100063, EMS clinicians may "assist patients with the administration of physician-prescribed … self-administered emergency medications…""

S-136

Respiratory Distress



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-136

RESPIRATORY DISTRESS

Date: ~~7/1/2023~~7/1/2024 | 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
- Capnography ~~SO~~ PRN
- IV/IO ~~SO~~ [4]
- Intubate ~~SO~~ PRN
- NG/OG PRN ~~SO~~

Suspected CHF/cardiac origin

- NTG[1] SL
  - **If systolic BP ≥100 but <150:** NTG 0.4 mg SL ~~SO~~, MR q3-5 min [4]~~SO~~
  - **If systolic BP ≥150:** NTG 0.8 mg SL ~~SO~~, MR q3-5 min [4]~~SO~~
- CPAP 5-10 cmH_2O ~~SO~~

Suspected non-cardiac origin[2]

- Albuterol/Levalbuterol 6 mL ~~0.083%~~ via nebulizer,* ~~SO~~, MR [4]~~SO~~
- Ipratropium bromide 2.5 mL 0.02% via nebulizer* added to first dose of albuterol/levalbuterol ~~SO~~
- CPAP 5-10 cmH_2O ~~SO~~

Severe respiratory distress/failure or inadequate response to ~~albuterol/ipratropium bromide~~ nebulized treatments consider

History of asthma or suspected allergic reaction

- Epinephrine 0.~~3~~ 5 mg 1:1,000 IM ~~SO~~, MR x2 q5 min [4]~~SO~~

~~No definitive history of asthma~~

- ~~Epinephrine 0.3 mg 1:1,000 IM BHPO, MR x2 q5 min~~ [4] ~~BHPO~~

Notes:

- For respiratory arrest, immediately start BVM ventilation
- ~~NTG is contraindicated in patients who have taken erectile dysfunction medications such as sildenafil (Viagra®), tadalafil (Cialis®), and vardenafil (Levitra®) within 48 hours~~
- ~~NTG is contraindicated in patients who are taking similar medications for pulmonary hypertension, such as sildenafil (Revatio®) and epoprostenol sodium (Flolan® and Veletri®)~~
- Use caution with CPAP in patients with COPD. ~~S~~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 ~~albuterol~~ MDI

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

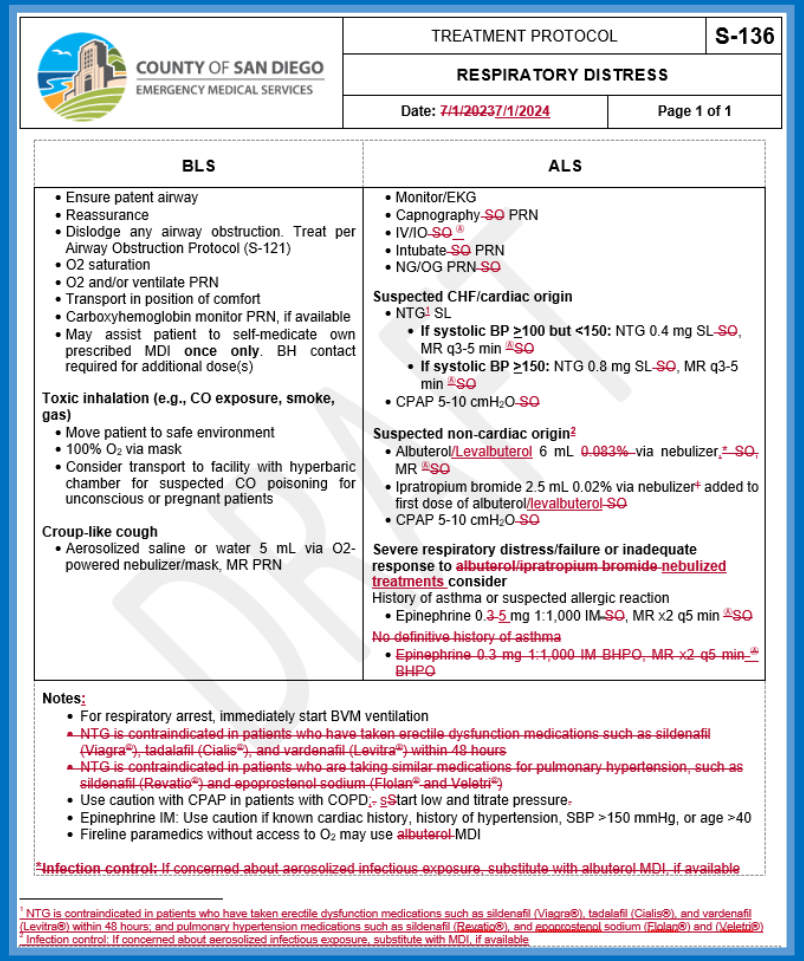
[1] NTG is contraindicated in patients who have taken erectile dysfunction medications such as sildenafil (Viagra®), tadalafil (Cialis®), and vardenafil (Levitra®) within 48 hours; and pulmonary hypertension medications such as sildenafil (Revatio®), and epoprostenol sodium (Flolan®) and (Veletri®)
[4] Infection control: If concerned about aerosolized infectious exposure, substitute with MDI, if available

Revisions

- ALS
  - Updated the NTG contraindications to a footnote for formatting consistency
  - Removed “0.083%” to accommodate the addition of levalbuterol
  - Revised “Severe respiratory distress/failure or inadequate response to albuterol/ipratropium bromide consider” to “Severe respiratory distress/failure or inadequate response to nebulized treatments consider”
  - Removed “No definitive history of asthma” and associated treatment of epinephrine
  - Removed infection control footnotes for albuterol and ipratropium bromide

S-136

Respiratory Distress



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-136

RESPIRATORY DISTRESS

Date: ~~7/1/2023~~7/1/2024 | 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
- Capnography ~~SO~~ PRN
- IV/IO ~~SO~~ [4]
- Intubate ~~SO~~ PRN
- NG/OG PRN ~~SO~~

Suspected CHF/cardiac origin

- NTG[1] SL
  - **If systolic BP ≥100 but <150:** NTG 0.4 mg SL ~~SO~~, MR q3-5 min [4]~~SO~~
  - **If systolic BP ≥150:** NTG 0.8 mg SL ~~SO~~, MR q3-5 min [4]~~SO~~
- CPAP 5-10 cmH_2O ~~SO~~

Suspected non-cardiac origin[2]

- Albuterol/Levalbuterol 6 mL ~~0.083%~~ via nebulizer,~~* SO,~~ MR [4]~~SO~~
- Ipratropium bromide 2.5 mL 0.02% via nebulizer~~+~~ added to first dose of albuterol/levalbuterol ~~SO~~
- CPAP 5-10 cmH_2O ~~SO~~

Severe respiratory distress/failure or inadequate response to ~~albuterol/ipratropium bromide~~ nebulized treatments consider

History of asthma or suspected allergic reaction

- Epinephrine 0.3~~-~~5 mg 1:1,000 IM ~~SO~~, MR x2 q5 min [4]~~SO~~

~~No definitive history of asthma~~

- ~~Epinephrine 0.3 mg 1:1,000 IM BHPO, MR x2 q5 min [4] BHPO~~

Notes:

- For respiratory arrest, immediately start BVM ventilation
- ~~NTG is contraindicated in patients who have taken erectile dysfunction medications such as sildenafil (Viagra®), tadalafil (Cialis®), and vardenafil (Levitra®) within 48 hours~~
- ~~NTG is contraindicated in patients who are taking similar medications for pulmonary hypertension, such as sildenafil (Revatio®) and epoprostenol sodium (Flolan® and Veletri®)~~
- Use caution with CPAP in patients with COPD, ~~s~~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 ~~albuterol~~ MDI

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

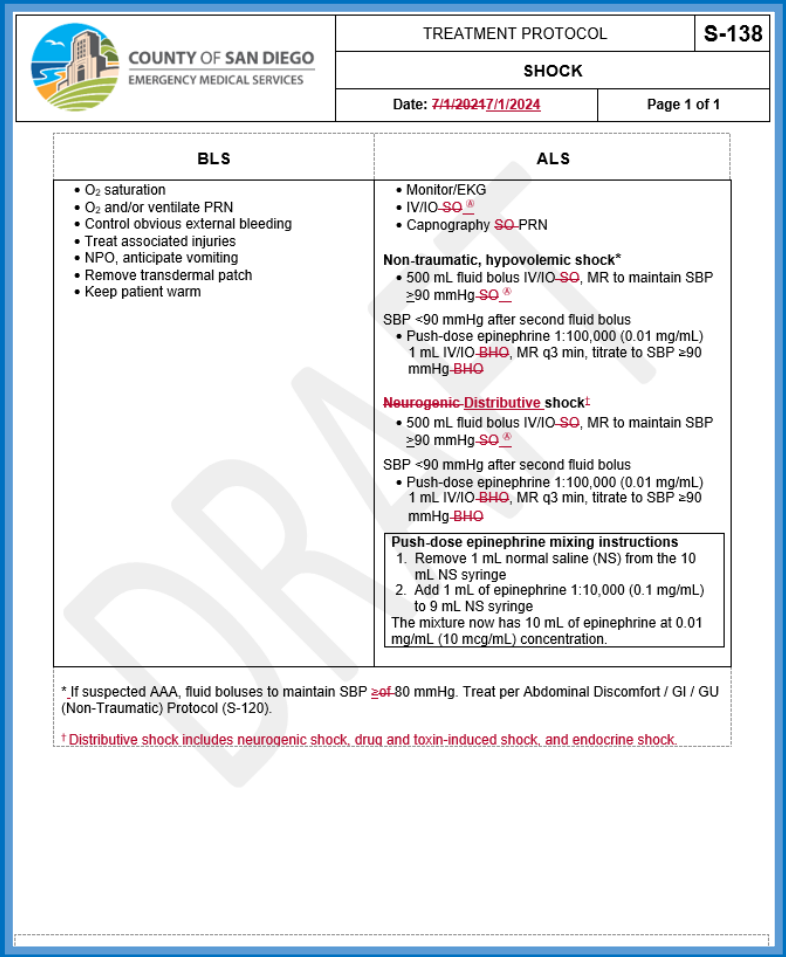
[1] NTG is contraindicated in patients who have taken erectile dysfunction medications such as sildenafil (Viagra®), tadalafil (Cialis®), and vardenafil (Levitra®) within 48 hours; and pulmonary hypertension medications such as sildenafil (Revatio®), and epoprostenol sodium (Flolan®) and (Veletri®)
[4] Infection control: If concerned about aerosolized infectious exposure, substitute with MDI, if available

New Additions

- ALS
  - Added levalbuterol to each instance of albuterol
  - Added new infection control footnote for albuterol, levalbuterol, and ipratropium bromide, "If concerned about aerosolized infectious exposure, substitute with MDI, if available"

S-138

Shock



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-138

SHOCK

Date: ~~7/1/2021~~7/1/2024 | Page 1 of 1

BLS	ALS
• O_2 saturation • O_2 and/or ventilate PRN • Control obvious external bleeding • Treat associated injuries • NPO, anticipate vomiting • Remove transdermal patch • Keep patient warm	• Monitor/EKG • IV/IO ~~SO~~ Ⓐ • Capnography ~~SO~~ PRN **Non-traumatic, hypovolemic shock*** • 500 mL fluid bolus IV/IO ~~SO~~, MR to maintain SBP ≥90 mmHg ~~SO~~ Ⓐ SBP <90 mmHg after second fluid bolus • Push-dose epinephrine 1:100,000 (0.01 mg/mL) 1 mL IV/IO ~~BHO~~, MR q3 min, titrate to SBP ≥90 mmHg ~~BHO~~ ~~Neurogenic~~ Distributive **shock**† • 500 mL fluid bolus IV/IO ~~SO~~, MR to maintain SBP ≥90 mmHg ~~SO~~ Ⓐ SBP <90 mmHg after second fluid bolus • Push-dose epinephrine 1:100,000 (0.01 mg/mL) 1 mL IV/IO ~~BHO~~, MR q3 min, titrate to SBP ≥90 mmHg ~~BHO~~ **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.

* If suspected AAA, fluid boluses to maintain SBP ~~≥of~~ 80 mmHg. Treat per Abdominal Discomfort / GI / GU (Non-Traumatic) Protocol (S-120).

† Distributive shock includes neurogenic shock, drug and toxin-induced shock, and endocrine shock.

DRAFT

Revisions

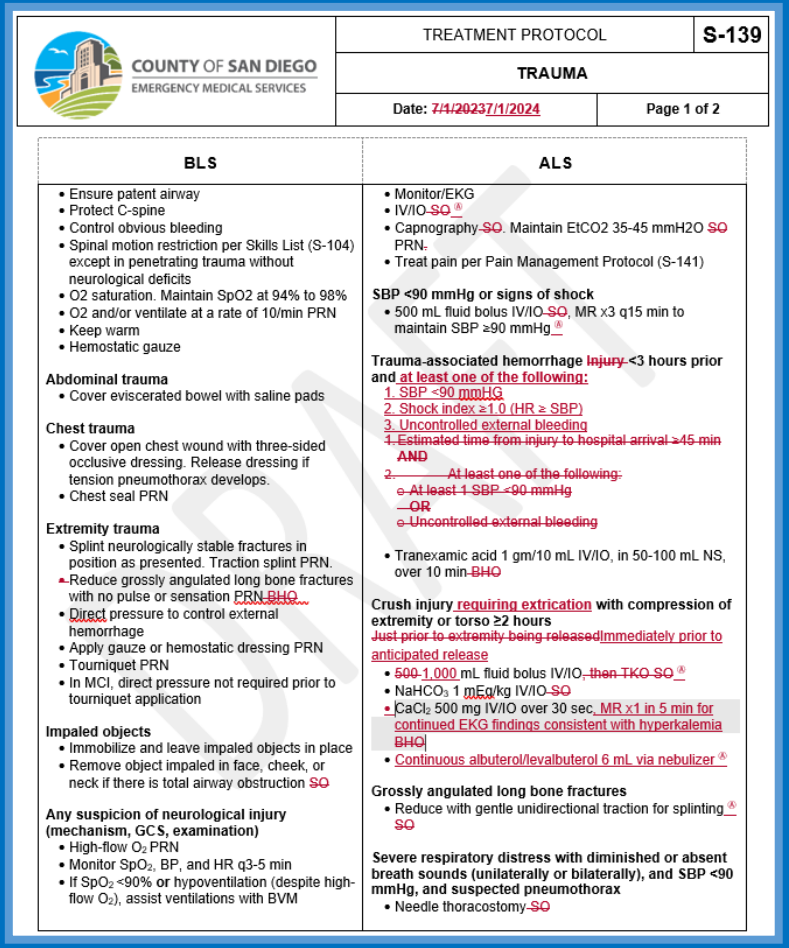
- ALS
  - Removed BHO for push-dose epinephrine
  - Revised “Neurogenic shock” heading to “Distributive shock”
  - Revised “… to maintain SBP of 80 mmHg.” to “… to maintain SBP ≥80 mmHg.” for consistency across protocols

New Additions

- ALS
  - Added note “Distributive shock includes neurogenic shock; drug and toxin-induced shock; and endocrine shock”

S-139

Trauma



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-139

TRAUMA

Date: ~~7/1/2023~~7/1/2024 | 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 at 94% to 98%
- O2 and/or ventilate at a rate of 10/min PRN
- Keep warm
- Hemostatic gauze

Abdominal trauma

- Cover eviscerated bowel with saline pads

Chest trauma

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

Extremity trauma

- Splint neurologically stable fractures in position as presented. Traction splint PRN.
- ~~-~~Reduce grossly angulated long bone fractures with no pulse or sensation PRN~~,~~ BHO
- 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 ~~SO~~

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
- IV/IO ~~SO~~ Ⓐ
- Capnography ~~SO~~. Maintain EtCO2 35-45 mmH2O ~~SO~~ PRN~~.~~
- Treat pain per Pain Management Protocol (S-141)

SBP <90 mmHg or signs of shock

- 500 mL fluid bolus IV/IO ~~SO~~, MR x3 q15 min to maintain SBP ≥90 mmHg Ⓐ

Trauma-associated hemorrhage ~~injury~~ <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

~~1. Estimated time from injury to hospital arrival ≥45 min~~
~~AND~~
~~2. At least one of the following:~~
~~o At least 1 SBP <90 mmHg~~
~~OR~~
~~o Uncontrolled external bleeding~~

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

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

~~Just prior to extremity being released~~Immediately prior to anticipated release

- ~~500~~ 1,000 mL fluid bolus IV/IO~~, then TKO SO~~ Ⓐ
- $NaHCO_3$ 1 mEq/kg IV/IO ~~SO~~
- $CaCl_2$ 500 mg IV/IO over 30 sec, MR x1 in 5 min for continued EKG findings consistent with hyperkalemia BHO
- Continuous albuterol/levalbuterol 6 mL via nebulizer Ⓐ

Grossly angulated long bone fractures

- Reduce with gentle unidirectional traction for splinting Ⓐ ~~SO~~

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

- Needle thoracostomy ~~SO~~

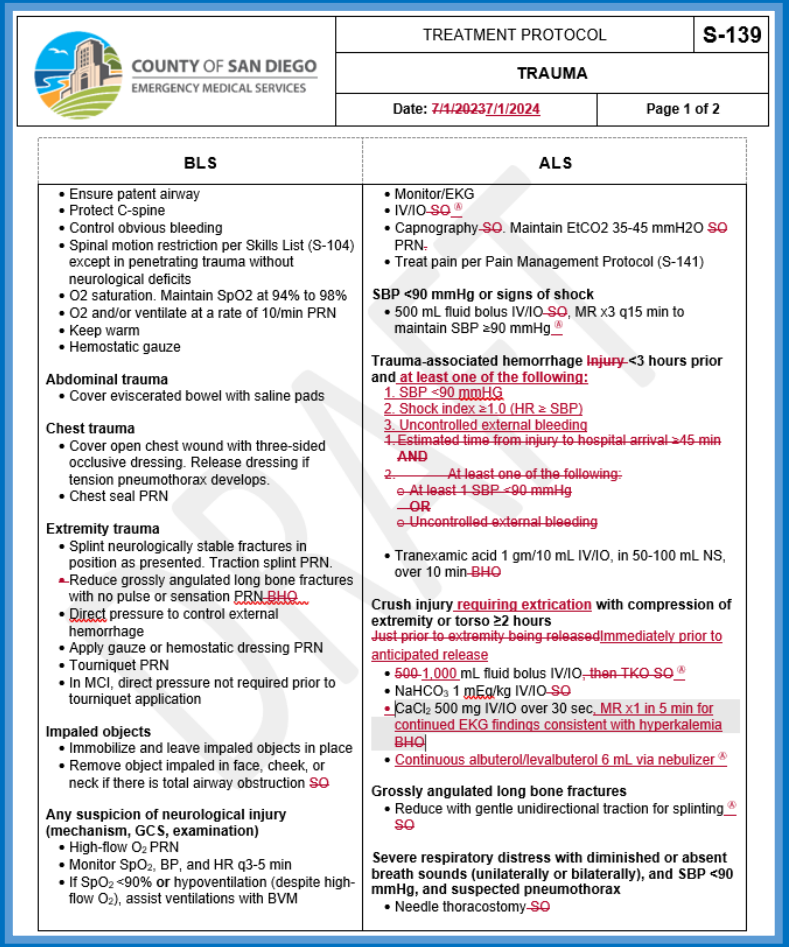
DRAFT

Revisions

- BLS
  - Removed BHO for reducing grossly angulated long bone fractures with no pulse or sensation
- ALS
  - Revised “Trauma-associated hemorrhage” heading to “Trauma-associated hemorrhage <3 hours prior and at least one of the following”
    - Removed “Estimated time from injury to hospital arrival ≥45 min”
    - Removed BHO for tranexamic acid

S-139

Trauma



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-139
TRAUMA	
Date: ~~7/1/2023~~7/1/2024	Page 1 of 2

BLS

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

Abdominal trauma
- Cover eviscerated bowel with saline pads

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

Extremity trauma
- Splint neurologically stable fractures in position as presented. Traction splint PRN.
- ~~.~~ Reduce grossly angulated long bone fractures with no pulse or sensation PRN BHO
- 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 ~~SO~~

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
- IV/IO ~~SO~~ Ⓐ
- Capnography ~~SO~~. Maintain EtCO2 35-45 mmH2O ~~SO~~ PRN~~.~~
- Treat pain per Pain Management Protocol (S-141)

SBP <90 mmHg or signs of shock
- 500 mL fluid bolus IV/IO ~~SO~~, MR x3 q15 min to maintain SBP ≥90 mmHg Ⓐ

Trauma-associated hemorrhage ~~injury~~ <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

~~1. Estimated time from injury to hospital arrival ≥45 min~~
~~AND~~
~~2. At least one of the following:~~
~~o At least 1 SBP <90 mmHg~~
~~OR~~
~~o Uncontrolled external bleeding~~

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

Crush injury requiring extrication with compression of extremity or torso ≥2 hours
~~Just prior to extremity being released~~Immediately prior to anticipated release
- ~~500~~ 1,000 mL fluid bolus IV/IO ~~then TKO SO~~ Ⓐ
- $NaHCO_3$ 1 mEq/kg IV/IO ~~SO~~
- $CaCl_2$ 500 mg IV/IO over 30 sec, MR x1 in 5 min for continued EKG findings consistent with hyperkalemia BHO
- Continuous albuterol/levalbuterol 6 mL via nebulizer Ⓐ

Grossly angulated long bone fractures
- Reduce with gentle unidirectional traction for splinting Ⓐ ~~SO~~

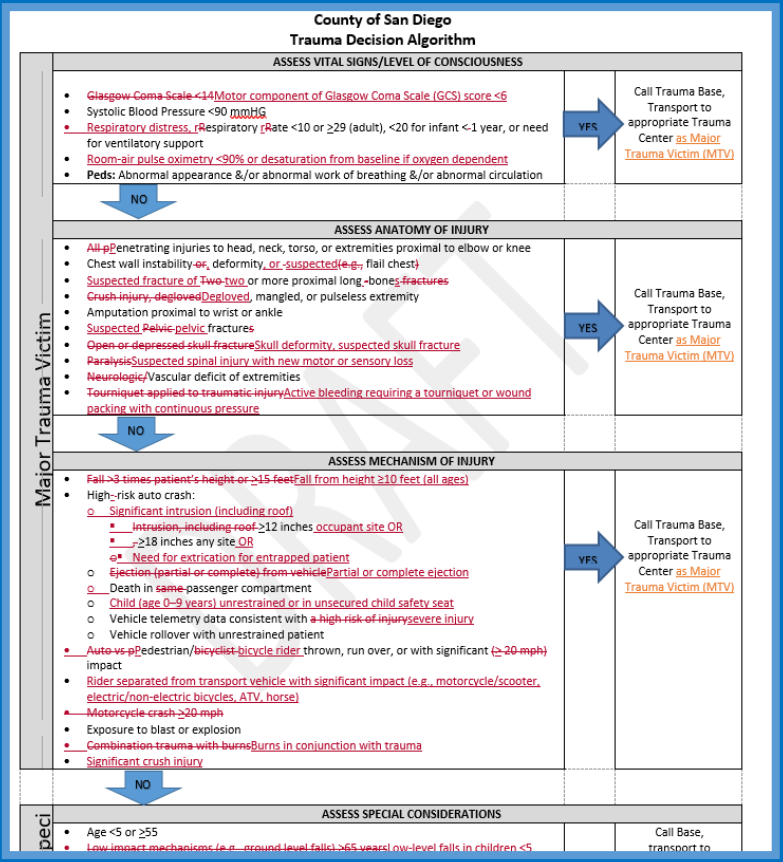
Severe respiratory distress with diminished or absent breath sounds (unilaterally or bilaterally), and SBP <90 mmHg, and suspected pneumothorax
- Needle thoracostomy ~~SO~~

Revisions Continued

- ALS
  - Revised “Crush injury with compression…” heading to “Crush injury requiring extrication with compression…”
    - Revised “Just prior to extremity being released” to “Immediately prior to anticipated release”
    - Increased fluid bolus from “500 mL” to “1,000 mL”
    - Removed “then TKO” language
    - Removed BHO for calcium chloride

T-460A

Trauma Decision Algorithm



County of San Diego
Trauma Decision Algorithm

Major Trauma Victim

ASSESS VITAL SIGNS/LEVEL OF CONSCIOUSNESS

- ~~Glasgow Coma Scale <14~~Motor component of Glasgow Coma Scale (GCS) score <6
- Systolic Blood Pressure <90 mmHG
- ~~Respiratory distress. r~~Respiratory r~~R~~ate <10 or >29 (adult), <20 for infant <1 year, or need for ventilatory support
- Room-air pulse oximetry <90% or desaturation from baseline if oxygen dependent
- **Peds:** Abnormal appearance &/or abnormal work of breathing &/or abnormal circulation

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS ANATOMY OF INJURY

- ~~All p~~Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
- Chest wall instability ~~or~~, deformity, or ~~suspected (e.g.,~~ flail chest~~)~~
- ~~Suspected fracture of Two~~ two or more proximal long ~~bones fractures~~
- ~~Crush injury, degloved~~Degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- ~~Suspected Pelvic~~ pelvic fractures
- ~~Open or depressed skull fracture~~Skull deformity, suspected skull fracture
- ~~Paralysis~~Suspected spinal injury with new motor or sensory loss
- ~~Neurologic~~/Vascular deficit of extremities
- ~~Tourniquet applied to traumatic injury~~Active bleeding requiring a tourniquet or wound packing with continuous pressure

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS MECHANISM OF INJURY

- ~~Fall >3 times patient's height or >15 feet~~Fall from height ≥10 feet (all ages)
- High ~~-~~risk auto crash:
  - Significant intrusion (including roof)
    - ~~Intrusion, including roof~~ >12 inches occupant site OR
    - ~~-~~>18 inches any site OR
    - ~~o~~ Need for extrication for entrapped patient
  - ~~Ejection (partial or complete) from vehicle~~Partial or complete ejection
  - Death in ~~same~~ passenger compartment
  - Child (age 0–9 years) unrestrained or in unsecured child safety seat
  - Vehicle telemetry data consistent with ~~a high risk of injury~~severe injury
  - Vehicle rollover with unrestrained patient
- ~~Auto vs p~~Pedestrian/~~bicyclist~~ bicycle rider thrown, run over, or with significant ~~(> 20 mph)~~ impact
- Rider separated from transport vehicle with significant impact (e.g., motorcycle/scooter, electric/non-electric bicycles, ATV, horse)
- ~~Motorcycle crash >20 mph~~
- Exposure to blast or explosion
- ~~Combination trauma with burns~~Burns in conjunction with trauma
- Significant crush injury

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS SPECIAL CONSIDERATIONS

Speci

- Age <5 or ≥55
- ~~Low impact mechanisms (e.g., ground level falls) >65 years! ow-level falls in children <5~~

Call Base, transport to

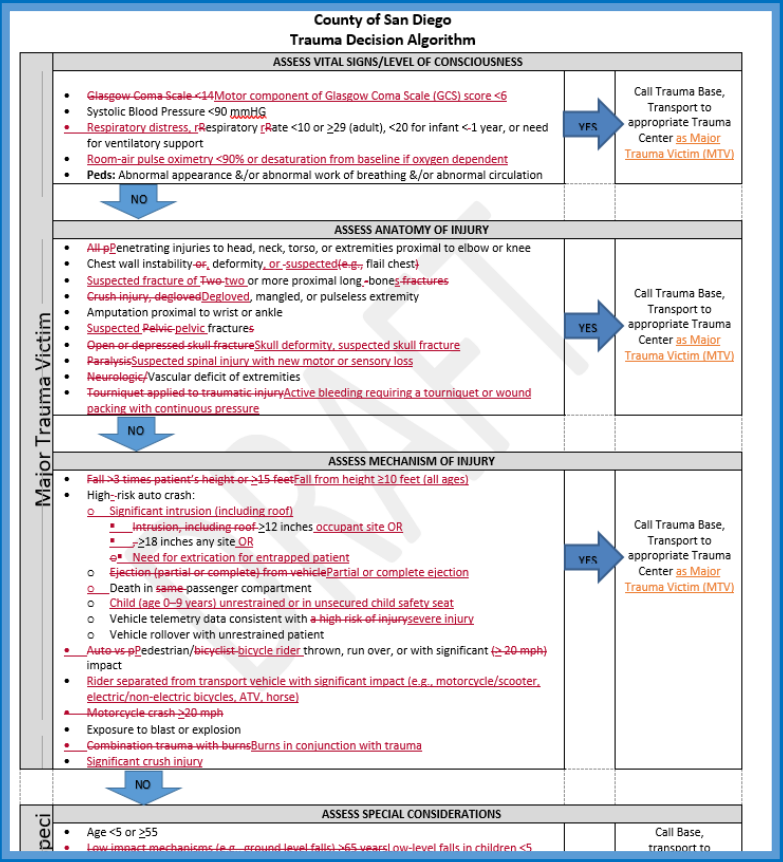
DRAFT

Revisions

- Assess Vital Signs/Level of Consciousness
  - Revised “Glasgow Coma Scale <14” to “Motor component of Glasgow Coma Scale (GCS) score <6”
- Assess Anatomy of Injury
  - Revised “Open or depressed skull fracture” to “Skull deformity, suspected skull fracture”
  - Removed “Crush injury” and added it to assess MOI
  - Revised “Paralysis” to “Suspected spinal injury with new motor or sensory loss”
  - Removed “Neurologic” from deficit of extremities since this is captured by the revised language above
  - Revised “Tourniquet applied to traumatic injury” to “Active bleeding requiring a tourniquet or wound packing with continuous pressure”

T-460A

Trauma Decision Algorithm



County of San Diego
Trauma Decision Algorithm

Major Trauma Victim

ASSESS VITAL SIGNS/LEVEL OF CONSCIOUSNESS

- ~~Glasgow Coma Scale <14~~Motor component of Glasgow Coma Scale (GCS) score <6
- Systolic Blood Pressure <90 mmHG
- Respiratory distress, ~~r~~Respiratory ~~r~~Rate <10 or >29 (adult), <20 for infant <-1 year, or need for ventilatory support
- Room-air pulse oximetry <90% or desaturation from baseline if oxygen dependent
- **Peds:** Abnormal appearance &/or abnormal work of breathing &/or abnormal circulation

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS ANATOMY OF INJURY

- ~~All p~~Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
- Chest wall instability ~~or~~, deformity, or ~~suspected (e.g.,~~ flail chest~~)~~
- ~~Suspected fracture of Two~~ two or more proximal long ~~s fractures~~ bones
- ~~Crush injury, degloved~~Degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- ~~Suspected Pelvic~~ pelvic fractures
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- ~~Neurologic~~/Vascular deficit of extremities
- ~~Tourniquet applied to traumatic injury~~Active bleeding requiring a tourniquet or wound packing with continuous pressure

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS MECHANISM OF INJURY

- ~~Fall >3 times patient's height or >15 feet~~Fall from height ≥10 feet (all ages)
- High ~~-~~risk auto crash:
  - Significant intrusion (including roof)
    - ~~Intrusion, including roof~~ >12 inches occupant site OR
    - ~~-~~>18 inches any site OR
    - ~~o~~ Need for extrication for entrapped patient
  - ~~Ejection (partial or complete) from vehicle~~Partial or complete ejection
  - Death in ~~same~~ passenger compartment
  - Child (age 0–9 years) unrestrained or in unsecured child safety seat
  - Vehicle telemetry data consistent with ~~a high risk of injury~~severe injury
  - Vehicle rollover with unrestrained patient
- ~~Auto vs p~~Pedestrian/~~bicyclist~~ bicycle rider thrown, run over, or with significant ~~(> 20 mph)~~ impact
- Rider separated from transport vehicle with significant impact (e.g., motorcycle/scooter, electric/non-electric bicycles, ATV, horse)
- ~~Motorcycle crash >20 mph~~
- Exposure to blast or explosion
- ~~Combination trauma with burns~~Burns in conjunction with trauma
- Significant crush injury

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS SPECIAL CONSIDERATIONS

Speci

- Age <5 or ≥55
- ~~Low impact mechanisms (e.g., ground level falls) >65 years~~ low-level falls in children <5

Call Base, transport to

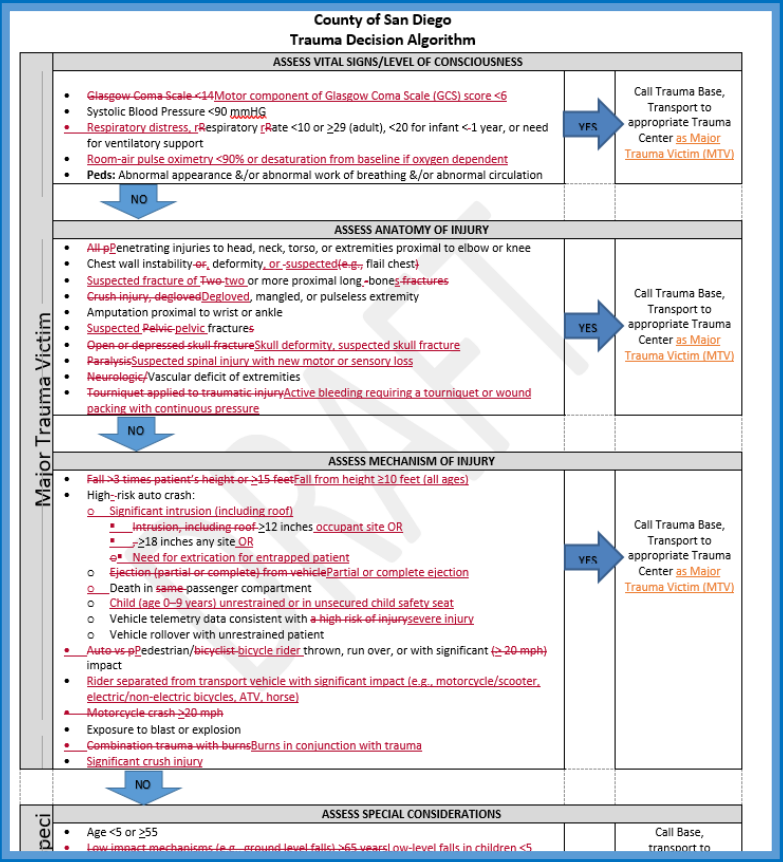
DRAFT

Revisions Continued

- Assess Mechanism of Injury
  - Revised "Fall >3 times patient's height or ≥15 feet" to "Fall from height ≥10 feet (all ages)"
  - Revised "Ejection (partial or complete) from vehicle" to "Partial or complete ejection"
  - Revised "Vehicle telemetry data consistent with a high risk of injury" to "Vehicle telemetry data consistent with severe injury"
  - Removed "≥20 mph" component for pedestrian/bicycle rider thrown, run over, or with significant impact
  - Removed "Motorcycle crash ≥20 mph"
  - Revised "Combination trauma with burns" to "Burns in conjunction with trauma"

T-460A

Trauma Decision Algorithm



County of San Diego
Trauma Decision Algorithm

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- Room-air pulse oximetry <90% or desaturation from baseline if oxygen dependent
- **Peds:** Abnormal appearance &/or abnormal work of breathing &/or abnormal circulation

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NO

ASSESS ANATOMY OF INJURY

- ~~All p~~Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
- Chest wall instability ~~or~~, deformity, or ~~suspected (e.g.,~~ flail chest~~)~~
- Suspected fracture of ~~Two~~ two or more proximal long ~~-~~bone~~s fractures~~
- ~~Crush injury, degloved~~Degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Suspected ~~Pelvic~~ pelvic fracture~~s~~
- ~~Open or depressed skull fracture~~Skull deformity, suspected skull fracture
- ~~Paralysis~~Suspected spinal injury with new motor or sensory loss
- ~~Neurologic~~/Vascular deficit of extremities
- ~~Tourniquet applied to traumatic injury~~Active bleeding requiring a tourniquet or wound packing with continuous pressure

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NO

ASSESS MECHANISM OF INJURY

- ~~Fall >3 times patient's height or >15 feet~~Fall from height ≥10 feet (all ages)
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  - Significant intrusion (including roof)
    - Intrusion, including ~~roof~~ >12 inches occupant site OR
    - ~~-~~>18 inches any site OR
    - ~~o~~ Need for extrication for entrapped patient
  - ~~Ejection (partial or complete) from vehicle~~Partial or complete ejection
  - Death in ~~same~~ passenger compartment
  - Child (age 0–9 years) unrestrained or in unsecured child safety seat
  - Vehicle telemetry data consistent with ~~a high risk of injury~~severe injury
  - Vehicle rollover with unrestrained patient
- ~~Auto vs p~~Pedestrian/~~bicyclist~~ bicycle rider thrown, run over, or with significant ~~(> 20 mph)~~ impact
- Rider separated from transport vehicle with significant impact (e.g., motorcycle/scooter, electric/non-electric bicycles, ATV, horse)
- ~~Motorcycle crash >20 mph~~
- Exposure to blast or explosion
- ~~Combination trauma with burns~~Burns in conjunction with trauma
- Significant crush injury

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS SPECIAL CONSIDERATIONS

peci

- Age <5 or ≥55
- ~~Low impact mechanisms (e.g., ground level falls) >65 years~~Low-level falls in children <5

Call Base, transport to

DRAFT

Revisions Continued

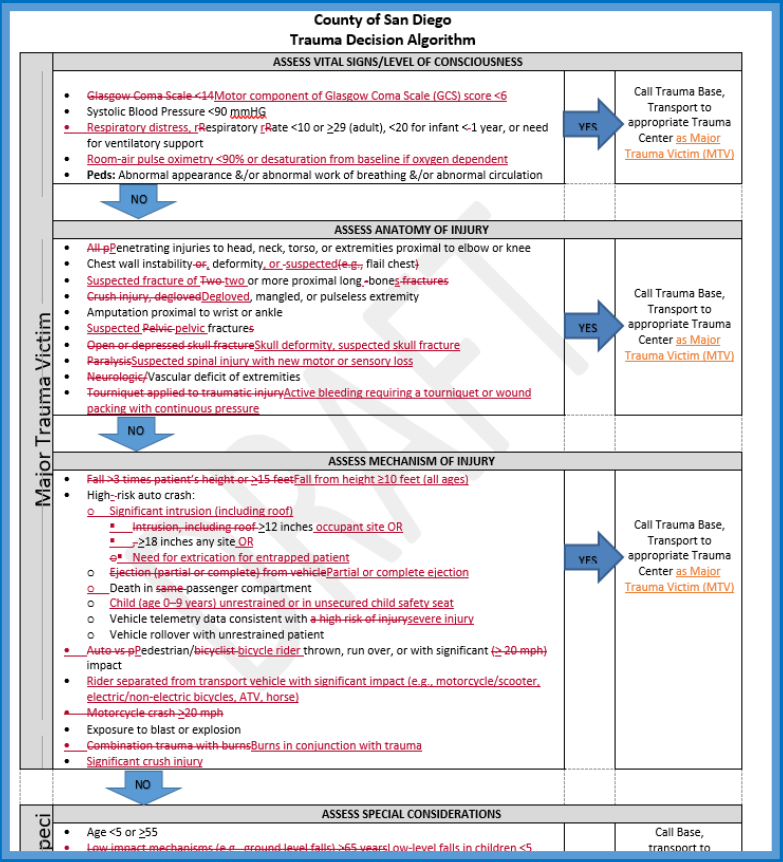
- Assess Special Considerations
  - Revised “Low impact mechanisms (e.g., ground level falls) ≥65 years” to “Low-level falls in children <5 years or adults ≥65 years with significant head impact”
  - Removed “Extrication time ≥20 minutes”

New Additions

- Assess Vital Signs/Level of Consciousness
  - Added “Respiratory distress”
  - Added “Room-air pulse oximetry <90% or desaturation from baseline if oxygen dependent”
- Assess Anatomy of Injury
  - Added “or suspected” for flail chest
  - Added “Suspected fracture of” for proximal long bone
  - Added “Suspected” for pelvic fracture

T-460A

Trauma Decision Algorithm



County of San Diego
Trauma Decision Algorithm

Major Trauma Victim

ASSESS VITAL SIGNS/LEVEL OF CONSCIOUSNESS

- ~~Glasgow Coma Scale <14~~Motor component of Glasgow Coma Scale (GCS) score <6
- Systolic Blood Pressure <90 mmHG
- Respiratory distress, ~~r~~Respiratory ~~r~~Rate <10 or >29 (adult), <20 for infant <-1 year, or need for ventilatory support
- Room-air pulse oximetry <90% or desaturation from baseline if oxygen dependent
- **Peds:** Abnormal appearance &/or abnormal work of breathing &/or abnormal circulation

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS ANATOMY OF INJURY

- ~~All p~~Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
- Chest wall instability ~~or~~, deformity, or ~~suspected (e.g.,~~ flail chest~~)~~
- Suspected fracture of ~~Two~~ two or more proximal long ~~-~~bone~~s fractures~~
- ~~Crush injury, degloved~~Degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Suspected ~~Pelvic~~ pelvic fracture~~s~~
- ~~Open or depressed skull fracture~~Skull deformity, suspected skull fracture
- ~~Paralysis~~Suspected spinal injury with new motor or sensory loss
- ~~Neurologic~~/Vascular deficit of extremities
- ~~Tourniquet applied to traumatic injury~~Active bleeding requiring a tourniquet or wound packing with continuous pressure

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS MECHANISM OF INJURY

- ~~Fall >3 times patient's height or >15 feet~~Fall from height ≥10 feet (all ages)
- High ~~-~~risk auto crash:
  - Significant intrusion (including roof)
    - ~~Intrusion, including roof~~ >12 inches occupant site OR
    - ~~,~~ ≥18 inches any site OR
    - ~~o~~ Need for extrication for entrapped patient
  - ~~Ejection (partial or complete) from vehicle~~Partial or complete ejection
  - Death in ~~same~~ passenger compartment
  - Child (age 0–9 years) unrestrained or in unsecured child safety seat
  - Vehicle telemetry data consistent with ~~a high risk of injury~~severe injury
  - Vehicle rollover with unrestrained patient
- ~~Auto vs p~~Pedestrian/~~bicyclist~~ bicycle rider thrown, run over, or with significant ~~(> 20 mph)~~ impact
- Rider separated from transport vehicle with significant impact (e.g., motorcycle/scooter, electric/non-electric bicycles, ATV, horse)
- ~~Motorcycle crash >20 mph~~
- Exposure to blast or explosion
- ~~Combination trauma with burns~~Burns in conjunction with trauma
- Significant crush injury

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

Speci

ASSESS SPECIAL CONSIDERATIONS

- Age <5 or ≥55
- ~~Low impact mechanisms (e.g., ground level falls) >65 years! ow-level falls in children <5~~

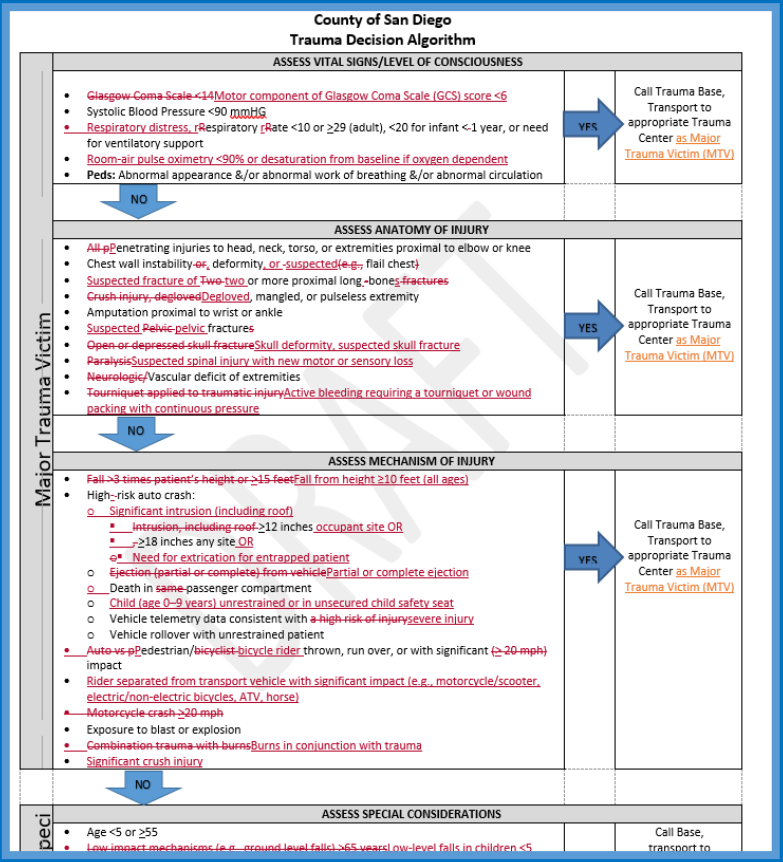
Call Base, transport to

New Additions Continued

- Assess Mechanism of Injury
  - Revised high-risk auto crash to include the following:
    - Significant intrusion (including roof)
      - ≥12 inches occupant site OR
      - ≥18 inches any site OR
      - Need for extrication for entrapped patient
    - Added “Child (age 0-9 years) unrestrained or in unsecured child safety seat”
    - Added “Rider separated from transport vehicle with significant impact (e.g., motorcycle/scooter, electric/non-electric bicycles, ATV, horse)”
    - Added “Significant crush injury”

T-460A

Trauma Decision Algorithm



County of San Diego
Trauma Decision Algorithm

Major Trauma Victim

ASSESS VITAL SIGNS/LEVEL OF CONSCIOUSNESS

- ~~Glasgow Coma Scale <14~~Motor component of Glasgow Coma Scale (GCS) score <6
- Systolic Blood Pressure <90 mmHG
- ~~Respiratory distress, r~~Respiratory rate <10 or >29 (adult), <20 for infant <-1 year, or need for ventilatory support
- Room-air pulse oximetry <90% or desaturation from baseline if oxygen dependent
- **Peds:** Abnormal appearance &/or abnormal work of breathing &/or abnormal circulation

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS ANATOMY OF INJURY

- ~~All p~~Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
- Chest wall instability ~~or~~, deformity, or ~~suspected (e.g.,~~ flail chest~~)~~
- ~~Suspected fracture of Two~~ two or more proximal long ~~s fractures~~ bones
- ~~Crush injury, degloved~~Degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- ~~Suspected Pelvic~~ pelvic fractures
- ~~Open or depressed skull fracture~~Skull deformity, suspected skull fracture
- ~~Paralysis~~Suspected spinal injury with new motor or sensory loss
- ~~Neurologic~~/Vascular deficit of extremities
- ~~Tourniquet applied to traumatic injury~~Active bleeding requiring a tourniquet or wound packing with continuous pressure

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS MECHANISM OF INJURY

- ~~Fall >3 times patient's height or >15 feet~~Fall from height ≥10 feet (all ages)
- High ~~-~~risk auto crash:
  - Significant intrusion (including roof)
    - ~~Intrusion, including roof~~ >12 inches occupant site OR
    - ~~-~~>18 inches any site OR
    - ~~o~~ Need for extrication for entrapped patient
  - ~~Ejection (partial or complete) from vehicle~~Partial or complete ejection
  - Death in ~~same~~ passenger compartment
  - Child (age 0–9 years) unrestrained or in unsecured child safety seat
  - Vehicle telemetry data consistent with ~~a high risk of injury~~severe injury
  - Vehicle rollover with unrestrained patient
- ~~Auto vs p~~Pedestrian/~~bicyclist~~ bicycle rider thrown, run over, or with significant ~~(> 20 mph)~~ impact
- Rider separated from transport vehicle with significant impact (e.g., motorcycle/scooter, electric/non-electric bicycles, ATV, horse)
- ~~Motorcycle crash >20 mph~~
- Exposure to blast or explosion
- ~~Combination trauma with burns~~Burns in conjunction with trauma
- Significant crush injury

YES → Call Trauma Base, Transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

Speci

ASSESS SPECIAL CONSIDERATIONS

- Age <5 or ≥55
- ~~Low impact mechanisms (e.g., ground level falls) >65 years! ow-level falls in children <5~~

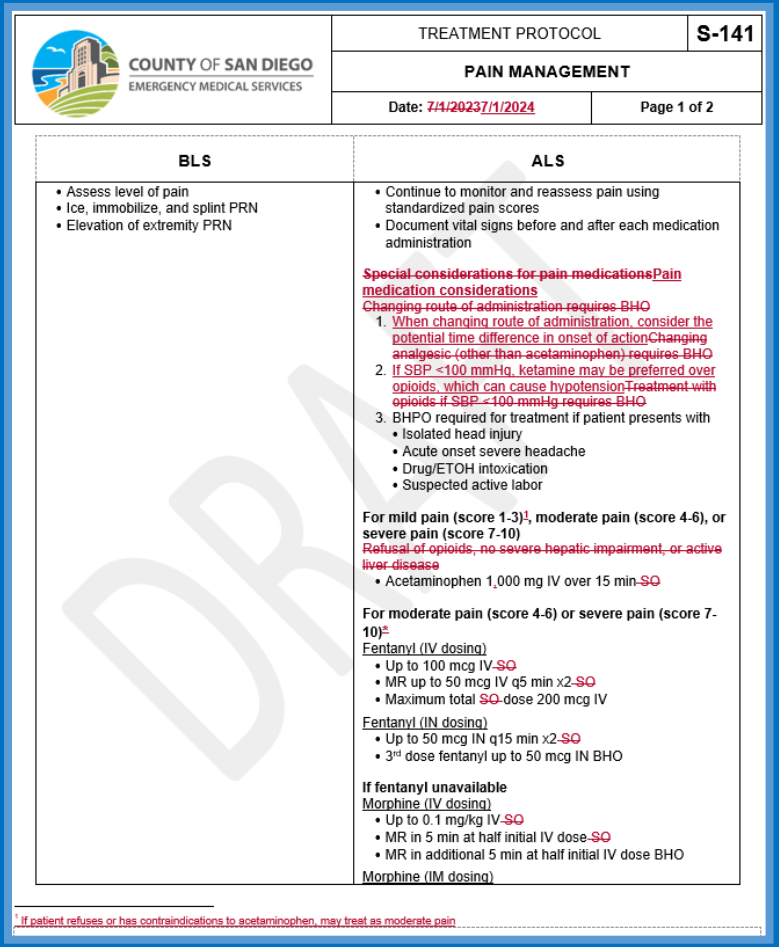
Call Base, transport to

New Additions Continued

- Assess Special Considerations
  - Added “Confirmed or suspected strangulation”
  - Added “Chest and/or abdominal tenderness consistent with a high risk of injury”
  - Added “Suspicion of non-accidental trauma in a pediatric or geriatric patient”
  - Added “Special, high-resource healthcare needs related to comorbidities (e.g., ventilator dependence or ventricular assist device”

S-141

Pain Management



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-141
PAIN MANAGEMENT	
Date: ~~7/1/2023~~7/1/2024	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

~~Special considerations for pain medications~~Pain medication considerations

~~Changing route of administration requires BHO~~

1. When changing route of administration, consider the potential time difference in onset of action~~Changing analgesic (other than acetaminophen) requires BHO~~
2. If SBP <100 mmHg, ketamine may be preferred over opioids, which can cause hypotension~~Treatment with opioids if SBP <100 mmHg requires BHO~~
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)

~~Refusal of opioids, no severe hepatic impairment, or active liver disease~~

- Acetaminophen 1,000 mg IV over 15 min ~~SO~~

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

Fentanyl (IV dosing)

- Up to 100 mcg IV ~~SO~~
- MR up to 50 mcg IV q5 min x2 ~~SO~~
- Maximum total ~~SO~~ dose 200 mcg IV

Fentanyl (IN dosing)

- Up to 50 mcg IN q15 min x2 ~~SO~~
- 3rd dose fentanyl up to 50 mcg IN BHO

If fentanyl unavailable

Morphine (IV dosing)

- Up to 0.1 mg/kg IV ~~SO~~
- MR in 5 min at half initial IV dose ~~SO~~
- MR in additional 5 min at half initial IV dose BHO

Morphine (IM dosing)

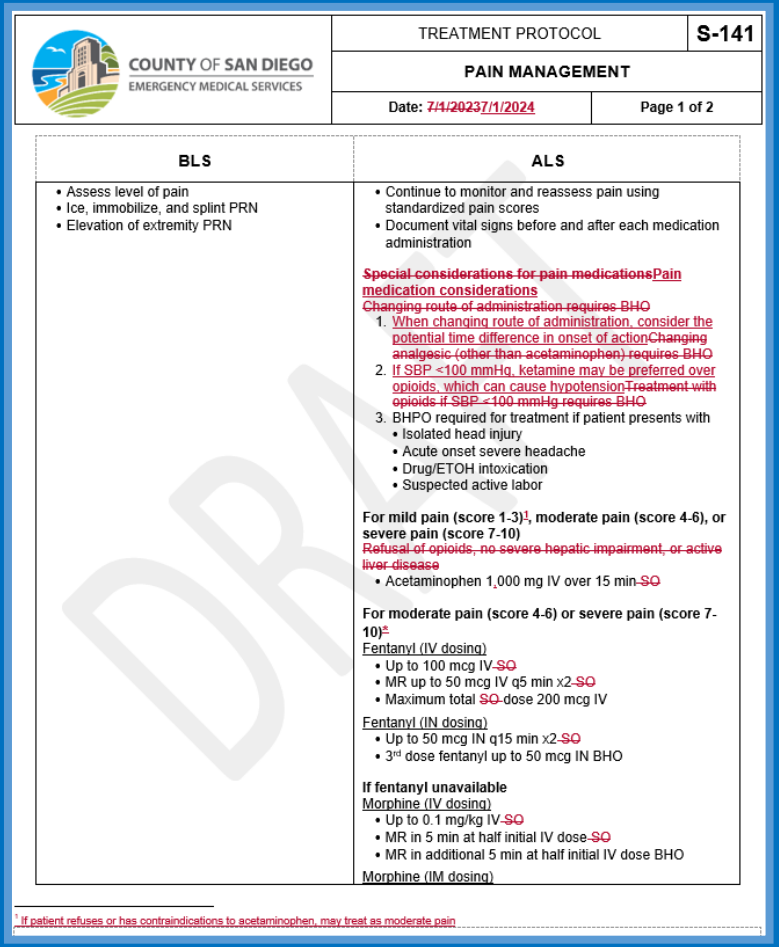
[1] If patient refuses or has contraindications to acetaminophen, may treat as moderate pain

Revisions

- ALS
  - Revised “Special considerations for pain medications” heading to “Pain medication considerations”
    - Revised “Changing route of administration requires BHO” to “When changing route of administration, consider the potential time difference in onset of action”
    - Removed “Changing analgesic (other than acetaminophen) requires BHO”
    - Revised “Treatment with opioids if SBP <100 mmHg requires BHO” to “If SBP <100 mmHg, ketamine may be preferred over opioids, which can cause hypotension”

S-141

Pain Management



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-141
PAIN MANAGEMENT	
Date: ~~7/1/2023~~7/1/2024	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

~~Special considerations for pain medications~~Pain medication considerations
~~Changing route of administration requires BHO~~

1. When changing route of administration, consider the potential time difference in onset of action~~Changing analgesic (other than acetaminophen) requires BHO~~
2. If SBP <100 mmHg, ketamine may be preferred over opioids, which can cause hypotension~~Treatment with opioids if SBP <100 mmHg requires BHO~~
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)
~~Refusal of opioids, no severe hepatic impairment, or active liver disease~~

- Acetaminophen 1,000 mg IV over 15 min ~~SO~~

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

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

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

If fentanyl unavailable

Morphine (IV dosing)
- Up to 0.1 mg/kg IV ~~SO~~
- MR in 5 min at half initial IV dose ~~SO~~
- MR in additional 5 min at half initial IV dose BHO

Morphine (IM dosing)

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

DRAFT

Revisions Continued

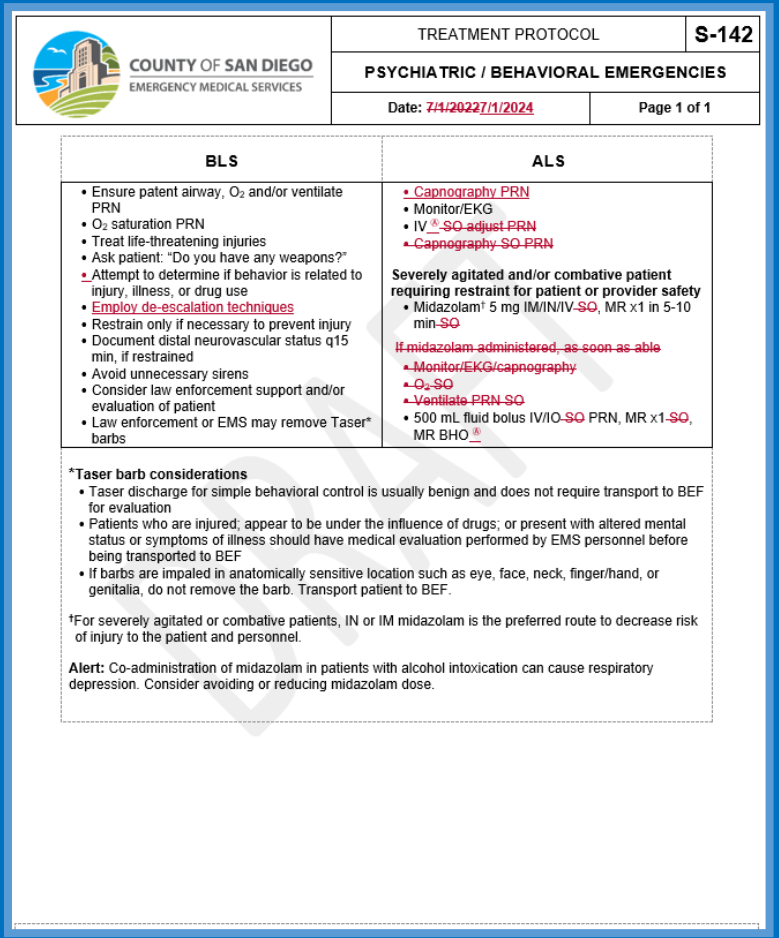
- ALS
  - Removed acetaminophen language “Refusal of opioids, no severe hepatic impairment, or active liver disease”
  - Removed footnote for moderate pain
  - Removed ketamine language “(e.g., trauma, burns, or envenomation injuries)”
  - Revised “Ketamine requirements (must meet all)” to “Requirements for use of ketamine on SO (must meet all)”

New Additions

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

S-142

Psychiatric / Behavioral Emergencies



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-142
PSYCHIATRIC / BEHAVIORAL EMERGENCIES	
Date: ~~7/1/2022~~7/1/2024	Page 1 of 1

BLS	ALS
• Ensure patent airway, O_2 and/or ventilate PRN • O_2 saturation PRN • Treat life-threatening injuries • Ask patient: "Do you have any weapons?" • Attempt to determine if behavior is related to injury, illness, or drug use • Employ de-escalation techniques • Restrain only if necessary to prevent injury • Document distal neurovascular status q15 min, if restrained • Avoid unnecessary sirens • Consider law enforcement support and/or evaluation of patient • Law enforcement or EMS may remove Taser* barbs	• Capnography PRN • Monitor/EKG • IV Ⓐ ~~SO adjust PRN~~ • ~~Capnography SO PRN~~ **Severely agitated and/or combative patient requiring restraint for patient or provider safety** • Midazolam† 5 mg IM/IN/IV ~~SO~~, MR x1 in 5-10 min ~~SO~~ ~~If midazolam administered, as soon as able~~ ~~• Monitor/EKG/capnography~~ ~~• O_2 SO~~ ~~• Ventilate PRN SO~~ • 500 mL fluid bolus IV/IO ~~SO~~ PRN, MR x1 ~~SO~~, MR BHO Ⓐ

***Taser barb considerations**
- Taser discharge for simple behavioral control is usually benign and does not require transport to BEF for evaluation
- Patients who are injured; appear to be under the influence of drugs; or present with altered mental status or symptoms of illness should have medical evaluation performed by EMS personnel before being transported to BEF
- If barbs are impaled in anatomically sensitive location such as eye, face, neck, finger/hand, or genitalia, do not remove the barb. Transport patient to BEF.

†For severely agitated or combative patients, IN or IM midazolam is the preferred route to decrease risk of injury to the patient and personnel.

Alert: Co-administration of midazolam in patients with alcohol intoxication can cause respiratory depression. Consider avoiding or reducing midazolam dose.

Revisions

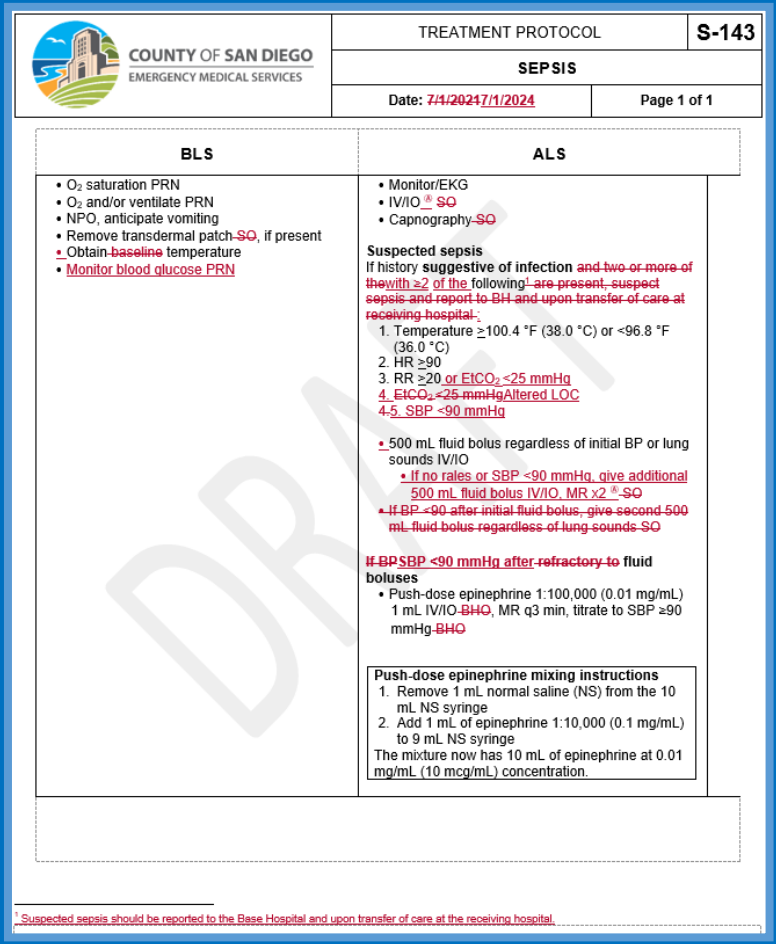
- ALS
  - Moved capnography PRN to the top of the page
  - Removed "adjust PRN" from IV for consistency across protocols
  - Removed "If midazolam administered, as soon as able" subheading and associated treatments

New Additions

- BLS
  - Added "Employ de-escalation techniques"

S-143

Sepsis



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-143
SEPSIS	
Date: ~~7/1/2021~~7/1/2024	Page 1 of 1

BLS

- O_2 saturation PRN
- O_2 and/or ventilate PRN
- NPO, anticipate vomiting
- Remove transdermal patch ~~SO~~, if present
- Obtain ~~baseline~~ temperature
- Monitor blood glucose PRN

ALS

- Monitor/EKG
- IV/IO ~~SO~~
- Capnography ~~SO~~

Suspected sepsis
If history **suggestive of infection** ~~and two or more of the~~with ≥2 of the following[1] ~~are present, suspect sepsis and report to BH and upon transfer of care at receiving hospital~~:

1. Temperature ≥100.4 °F (38.0 °C) or <96.8 °F (36.0 °C)
2. HR ≥90
3. RR ≥20 or $EtCO_2$ <25 mmHg
4. ~~$EtCO_2$ <25 mmHg~~Altered LOC
4.5. SBP <90 mmHg

- 500 mL fluid bolus regardless of initial BP or lung sounds IV/IO
  - If no rales or SBP <90 mmHg, give additional 500 mL fluid bolus IV/IO, MR x2 ~~SO~~
- ~~If BP <90 after initial fluid bolus, give second 500 mL fluid bolus regardless of lung sounds SO~~

~~If BP~~SBP <90 mmHg after ~~refractory to~~ fluid boluses

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

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] Suspected sepsis should be reported to the Base Hospital and upon transfer of care at the receiving hospital.

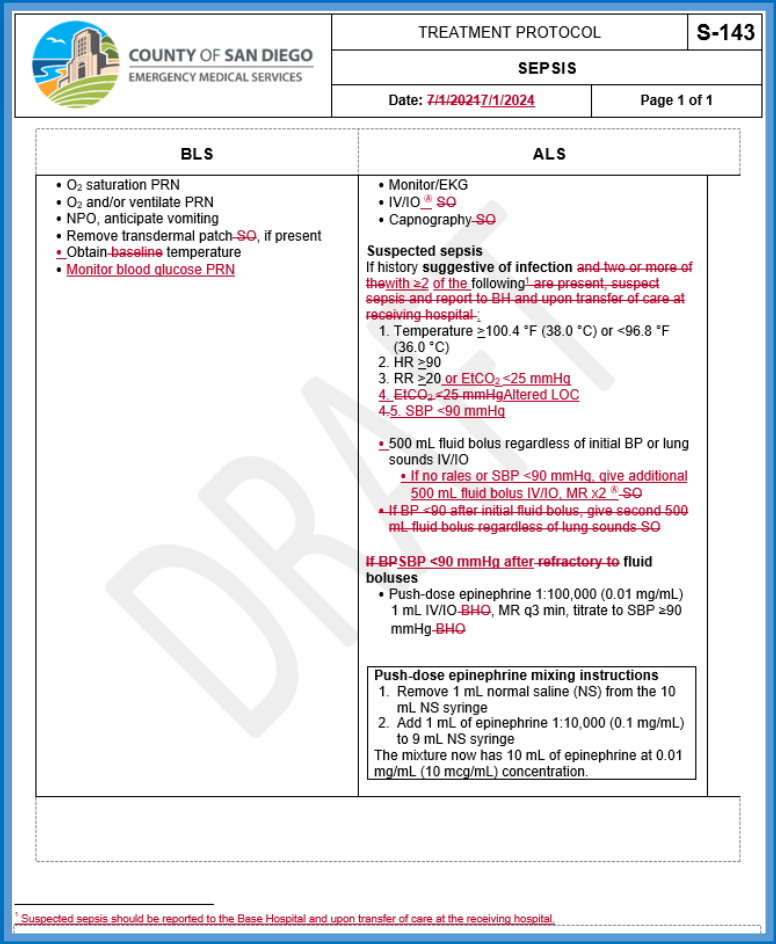
COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES

Revisions

- BLS
  - Removed “baseline” from “baseline temperature” for consistency across protocols
- ALS
  - Revised “If history suggestive of infection and two or more …” to “If history suggestive of infection with ≥2 of the following”
  - Revised “RR ≥20” to “RR ≥20 or EtCO2 <25 mmHg”
  - Revised “If BP refractory to fluid boluses” to “SBP <90 mmHg after fluid boluses”
  - Removed BHO for push-dose epinephrine

S-143

Sepsis



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL | S-143

SEPSIS

Date: ~~7/1/2021~~7/1/2024 | Page 1 of 1

BLS

- O_2 saturation PRN
- O_2 and/or ventilate PRN
- NPO, anticipate vomiting
- Remove transdermal patch ~~SO~~, if present
- Obtain ~~baseline~~ temperature
- Monitor blood glucose PRN

ALS

- Monitor/EKG
- IV/IO [1] ~~SO~~
- Capnography ~~SO~~

Suspected sepsis

If history **suggestive of infection** ~~and two or more of the~~with ≥2 of the following[1] ~~are present, suspect sepsis and report to BH and upon transfer of care at receiving hospital.~~:

1. Temperature ≥100.4 °F (38.0 °C) or <96.8 °F (36.0 °C)
2. HR ≥90
3. RR ≥20 or $EtCO_2$ <25 mmHg
4. ~~$EtCO_2$ <25 mmHg~~Altered LOC
5. ~~4.~~ SBP <90 mmHg

- 500 mL fluid bolus regardless of initial BP or lung sounds IV/IO
  - If no rales or SBP <90 mmHg, give additional 500 mL fluid bolus IV/IO, MR x2 [A] ~~SO~~
- ~~If BP <90 after initial fluid bolus, give second 500 mL fluid bolus regardless of lung sounds SO~~

~~If BP~~SBP <90 mmHg after ~~refractory to~~ **fluid boluses**

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

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] Suspected sepsis should be reported to the Base Hospital and upon transfer of care at the receiving hospital.

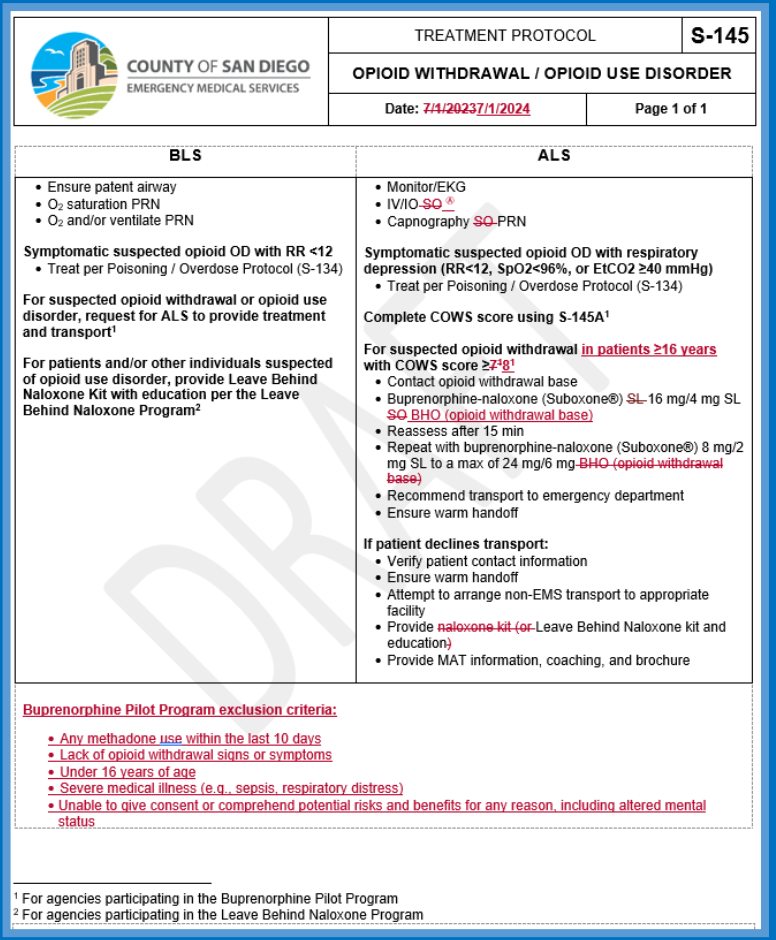
DRAFT

New Additions

- BLS
  - Added "Monitor blood glucose PRN"
- ALS
  - Added "Altered LOC"
  - Added "SBP <90 mmHg"
  - Added "If no rales or SBP <90 mmHg, give additional 500 mL fluid bolus IV/IO, MR x2"
  - Added footnote "Suspected sepsis should be reported to the Base Hospital and upon transfer of care at the receiving hospital."

S-145

Opioid Withdrawal / Opioid Use Disorder



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

TREATMENT PROTOCOL	S-145
OPIOID WITHDRAWAL / OPIOID USE DISORDER	
Date: ~~7/1/2023~~7/1/2024	Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation PRN
- O_2 and/or ventilate PRN

Symptomatic suspected opioid OD with RR <12
- Treat per Poisoning / Overdose Protocol (S-134)

For suspected opioid withdrawal or opioid use disorder, request for ALS to provide treatment and transport[1]

For patients and/or other individuals suspected of opioid use disorder, provide Leave Behind Naloxone Kit with education per the Leave Behind Naloxone Program[2]

ALS

- Monitor/EKG
- IV/IO ~~SO~~ [4]
- Capnography ~~SO~~ PRN

Symptomatic suspected opioid OD with respiratory depression (RR<12, SpO2<96%, or EtCO2 ≥40 mmHg)
- Treat per Poisoning / Overdose Protocol (S-134)

Complete COWS score using S-145A[1]

For suspected opioid withdrawal in patients ≥16 years with COWS score ≥~~7~~[1]8[1]
- Contact opioid withdrawal base
- Buprenorphine-naloxone (Suboxone®) ~~SL~~ 16 mg/4 mg SL ~~SO~~ BHO (opioid withdrawal base)
- Reassess after 15 min
- Repeat with buprenorphine-naloxone (Suboxone®) 8 mg/2 mg SL to a max of 24 mg/6 mg ~~BHO (opioid withdrawal base)~~
- Recommend transport to emergency department
- Ensure warm handoff

If patient declines transport:
- Verify patient contact information
- Ensure warm handoff
- Attempt to arrange non-EMS transport to appropriate facility
- Provide ~~naloxone kit (or~~ Leave Behind Naloxone kit and education~~)~~
- Provide MAT information, coaching, and brochure

Buprenorphine Pilot Program exclusion criteria:
- Any methadone use within the last 10 days
- Lack of opioid withdrawal signs or symptoms
- Under 16 years of age
- Severe medical illness (e.g., sepsis, respiratory distress)
- Unable to give consent or comprehend potential risks and benefits for any reason, including altered mental status

[1] For agencies participating in the Buprenorphine Pilot Program
[2] For agencies participating in the Leave Behind Naloxone Program

DRAFT

Revisions

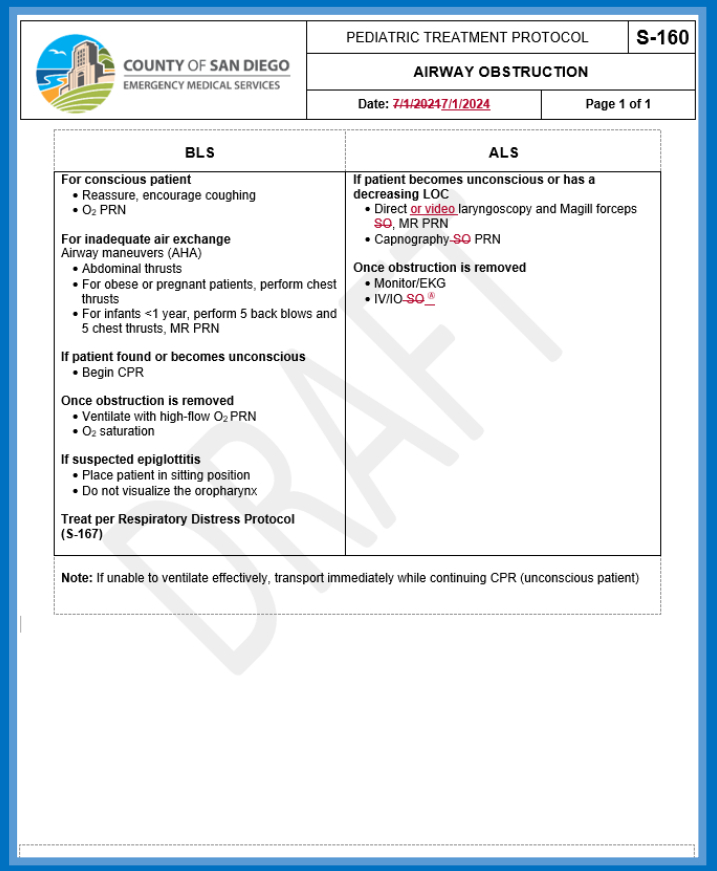
- ALS
  - Revised “For suspected opioid withdrawal with COWS score ≥7” to “For suspected opioid withdrawal in patients ≥16 years with COWS score ≥8”
  - Revised “Provide naloxone kit (or Leave Behind Naloxone kit and education)” to “Provide Leave Behind Naloxone kit and education”

New Additions

- ALS
  - Added “BHO (opioid withdrawal base)” to first dose of buprenorphine-naloxone
  - Added “Buprenorphine Pilot Program exclusion criteria” heading and associated criteria to the bottom of the page

S-160

Airway Obstruction



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL	S-160
AIRWAY OBSTRUCTION	
Date: ~~7/1/2021~~7/1/2024	Page 1 of 1

BLS	ALS
For conscious patient • Reassure, encourage coughing • O_2 PRN **For inadequate air exchange** Airway maneuvers (AHA) • Abdominal thrusts • For obese or pregnant patients, perform chest thrusts • For infants <1 year, perform 5 back blows and 5 chest thrusts, MR PRN **If patient found or becomes unconscious** • Begin CPR **Once obstruction is removed** • Ventilate with high-flow O_2 PRN • O_2 saturation **If suspected epiglottitis** • Place patient in sitting position • Do not visualize the oropharynx **Treat per Respiratory Distress Protocol (S-167)**	**If patient becomes unconscious or has a decreasing** LOC • Direct or video laryngoscopy and Magill forceps ~~SO~~, MR PRN • Capnography ~~SO~~ PRN **Once obstruction is removed** • Monitor/EKG • IV/IO ~~SO~~ Ⓐ

Note: If unable to ventilate effectively, transport immediately while continuing CPR (unconscious patient)

DRAFT

Revisions

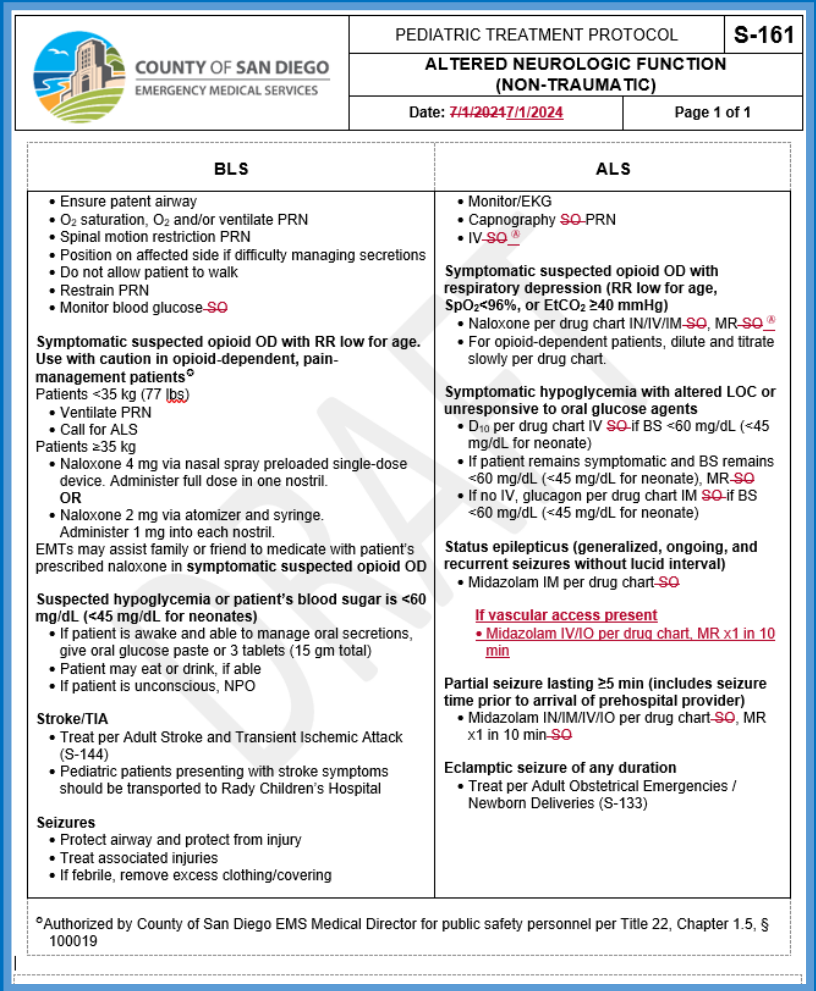
- ALS
  - Revised laryngoscopy to “Direct or video laryngoscopy and Magill forceps”

New Additions

- None

S-161

Altered Neurologic Function (Non-Traumatic)



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-161

ALTERED NEUROLOGIC FUNCTION (NON-TRAUMATIC)

Date: ~~7/1/2021~~7/1/2024 | 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 ~~SO~~

Symptomatic suspected opioid OD with RR low for age. Use with caution in opioid-dependent, pain-management patients°

Patients <35 kg (77 lbs)
- Ventilate PRN
- Call for ALS

Patients ≥35 kg
- 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 (<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

Stroke/TIA
- Treat per Adult 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
- If febrile, remove excess clothing/covering

ALS

- Monitor/EKG
- Capnography ~~SO~~ PRN
- IV ~~SO~~ Ⓐ

Symptomatic suspected opioid OD with respiratory depression (RR low for age, SpO_2<96%, or $EtCO_2$ ≥40 mmHg)
- Naloxone per drug chart IN/IV/IM ~~SO~~, MR ~~SO~~ Ⓐ
- For opioid-dependent patients, dilute and titrate slowly per drug chart.

Symptomatic hypoglycemia with altered LOC or unresponsive to oral glucose agents
- D_{10} per drug chart IV ~~SO~~ if BS <60 mg/dL (<45 mg/dL for neonate)
- If patient remains symptomatic and BS remains <60 mg/dL (<45 mg/dL for neonate), MR ~~SO~~
- If no IV, glucagon per drug chart IM ~~SO~~ if BS <60 mg/dL (<45 mg/dL for neonate)

Status epilepticus (generalized, ongoing, and recurrent seizures without lucid interval)
- Midazolam IM per drug chart ~~SO~~

  If vascular access present
  - Midazolam IV/IO per drug chart, MR x1 in 10 min

Partial seizure lasting ≥5 min (includes seizure time prior to arrival of prehospital provider)
- Midazolam IN/IM/IV/IO per drug chart ~~SO~~, MR x1 in 10 min ~~SO~~

Eclamptic seizure of any duration
- Treat per Adult Obstetrical Emergencies / Newborn Deliveries (S-133)

°Authorized by County of San Diego EMS Medical Director for public safety personnel per Title 22, Chapter 1.5, § 100019

DRAFT

Revisions

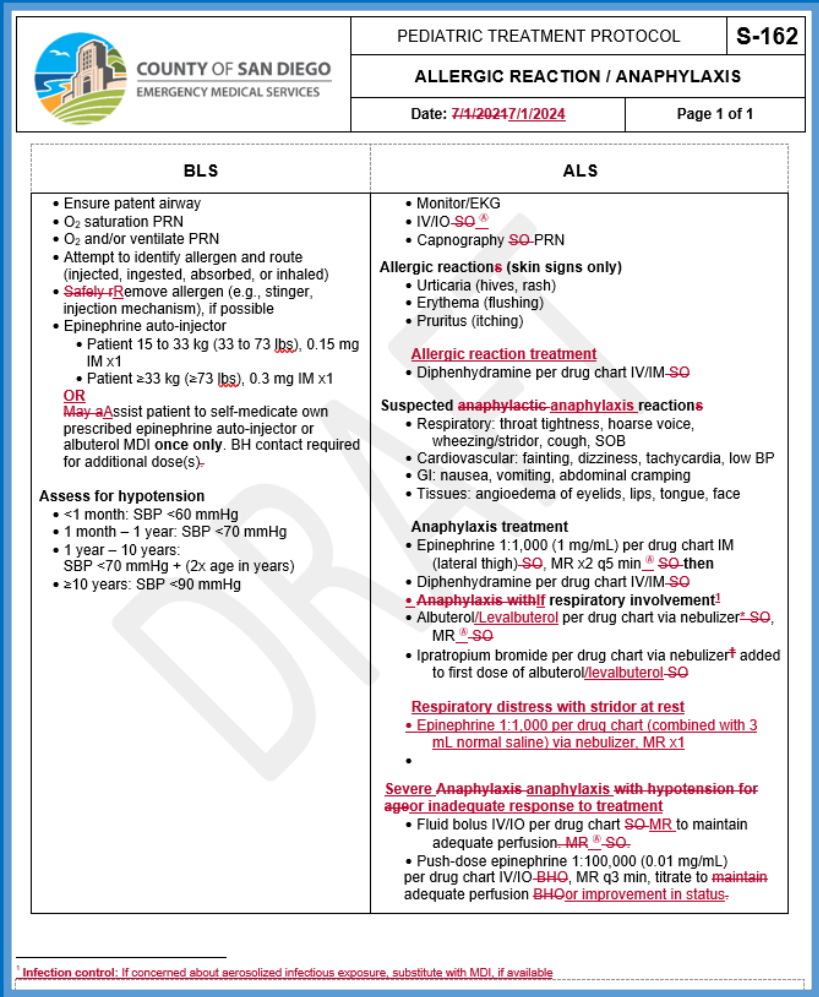
- None

New Additions

- ALS
  - Added "If vascular access present" subheading with the following treatment:
    - Midazolam IV/IO per drug chart, MR x1 in 10 min

S-162

Allergic Reaction / Anaphylaxis



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-162

ALLERGIC REACTION / ANAPHYLAXIS

Date: ~~7/1/2021~~7/1/2024 | Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation PRN
- O_2 and/or ventilate PRN
- Attempt to identify allergen and route (injected, ingested, absorbed, or inhaled)
- ~~Safely r~~Remove allergen (e.g., stinger, injection mechanism), if possible
- Epinephrine auto-injector
  - Patient 15 to 33 kg (33 to 73 lbs), 0.15 mg IM x1
  - Patient ≥33 kg (≥73 lbs), 0.3 mg IM x1

OR

~~May a~~Assist patient to self-medicate own prescribed epinephrine auto-injector or albuterol MDI **once only**. BH contact required for additional dose(s)~~.~~

Assess for hypotension

- <1 month: SBP <60 mmHg
- 1 month – 1 year: SBP <70 mmHg
- 1 year – 10 years: SBP <70 mmHg + (2x age in years)
- ≥10 years: SBP <90 mmHg

ALS

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

Allergic reaction~~s~~ (skin signs only)

- Urticaria (hives, rash)
- Erythema (flushing)
- Pruritus (itching)

Allergic reaction treatment

- Diphenhydramine per drug chart IV/IM ~~SO~~

Suspected ~~anaphylactic~~ anaphylaxis reaction~~s~~

- Respiratory: throat tightness, hoarse voice, wheezing/stridor, cough, SOB
- Cardiovascular: fainting, dizziness, tachycardia, low BP
- GI: nausea, vomiting, abdominal cramping
- Tissues: angioedema of eyelids, lips, tongue, face

Anaphylaxis treatment

- Epinephrine 1:1,000 (1 mg/mL) per drug chart IM (lateral thigh) ~~SO~~, MR x2 q5 min Ⓐ ~~SO~~ **then**
- Diphenhydramine per drug chart IV/IM ~~SO~~
- ~~**Anaphylaxis with**~~**If respiratory involvement**[1]
- Albuterol/Levalbuterol per drug chart via nebulizer[‡] ~~SO~~, MR Ⓐ ~~SO~~
- Ipratropium bromide per drug chart via nebulizer[‡] added to first dose of albuterol/levalbuterol ~~SO~~

Respiratory distress with stridor at rest

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

~~Severe Anaphylaxis~~ anaphylaxis ~~with hypotension for age~~or inadequate response to treatment

- Fluid bolus IV/IO per drug chart ~~SO~~ MR to maintain adequate perfusion ~~MR~~ Ⓐ ~~SO~~.
- Push-dose epinephrine 1:100,000 (0.01 mg/mL) per drug chart IV/IO ~~BHO~~, MR q3 min, titrate to ~~maintain~~ adequate perfusion ~~BHO~~or improvement in status~~.~~

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

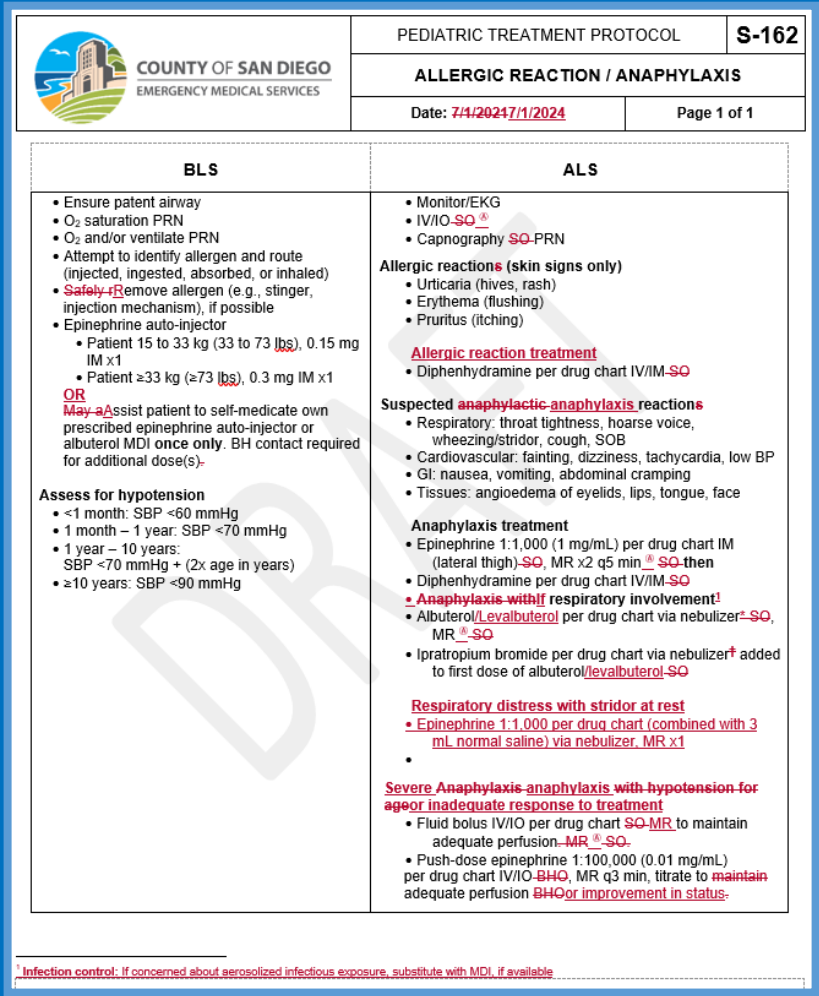
DRAFT

Revisions

- BLS
  - Revised “Safely remove allergen” to “Remove allergen”
  - Revised “May assist patient to self-medicate…” to “Assist patient to self-medicate…”
- ALS
  - Revised “Suspected anaphylactic reactions” to “Suspected anaphylaxis reaction”
  - Revised “Anaphylaxis with respiratory involvement” to “If respiratory involvement”
  - Revised “Anaphylaxis with hypotension for age” to “Severe anaphylaxis or inadequate response to treatment”
  - Removed BHO for push-dose epinephrine
  - Removed infection control footnotes for albuterol and ipratropium bromide

S-162

Allergic Reaction / Anaphylaxis



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-162

ALLERGIC REACTION / ANAPHYLAXIS

Date: ~~7/1/2021~~7/1/2024 | Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation PRN
- O_2 and/or ventilate PRN
- Attempt to identify allergen and route (injected, ingested, absorbed, or inhaled)
- ~~Safely r~~Remove allergen (e.g., stinger, injection mechanism), if possible
- Epinephrine auto-injector
  - Patient 15 to 33 kg (33 to 73 lbs), 0.15 mg IM x1
  - Patient ≥33 kg (≥73 lbs), 0.3 mg IM x1

OR

~~May a~~Assist patient to self-medicate own prescribed epinephrine auto-injector or albuterol MDI **once only**. BH contact required for additional dose(s)~~.~~

Assess for hypotension

- <1 month: SBP <60 mmHg
- 1 month – 1 year: SBP <70 mmHg
- 1 year – 10 years: SBP <70 mmHg + (2x age in years)
- ≥10 years: SBP <90 mmHg

ALS

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

Allergic reaction~~s~~ (skin signs only)

- Urticaria (hives, rash)
- Erythema (flushing)
- Pruritus (itching)

Allergic reaction treatment

- Diphenhydramine per drug chart IV/IM ~~SO~~

Suspected ~~anaphylactic~~ anaphylaxis reaction~~s~~

- Respiratory: throat tightness, hoarse voice, wheezing/stridor, cough, SOB
- Cardiovascular: fainting, dizziness, tachycardia, low BP
- GI: nausea, vomiting, abdominal cramping
- Tissues: angioedema of eyelids, lips, tongue, face

Anaphylaxis treatment

- Epinephrine 1:1,000 (1 mg/mL) per drug chart IM (lateral thigh) ~~SO~~, MR x2 q5 min Ⓐ ~~SO~~ **then**
- Diphenhydramine per drug chart IV/IM ~~SO~~
- ~~**Anaphylaxis with**~~**If respiratory involvement**[1]
- Albuterol/Levalbuterol per drug chart via nebulizer[2] ~~SO~~, MR Ⓐ ~~SO~~
- Ipratropium bromide per drug chart via nebulizer[2] added to first dose of albuterol/levalbuterol ~~SO~~

Respiratory distress with stridor at rest

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

Severe ~~Anaphylaxis~~ anaphylaxis ~~with hypotension for age~~or inadequate response to treatment

- Fluid bolus IV/IO per drug chart ~~SO~~ MR to maintain adequate perfusion ~~MR~~ Ⓐ ~~SO~~.
- Push-dose epinephrine 1:100,000 (0.01 mg/mL) per drug chart IV/IO ~~BHO~~, MR q3 min, titrate to ~~maintain~~ adequate perfusion ~~BHO~~or improvement in status~~.~~

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

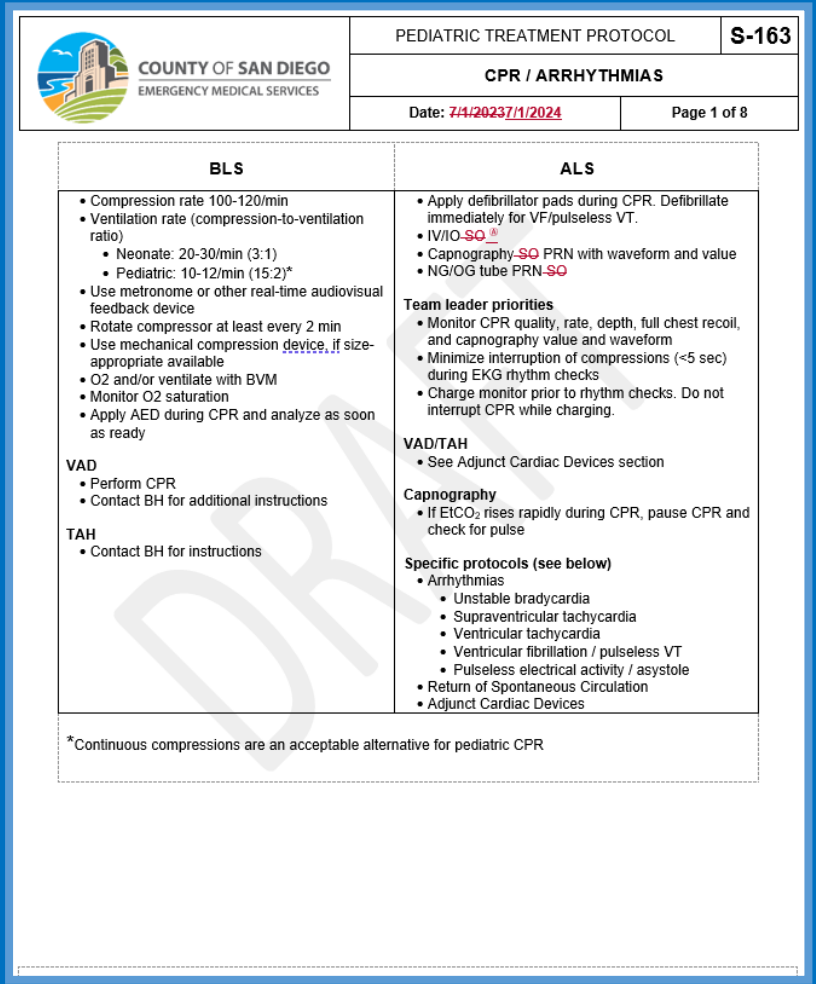
DRAFT

New Additions

- BLS
  - Added "OR" between epinephrine auto-injector and assisting patient to self-medicate own prescribed epinephrine auto-injector
- ALS
  - Added "Allergic reaction treatment" subheading
  - Added levalbuterol to each instance of albuterol
  - Added "Respiratory distress with stridor at rest" subheading with the same nebulized epinephrine treatment as S-167
  - Added "or improvement in status" to language for push-dose epinephrine
  - Added new infection control footnote for albuterol, levalbuterol, and ipratropium bromide that states, "If concerned about aerosolized infectious exposure, substitute with MDI, if available"

S-163

CPR / Arrhythmias



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL	S-163
CPR / ARRHYTHMIAS	
Date: ~~7/1/2023~~7/1/2024	Page 1 of 8

BLS	ALS

• 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
	• Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT.
	• IV/IO ~~SQ~~
	• Capnography ~~SQ~~ PRN with waveform and value
	• NG/OG tube PRN ~~SQ~~
	
	Team leader priorities
	• Monitor CPR quality, rate, depth, full chest recoil, and capnography value and waveform
	• Minimize interruption of compressions (<5 sec) during EKG 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

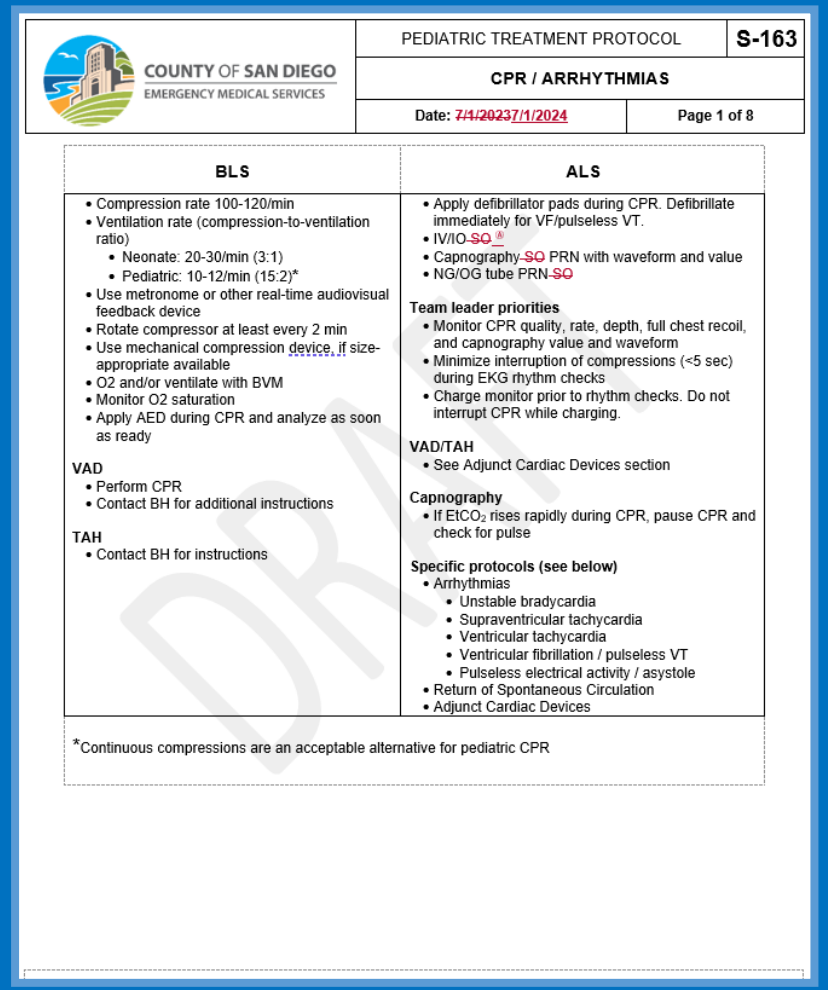
DRAFT

Revisions

- Supraventricular Tachycardia
  - Removed “(or refractory to treatment)”
  - Removed BHPO for midazolam pre-cardioversion
  - Removed BHPO for initial synchronized cardioversion (MR still BHPO)
  - Revised “Synchronized cardioversion at manufacturer’s recommended energy dose” to “Synchronized cardioversion per drug chart”
  - Removed “If no manufacturer recommendation, synchronized cardioversion per drug chart BHPO, MR x2 BHPO”
- Ventricular Tachycardia
  - Removed BHPO for midazolam pre-cardioversion
  - Removed BHPO for initial synchronized cardioversion (MR still BHPO)
  - Revised “Synchronized cardioversion at manufacturer’s recommended energy dose” to “Synchronized cardioversion per drug chart”

S-163

CPR / Arrhythmias



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL	S-163
CPR / ARRHYTHMIAS	
Date: ~~7/1/2023~~7/1/2024	Page 1 of 8

BLS	ALS

• 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
	• Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT.
	• IV/IO ~~SO~~ Ⓐ
	• Capnography ~~SO~~ PRN with waveform and value
	• NG/OG tube PRN ~~SO~~
	
	Team leader priorities
	• Monitor CPR quality, rate, depth, full chest recoil, and capnography value and waveform
	• Minimize interruption of compressions (<5 sec) during EKG 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

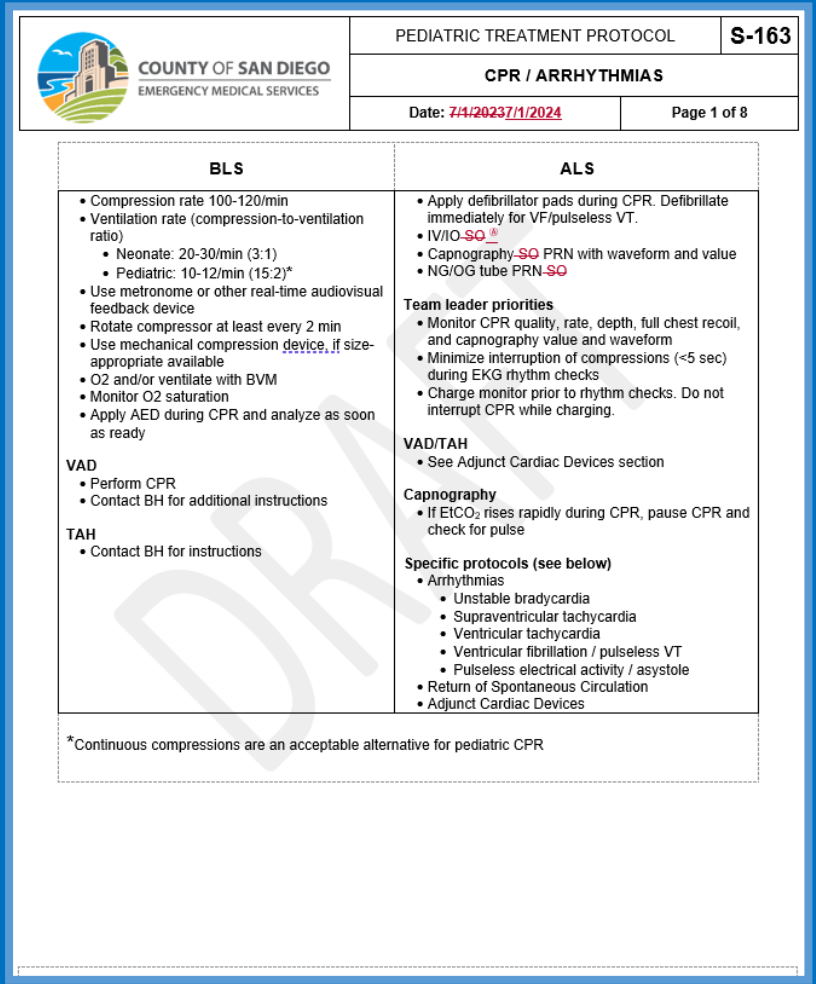
DRAFT

Revisions Continued

- Ventricular Tachycardia
  - Removed “If no manufacturer recommendation, synchronized cardioversion per drug chart BHPO, MR x2 BHPO”
- Ventricular Fibrillation / Pulseless VT
  - Revised defibrillation to “per drug chart”
- Pulseless Electrical Activity
  - For suspected hyperkalemia:
    - Removed BHO for sodium bicarbonate
  - For suspected poisoning / OD:
    - Revised “Consider treatment per … “ to “For suspected tricyclic antidepressant, beta blocker, or calcium channel blocker overdoses, consider treatment per …”
    - Removed BHO

S-163

CPR / Arrhythmias



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL	S-163
CPR / ARRHYTHMIAS	
Date: ~~7/1/2023~~7/1/2024	Page 1 of 8

BLS	ALS

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• Ventilation rate (compression-to-ventilation ratio)
  • Neonate: 20-30/min (3:1)
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• Use metronome or other real-time audiovisual feedback device
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• 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
	• Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT.
	• IV/IO ~~SQ~~
	• Capnography ~~SQ~~ PRN with waveform and value
	• NG/OG tube PRN ~~SQ~~
	
	Team leader priorities
	• Monitor CPR quality, rate, depth, full chest recoil, and capnography value and waveform
	• Minimize interruption of compressions (<5 sec) during EKG 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

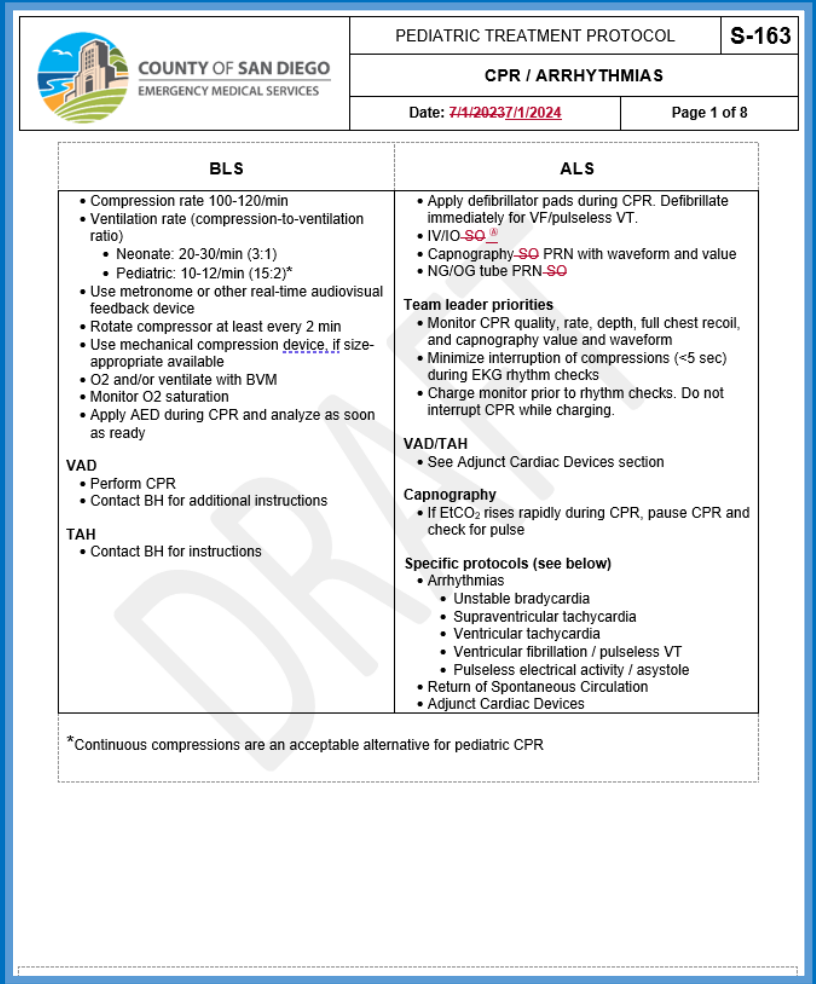
DRAFT

Revisions Continued

- Return of Spontaneous Circulation
  - Removed BHO for push-dose epinephrine
- Adjunct Cardiac Devices
  - Revised “Contact BH and TAH coordinator” to “Contact TAH Coordinator”
  - Removed “Treatment per BHO”
  - For reported/witnessed AICD firing ≥2
    - Removed BHPO for amiodarone
    - Removed BPHO for lidocaine

S-163

CPR / Arrhythmias



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL	S-163
CPR / ARRHYTHMIAS	
Date: ~~7/1/2023~~7/1/2024	Page 1 of 8

BLS	ALS

• Compression rate 100-120/min
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  • Neonate: 20-30/min (3:1)
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• Apply AED during CPR and analyze as soon as ready
 	
VAD
• Perform CPR
• Contact BH for additional instructions
 	
TAH
• Contact BH for instructions
	• Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT.
	• IV/IO ~~SO~~
	• Capnography ~~SO~~ PRN with waveform and value
	• NG/OG tube PRN ~~SO~~
	
	Team leader priorities
	• Monitor CPR quality, rate, depth, full chest recoil, and capnography value and waveform
	• Minimize interruption of compressions (<5 sec) during EKG 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

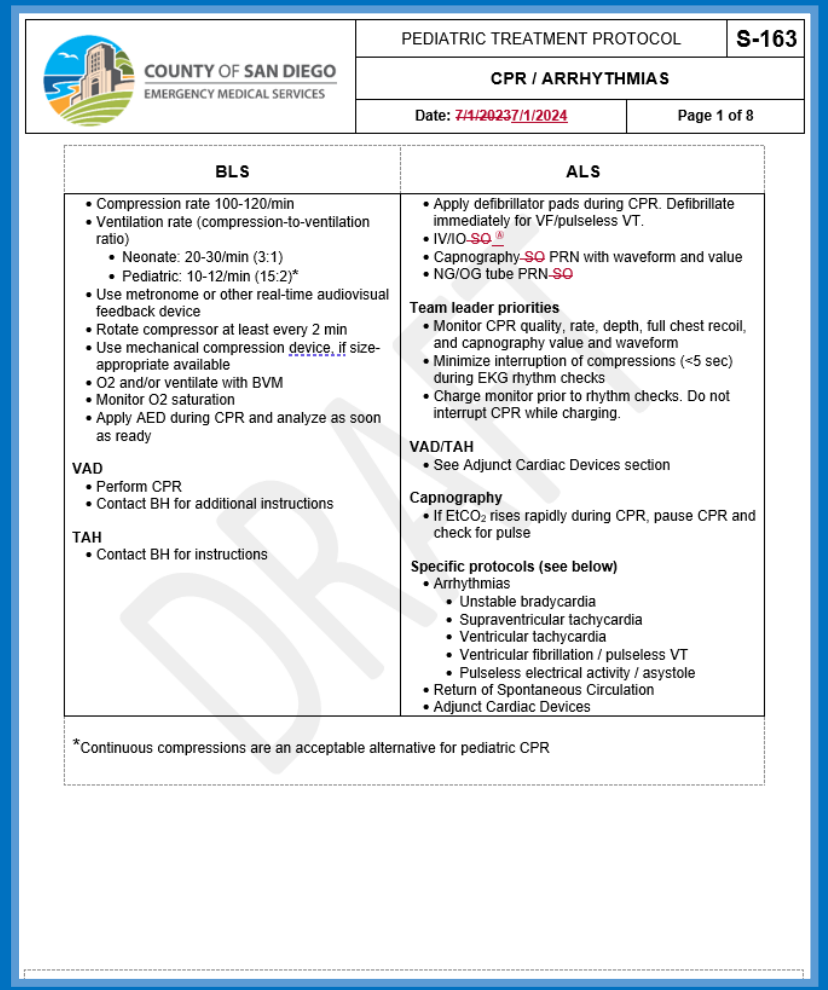
DRAFT

New Additions

- Pulseless Electrical Activity
  - For suspected hyperkalemia:
    - Added "MR x1 in 5 min for continued EKG findings consistent with hyperkalemia"
    - Added "Continuous albuterol/levalbuterol per drug chart via nebulizer"
  - For suspected poisoning / OD
    - Added footnote "Naloxone is not authorized in cardiac arrest"
- Return of Spontaneous Circulation
  - Added "titrate to adequate perfusion"
  - Added "Monitor blood glucose PRN"
- Adjunct Cardiac Devices
  - Added "Consult BH Physician for orders for TAH recommended treatments"

S-163

CPR / Arrhythmias



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL	S-163
CPR / ARRHYTHMIAS	
Date: ~~7/1/2023~~7/1/2024	Page 1 of 8

BLS	ALS

• 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
	• Apply defibrillator pads during CPR. Defibrillate immediately for VF/pulseless VT.
	• IV/IO ~~SQ~~
	• Capnography ~~SQ~~ PRN with waveform and value
	• NG/OG tube PRN ~~SQ~~
	
	Team leader priorities
	• Monitor CPR quality, rate, depth, full chest recoil, and capnography value and waveform
	• Minimize interruption of compressions (<5 sec) during EKG 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

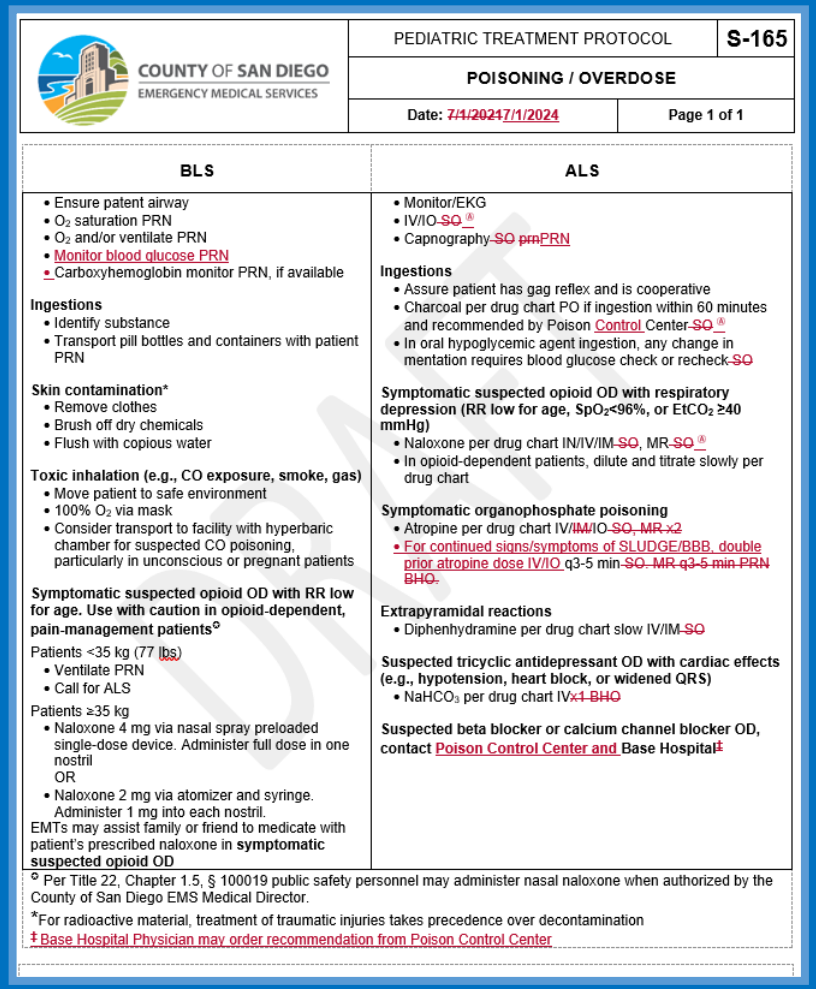
DRAFT

New Additions Continued

- Adjunct Cardiac Devices
  - For reported/witnessed AICD firing ≥2
    - Added “MR BHPO” for amiodarone
    - Added “MR BHPO” for lidocaine

S-165

Poisoning / Overdose



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-165

POISONING / OVERDOSE

Date: ~~7/1/2021~~7/1/2024 | Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation PRN
- O_2 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% O_2 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 low for age. Use with caution in opioid-dependent, pain-management patients[◊]

Patients <35 kg (77 lbs)
- Ventilate PRN
- Call for ALS

Patients ≥35 kg
- 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**

ALS

- Monitor/EKG
- IV/IO ~~SQ~~ Ⓐ
- Capnography ~~SQ~~ ~~prn~~PRN

Ingestions
- Assure patient has gag reflex and is cooperative
- Charcoal per drug chart PO if ingestion within 60 minutes and recommended by Poison Control Center ~~SQ~~ Ⓐ
- In oral hypoglycemic agent ingestion, any change in mentation requires blood glucose check or recheck ~~SQ~~

Symptomatic suspected opioid OD with respiratory depression (RR low for age, SpO_2<96%, or $EtCO_2$ ≥40 mmHg)
- Naloxone per drug chart IN/IV/IM ~~SQ~~, MR ~~SQ~~ Ⓐ
- In opioid-dependent patients, dilute and titrate slowly per drug chart

Symptomatic organophosphate poisoning
- Atropine per drug chart IV/~~IM~~IO ~~SQ, MR x2~~
- For continued signs/symptoms of SLUDGE/BBB, double prior atropine dose IV/IO q3-5 min ~~SQ, MR q3-5 min PRN BHO.~~

Extrapyramidal reactions
- Diphenhydramine per drug chart slow IV/IM ~~SQ~~

Suspected tricyclic antidepressant OD with cardiac effects (e.g., hypotension, heart block, or widened QRS)
- $NaHCO_3$ per drug chart IV ~~x1 BHO~~

Suspected beta blocker or calcium channel blocker OD, contact Poison Control Center and Base Hospital[‡]

◊ Per Title 22, Chapter 1.5, § 100019 public safety personnel may administer nasal naloxone when authorized by the County of San Diego EMS Medical Director.

*For radioactive material, treatment of traumatic injuries takes precedence over decontamination

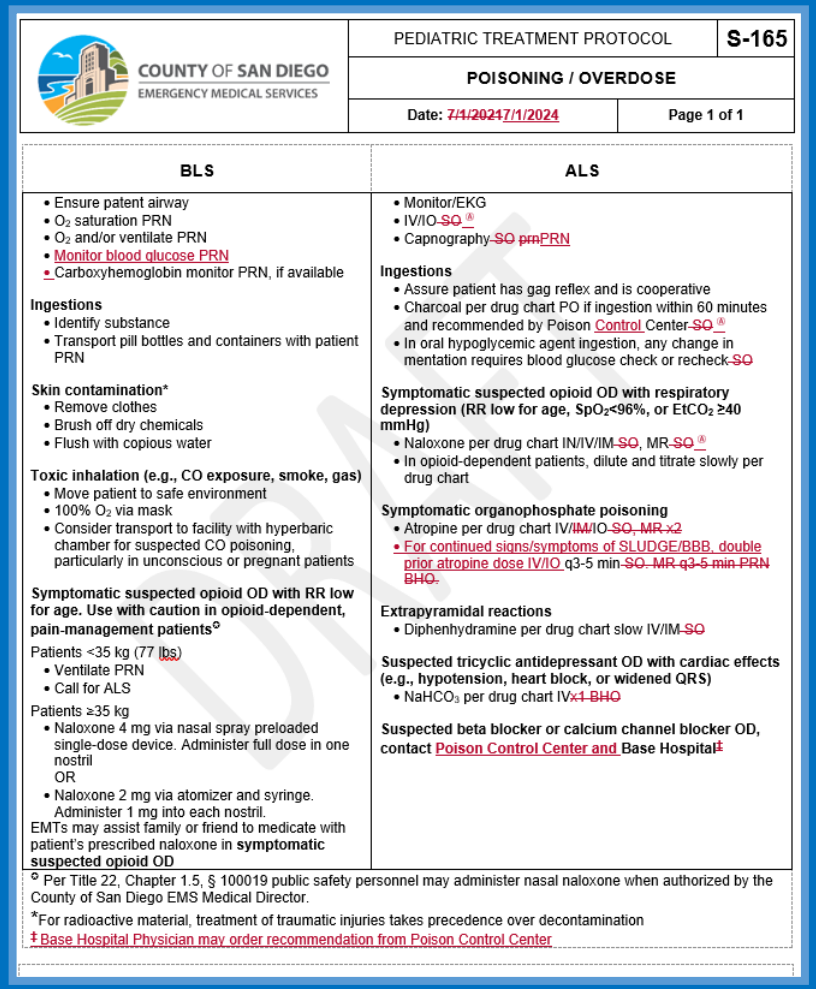
‡ Base Hospital Physician may order recommendation from Poison Control Center

Revisions

- ALS
  - Updated treatment for symptomatic organophosphate poisoning:
    - Removed IM route
    - Revised “MR x2” to “For continued signs/symptoms of SLUDGE/BBB, double prior atropine dose IV/IO”
    - Removed BHO for repeat doses of atropine
  - For suspected tricyclic antidepressant OD:
    - Removed BHO for sodium bicarbonate

S-165

Poisoning / Overdose



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL	S-165
POISONING / OVERDOSE	
Date: ~~7/1/2021~~7/1/2024	Page 1 of 1

BLS

- Ensure patent airway
- O_2 saturation PRN
- O_2 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% O_2 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 low for age. Use with caution in opioid-dependent, pain-management patients[◊]

Patients <35 kg (77 lbs)
- Ventilate PRN
- Call for ALS

Patients ≥35 kg
- 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**

ALS

- Monitor/EKG
- IV/IO ~~SO~~ [A]
- Capnography ~~SO prn~~PRN

Ingestions
- Assure patient has gag reflex and is cooperative
- Charcoal per drug chart PO if ingestion within 60 minutes and recommended by Poison Control Center ~~SO~~ [A]
- In oral hypoglycemic agent ingestion, any change in mentation requires blood glucose check or recheck ~~SO~~

Symptomatic suspected opioid OD with respiratory depression (RR low for age, SpO_2<96%, or $EtCO_2$ ≥40 mmHg)
- Naloxone per drug chart IN/IV/IM ~~SO~~, MR ~~SO~~ [A]
- In opioid-dependent patients, dilute and titrate slowly per drug chart

Symptomatic organophosphate poisoning
- Atropine per drug chart IV/~~IM~~/IO ~~SO, MR x2~~
- For continued signs/symptoms of SLUDGE/BBB, double prior atropine dose IV/IO q3-5 min ~~SO, MR q3-5 min PRN BHO.~~

Extrapyramidal reactions
- Diphenhydramine per drug chart slow IV/IM ~~SO~~

Suspected tricyclic antidepressant OD with cardiac effects (e.g., hypotension, heart block, or widened QRS)
- $NaHCO_3$ per drug chart IV ~~x1 BHO~~

Suspected beta blocker or calcium channel blocker OD, contact Poison Control Center and Base Hospital[‡]

◊ Per Title 22, Chapter 1.5, § 100019 public safety personnel may administer nasal naloxone when authorized by the County of San Diego EMS Medical Director.

*For radioactive material, treatment of traumatic injuries takes precedence over decontamination

‡ Base Hospital Physician may order recommendation from Poison Control Center

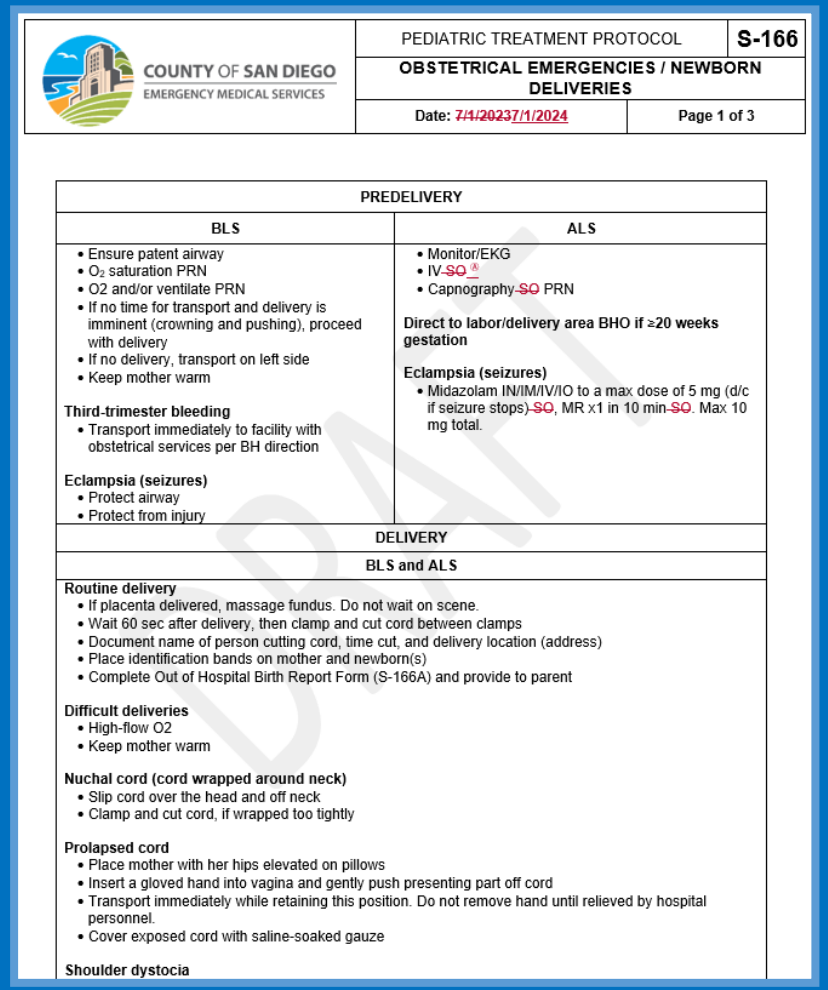
COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES

New Additions

- BLS
  - Added "Monitor blood glucose PRN"
- ALS
  - Added "Suspected beta block or calcium channel blocker OD, contact Poison Control Center and Base Hospital" with footnote that "Base Hospital Physician may order recommendation from Poison Control Center"

S-166

Obstetrical Emergencies / Newborn Deliveries



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL	S-166
OBSTETRICAL EMERGENCIES / NEWBORN DELIVERIES	
Date: ~~7/1/2023~~7/1/2024	Page 1 of 3

PREDELIVERY

BLS	ALS
• Ensure patent airway • O_2 saturation PRN • O2 and/or ventilate PRN • If no time for transport and delivery is imminent (crowning and pushing), proceed with delivery • If no delivery, transport on left side • Keep mother warm **Third-trimester bleeding** • Transport immediately to facility with obstetrical services per BH direction **Eclampsia (seizures)** • Protect airway • Protect from injury	• Monitor/EKG • IV ~~SO~~ Δ • Capnography ~~SO~~ PRN **Direct to labor/delivery area BHO if ≥20 weeks gestation** **Eclampsia (seizures)** • Midazolam IN/IM/IV/IO to a max dose of 5 mg (d/c if seizure stops) ~~SO~~, MR x1 in 10 min ~~SO~~. Max 10 mg total.

DELIVERY

BLS and ALS

Routine delivery
- If placenta delivered, massage fundus. Do not wait on scene.
- Wait 60 sec after delivery, then clamp and cut cord between clamps
- Document name of person cutting cord, time cut, and delivery location (address)
- Place identification bands on mother and newborn(s)
- Complete Out of Hospital Birth Report Form (S-166A) and provide to parent

Difficult deliveries
- High-flow O2
- Keep mother warm

Nuchal cord (cord wrapped around neck)
- Slip cord over the head and off neck
- Clamp and cut cord, if wrapped too tightly

Prolapsed cord
- Place mother with her hips elevated on pillows
- Insert a gloved hand into vagina and gently push presenting part off cord
- Transport immediately while retaining this position. Do not remove hand until relieved by hospital personnel.
- Cover exposed cord with saline-soaked gauze

Shoulder dystocia

COUNTY OF SAN DIEGO EMERGENCY MEDICAL SERVICES

Revisions

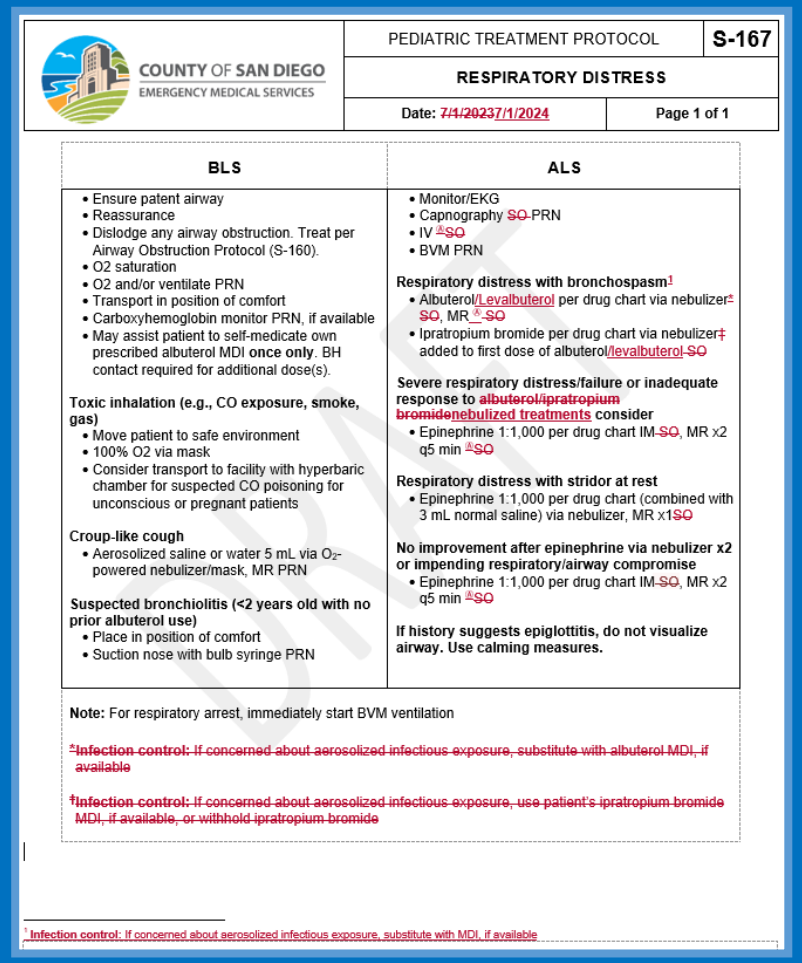
- ALS
  - Removed BHO for tranexamic acid

New Additions

- None

S-167

Respiratory Distress



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-167

RESPIRATORY DISTRESS

Date: ~~7/1/2023~~7/1/2024 | 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
- Capnography ~~SO~~ PRN
- IV ~~‡SO~~
- BVM PRN

Respiratory distress with bronchospasm[1]

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

Severe respiratory distress/failure or inadequate response to ~~albuterol/ipratropium bromide~~nebulized treatments consider

- Epinephrine 1:1,000 per drug chart IM ~~SO~~, MR x2 q5 min ~~‡SO~~

Respiratory distress with stridor at rest

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

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

- Epinephrine 1:1,000 per drug chart IM ~~SO~~, MR x2 q5 min ~~‡SO~~

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

Note: For respiratory arrest, immediately start BVM ventilation

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

~~‡Infection control: If concerned about aerosolized infectious exposure, use patient's ipratropium bromide MDI, if available, or withhold ipratropium bromide~~

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

DRAFT

Revisions

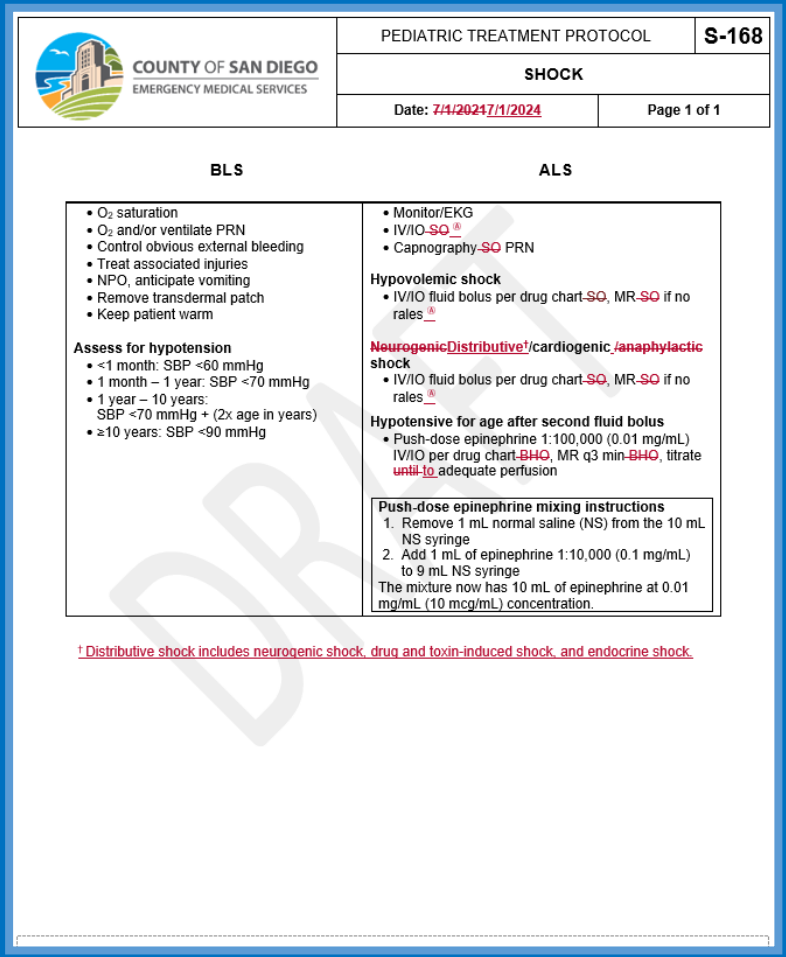
- ALS
  - Revised “Severe respiratory distress/failure or inadequate response to albuterol/ipratropium bromide consider” to “Severe respiratory distress/failure or inadequate response to nebulized treatments consider”
  - Removed infection control footnotes for albuterol and ipratropium bromide

New Additions

- ALS
  - Added levalbuterol to each instance of albuterol
  - Added new infection control footnote for albuterol, levalbuterol, and ipratropium bromide, “If concerned about aerosolized infectious exposure, substitute with MDI, if available”

S-168

Shock



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL	S-168
SHOCK	
Date: ~~7/1/2021~~7/1/2024	Page 1 of 1

BLS

- O_2 saturation
- O_2 and/or ventilate PRN
- Control obvious external bleeding
- Treat associated injuries
- NPO, anticipate vomiting
- Remove transdermal patch
- Keep patient warm

Assess for hypotension

- <1 month: SBP <60 mmHg
- 1 month – 1 year: SBP <70 mmHg
- 1 year – 10 years: SBP <70 mmHg + (2x age in years)
- ≥10 years: SBP <90 mmHg

ALS

- Monitor/EKG
- IV/IO ~~SO~~ [A]
- Capnography ~~SO~~ PRN

Hypovolemic shock

- IV/IO fluid bolus per drug chart ~~SO~~, MR ~~SO~~ if no rales [A]

~~Neurogenic~~Distributive[†]/cardiogenic ~~/anaphylactic~~ shock

- IV/IO fluid bolus per drug chart ~~SO~~, MR ~~SO~~ if no rales [A]

Hypotensive for age after second fluid bolus

- Push-dose epinephrine 1:100,000 (0.01 mg/mL) IV/IO per drug chart ~~BHO~~, MR q3 min ~~BHO~~, titrate ~~until~~ to adequate perfusion

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.

[†] Distributive shock includes neurogenic shock, drug and toxin-induced shock, and endocrine shock.

Revisions

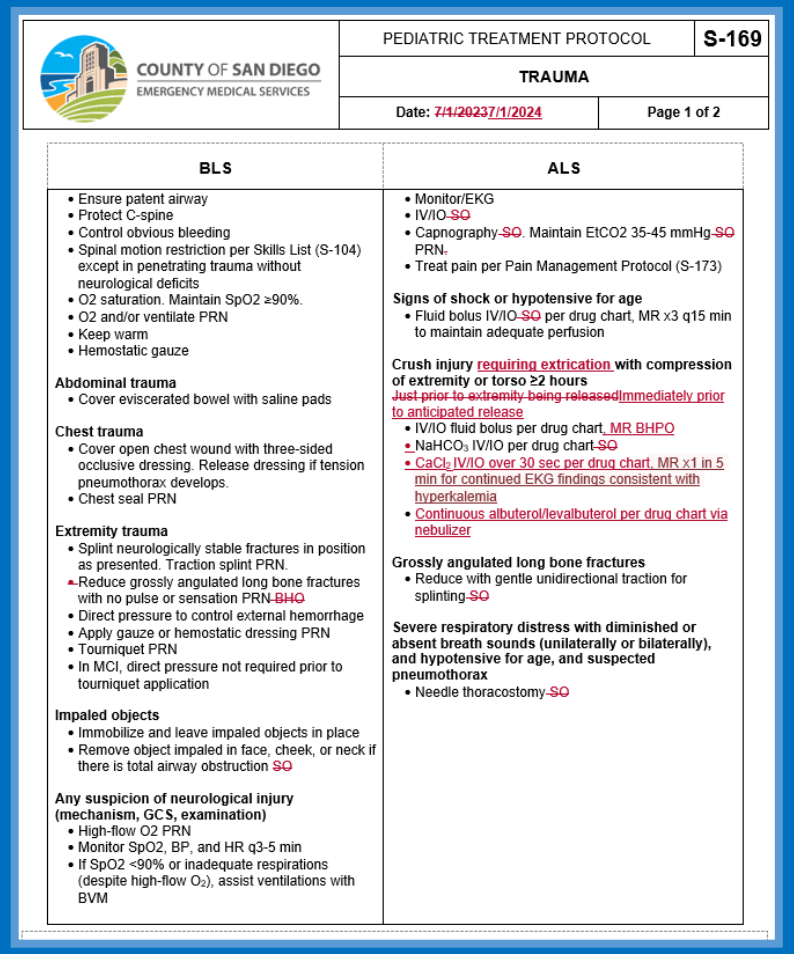
- ALS
  - Removed BHO for push-dose epinephrine
  - Revised “Neurogenic/cardiogenic/anaphylactic shock” heading to “Distributive/cardiogenic shock”

New Additions

- ALS
  - Added footnote to distributive shock “Distributive shock includes neurogenic shock; drug and toxin-induced shock; and endocrine shock”

S-169

Trauma



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-169

TRAUMA

Date: ~~7/1/2023~~7/1/2024 | 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 eviscerated bowel with saline pads

Chest trauma

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

Extremity trauma

- Splint neurologically stable fractures in position as presented. Traction splint PRN.
- ~~.~~Reduce grossly angulated long bone fractures with no pulse or sensation PRN ~~BHO~~
- 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 ~~SO~~

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

Signs of shock or hypotensive for age

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

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

- IV/IO fluid bolus per drug chart, MR BHPO
- ~~.~~$NaHCO_3$ IV/IO per drug chart ~~SO~~
- $CaCl_2$ IV/IO over 30 sec per drug chart, MR x1 in 5 min for continued EKG findings consistent with hyperkalemia
- Continuous albuterol/levalbuterol per drug chart via nebulizer

Grossly angulated long bone fractures

- Reduce with gentle unidirectional traction for splinting ~~SO~~

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

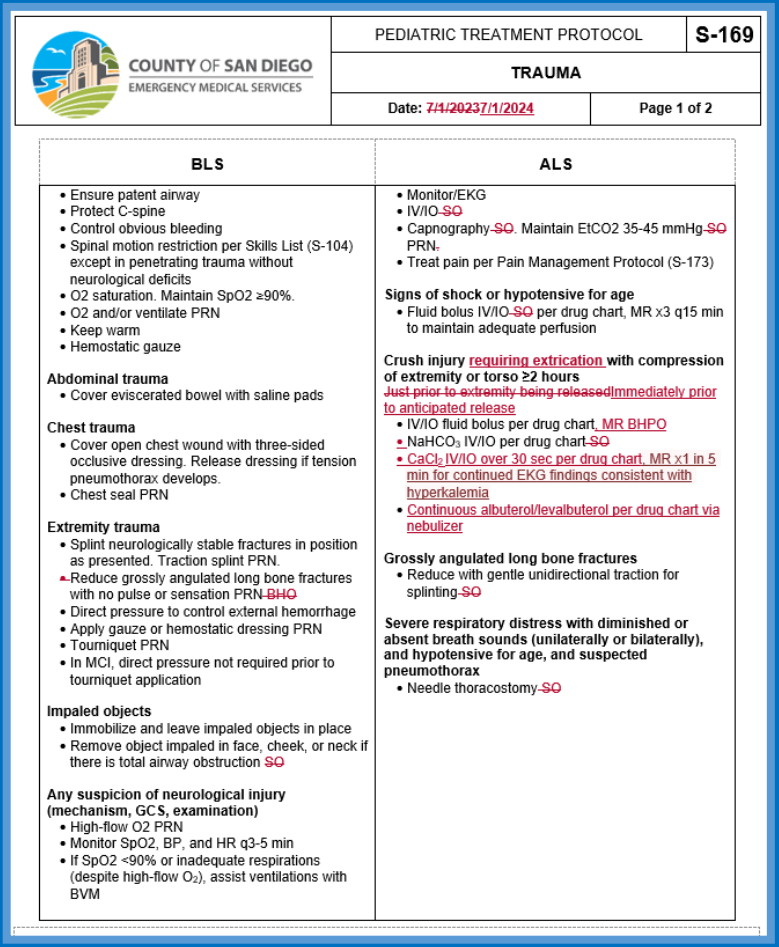
- Needle thoracostomy ~~SO~~

Revisions

- BLS
  - Removed BHO for reducing grossly angulated long bone fractures with no pulse or sensation PRN
- ALS
  - Revised “Crush injury with compression…” heading to “Crush injury requiring extrication with compression…”
    - Revised “Just prior to extremity being released” to “Immediately prior to anticipated release”

S-169

Trauma



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-169

TRAUMA

Date: ~~7/1/2023~~7/1/2024 | 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 eviscerated bowel with saline pads

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

Extremity trauma
- Splint neurologically stable fractures in position as presented. Traction splint PRN.
- ~~-~~Reduce grossly angulated long bone fractures with no pulse or sensation PRN ~~BHO~~
- 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 ~~SO~~

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

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

Crush injury requiring extrication with compression of extremity or torso ≥2 hours
~~Just prior to extremity being released~~Immediately prior to anticipated release
- IV/IO fluid bolus per drug chart, MR BHPO
- ~~-~~$NaHCO_3$ IV/IO per drug chart ~~SO~~
- $CaCl_2$ IV/IO over 30 sec per drug chart, MR x1 in 5 min for continued EKG findings consistent with hyperkalemia
- Continuous albuterol/levalbuterol per drug chart via nebulizer

Grossly angulated long bone fractures
- Reduce with gentle unidirectional traction for splinting ~~SO~~

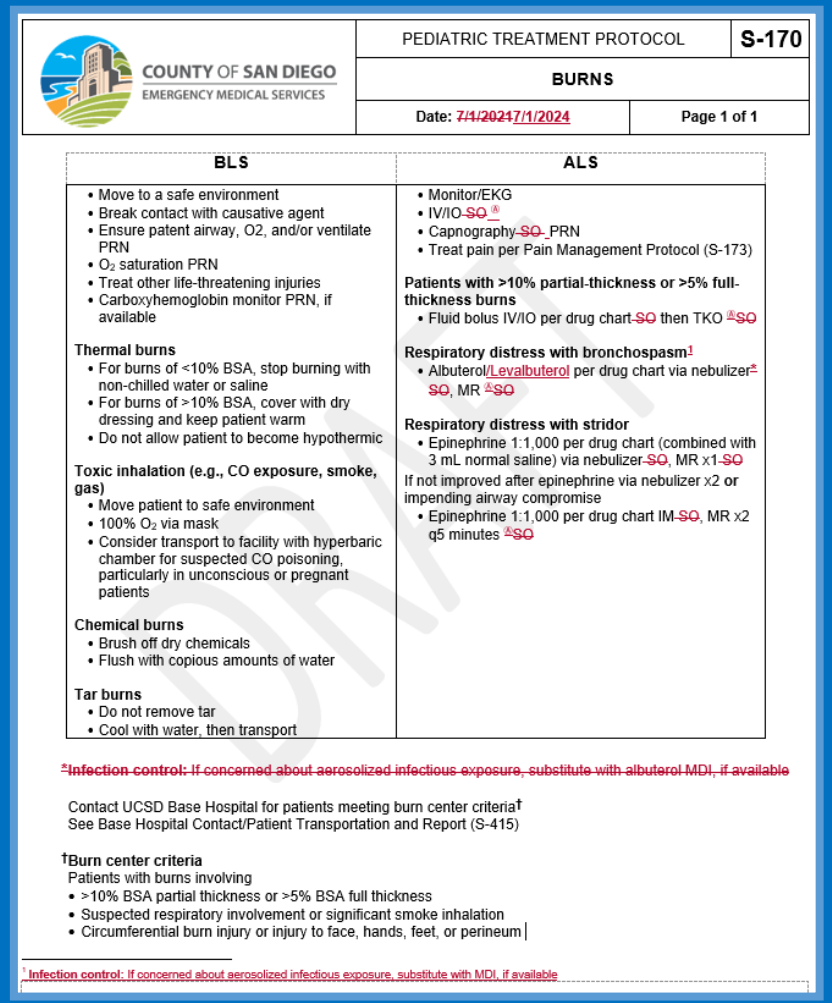
Severe respiratory distress with diminished or absent breath sounds (unilaterally or bilaterally), and hypotensive for age, and suspected pneumothorax
- Needle thoracostomy ~~SO~~

New Additions

- ALS
  - Updated treatment for crush injury:
    - Added "MR BHPO" for fluid bolus
    - Added "$CaCl_2$ IV/IO over 30 sec per drug chart, MR x1 in 5 min for continued EKG findings consistent with hyperkalemia"
    - Added "Continuous albuterol/levalbuterol per drug chart via nebulizer"

S-170

Burns



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-170

BURNS

Date: ~~7/1/2021~~7/1/2024 | Page 1 of 1

BLS	ALS
• 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	• Monitor/EKG • IV/IO ~~SO~~ [A] • Capnography ~~SO~~ 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 ~~SO~~ then TKO [A]~~SO~~ **Respiratory distress with bronchospasm**[1] • Albuterol/Levalbuterol per drug chart via nebulizer~~*~~ ~~SO~~, MR [A]~~SO~~ **Respiratory distress with stridor** • Epinephrine 1:1,000 per drug chart (combined with 3 mL normal saline) via nebulizer ~~SO~~, MR x1 ~~SO~~ If not improved after epinephrine via nebulizer x2 **or** impending airway compromise • Epinephrine 1:1,000 per drug chart IM ~~SO~~, MR x2 q5 minutes [A]~~SO~~

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

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 to face, hands, feet, or perineum

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

DRAFT

Revisions

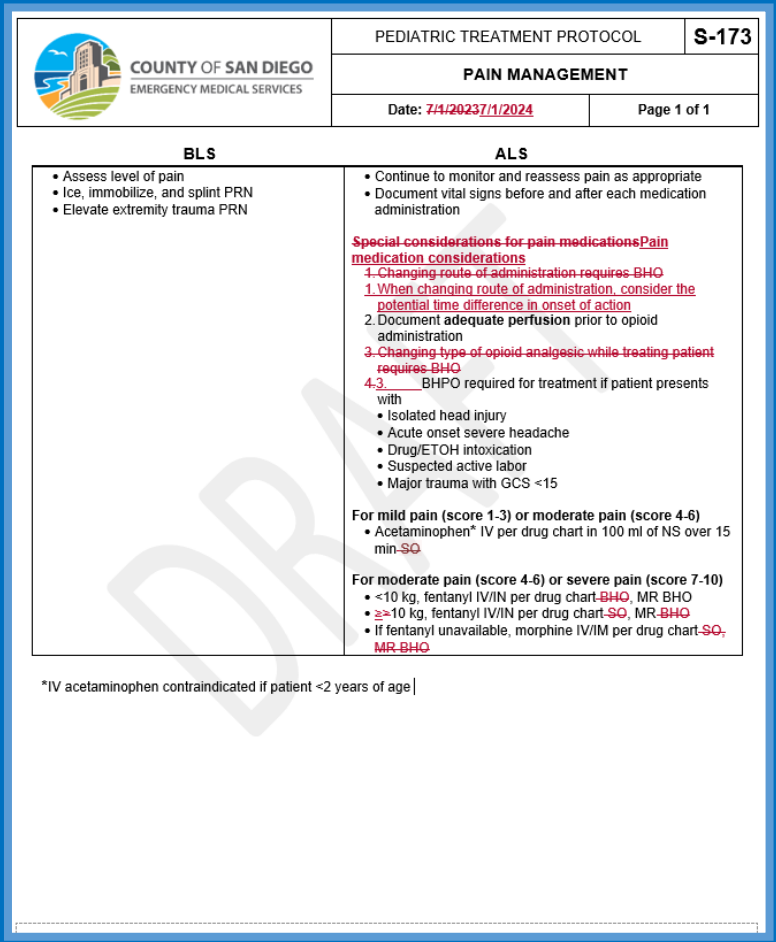
- ALS
  - Removed infection control footnote for albuterol
  - Revised “If not improved after epinephrine via nebulizer x2 …” to “No improvement after epinephrine via nebulizer x2 …” for consistency across protocols

New Additions

- ALS
  - Added levalbuterol to each instance of albuterol

S-173

Pain Management



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-173

PAIN MANAGEMENT

Date: ~~7/1/2023~~7/1/2024 | 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

~~Special considerations for pain medications~~Pain medication considerations

1. ~~Changing route of administration requires BHO~~
1. When changing route of administration, consider the potential time difference in onset of action
2. Document **adequate perfusion** prior to opioid administration
3. ~~Changing type of opioid analgesic while treating patient requires BHO~~
4. ~~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) or moderate pain (score 4-6)

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

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

- <10 kg, fentanyl IV/IN per drug chart ~~BHO~~, MR BHO
- ~~≥~~≥10 kg, fentanyl IV/IN per drug chart ~~SO~~, MR ~~BHO~~
- If fentanyl unavailable, morphine IV/IM per drug chart ~~SO, MR BHO~~

*IV acetaminophen contraindicated if patient <2 years of age

DRAFT

Revisions

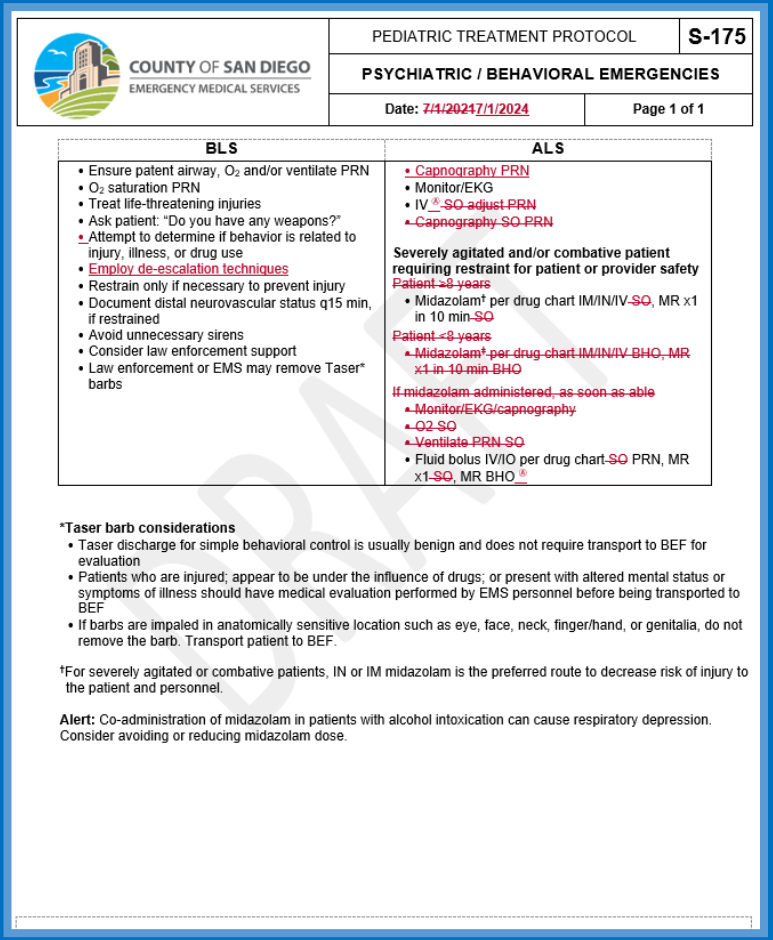
- ALS
  - Revised “Special considerations for pain medications” heading to “Pain medication considerations”
    - Revised “Changing route of administration requires BHO” to “When changing route of administration, consider the potential time difference in onset of action”
    - Removed “Changing type of opioid analgesic while treating patient requires BHO”
  - Removed BHO for fentanyl in <10 kg patients (MR still BHO)
  - Removed MR BHO for fentanyl in ≥10 kg patients
  - Removed MR BHO for morphine

New Additions

- None

S-175

Psychiatric / Behavioral Emergencies



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-175

PSYCHIATRIC / BEHAVIORAL EMERGENCIES

Date: ~~7/1/2021~~7/1/2024 | Page 1 of 1

BLS	ALS
• Ensure patent airway, O_2 and/or ventilate PRN • O_2 saturation PRN • Treat life-threatening injuries • Ask patient: "Do you have any weapons?" • Attempt to determine if behavior is related to injury, illness, or drug use • Employ de-escalation techniques • Restrain only if necessary to prevent injury • Document distal neurovascular status q15 min, if restrained • Avoid unnecessary sirens • Consider law enforcement support • Law enforcement or EMS may remove Taser* barbs	• ~~Capnography PRN~~ • Monitor/EKG • IV ® ~~SO adjust PRN~~ • ~~Capnography SO PRN~~ **Severely agitated and/or combative patient requiring restraint for patient or provider safety** ~~Patient ≥8 years~~ • Midazolam† per drug chart IM/IN/IV ~~SO~~, MR x1 in 10 min ~~SO~~ ~~Patient <8 years~~ ~~• Midazolam† per drug chart IM/IN/IV BHO, MR x1 in 10 min BHO~~ ~~If midazolam administered, as soon as able~~ ~~• Monitor/EKG/capnography~~ ~~• O2 SO~~ ~~• Ventilate PRN SO~~ • Fluid bolus IV/IO per drug chart ~~SO~~ PRN, MR x1 ~~SO~~, MR BHO ®

***Taser barb considerations**
- Taser discharge for simple behavioral control is usually benign and does not require transport to BEF for evaluation
- Patients who are injured; appear to be under the influence of drugs; or present with altered mental status or symptoms of illness should have medical evaluation performed by EMS personnel before being transported to BEF
- If barbs are impaled in anatomically sensitive location such as eye, face, neck, finger/hand, or genitalia, do not remove the barb. Transport patient to BEF.

†For severely agitated or combative patients, IN or IM midazolam is the preferred route to decrease risk of injury to the patient and personnel.

Alert: Co-administration of midazolam in patients with alcohol intoxication can cause respiratory depression. Consider avoiding or reducing midazolam dose.

Revisions

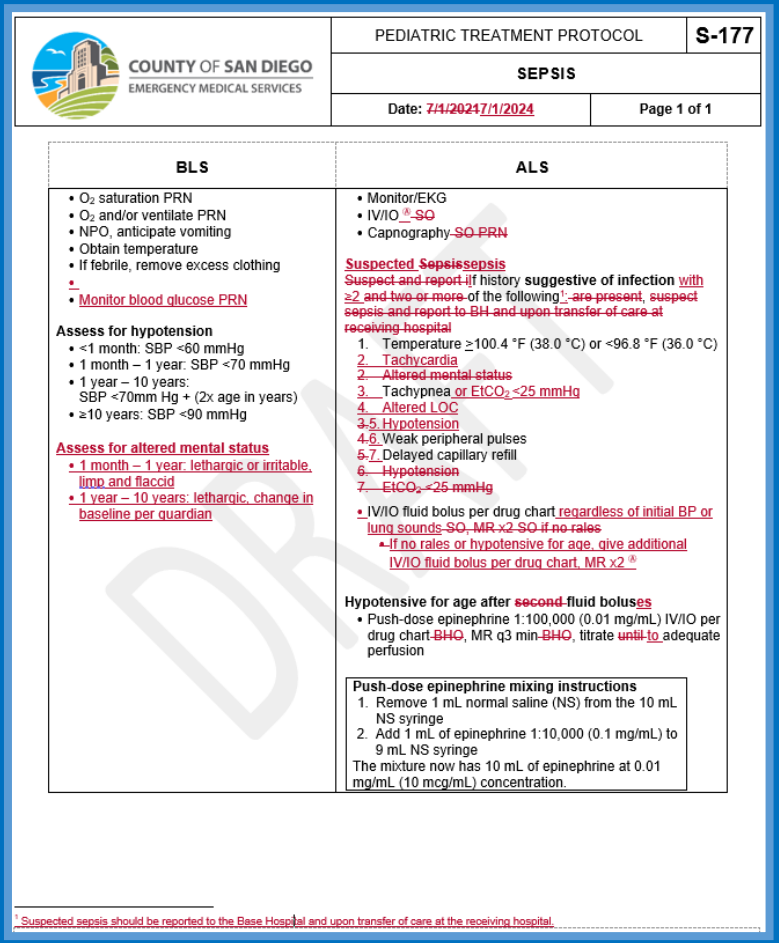
- ALS
  - Moved capnography PRN to the top of the page
  - Removed "adjust PRN" from IV for consistency across protocols
  - Removed "Patient ≥8 years" and "Patient <8 years" so there is one treatment regardless of age
  - Removed "If midazolam administered, as soon as able" subheading and associated treatments

New Additions

- BLS
  - Added "Employ de-escalation techniques"

S-177

Sepsis



COUNTY OF SAN DIEGO
EMERGENCY MEDICAL SERVICES

PEDIATRIC TREATMENT PROTOCOL | S-177

SEPSIS

Date: ~~7/1/2021~~7/1/2024 | Page 1 of 1

BLS

- O_2 saturation PRN
- O_2 and/or ventilate PRN
- NPO, anticipate vomiting
- Obtain temperature
- If febrile, remove excess clothing
-
- Monitor blood glucose PRN

Assess for hypotension

- <1 month: SBP <60 mmHg
- 1 month – 1 year: SBP <70 mmHg
- 1 year – 10 years: SBP <70mm Hg + (2x age in years)
- ≥10 years: SBP <90 mmHg

Assess for altered mental status

- 1 month – 1 year: lethargic or irritable, limp and flaccid
- 1 year – 10 years: lethargic, change in baseline per guardian

ALS

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

Suspected ~~Sepsis~~sepsis

~~Suspect and report if~~ If history **suggestive of infection** with ≥2 ~~and two or more~~ of the following[1] ~~are present, suspect sepsis and report to BH and upon transfer of care at receiving hospital~~

1. Temperature ≥100.4 °F (38.0 °C) or <96.8 °F (36.0 °C)
2. Tachycardia
3. ~~Altered mental status~~
4. Tachypnea or $EtCO_2$ <25 mmHg
5. Altered LOC
6. ~~3.~~ Hypotension
7. ~~4.~~ Weak peripheral pulses
8. ~~5.~~ Delayed capillary refill
9. ~~6. Hypotension~~
10. ~~7. $EtCO_2$ <25 mmHg~~

- IV/IO fluid bolus per drug chart regardless of initial BP or lung sounds ~~SO, MR x2 SO if no rales~~
  - ~~If no rales or hypotensive for age, give additional~~ IV/IO fluid bolus per drug chart, MR x2 Ⓐ

Hypotensive for age after ~~second~~ fluid boluses

- Push-dose epinephrine 1:100,000 (0.01 mg/mL) IV/IO per drug chart ~~BHO~~, MR q3 min ~~BHO~~, titrate ~~until~~ to adequate perfusion

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.

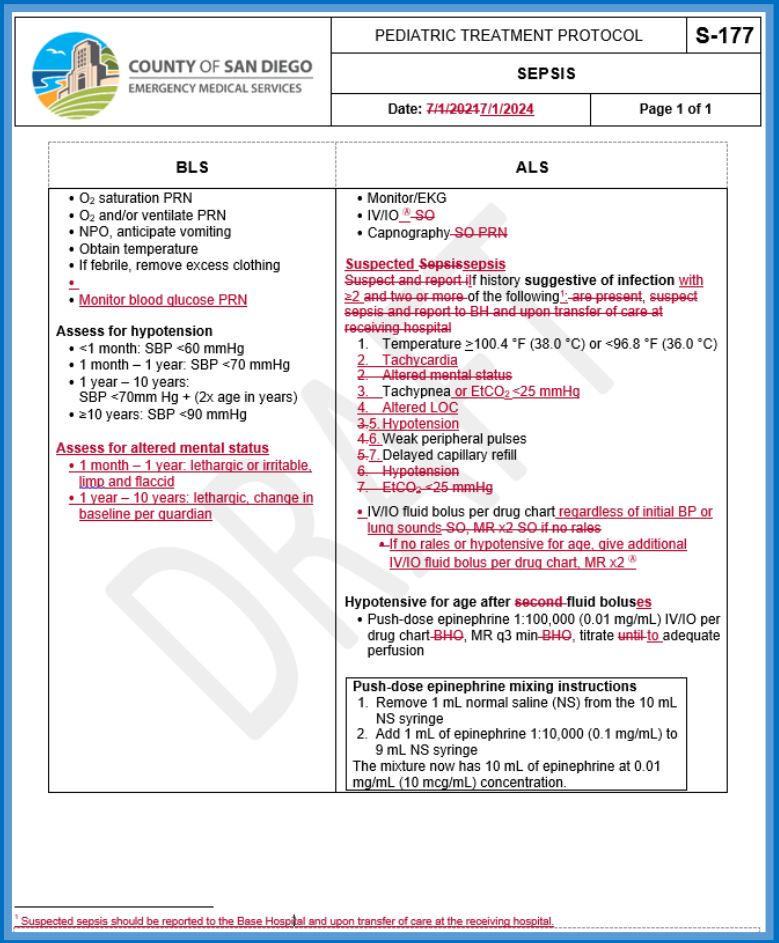
[1] Suspected sepsis should be reported to the Base Hospital and upon transfer of care at the receiving hospital.

Revisions

- ALS
  - Revised “Sepsis” to “Suspected sepsis”
  - Revised “Suspect and report if history suggestive of infection and two or more …” to “If history suggestive of infection with ≥2 of the following”
  - Revised “tachypnea” to “tachypnea or EtCO2 <25 mmHg”
  - Revised “Hypotensive for age after second fluid bolus” to “Hypotensive for age after fluid boluses”
  - Revised “IV/IO fluid bolus per drug chart …” to “IV/IO fluid bolus per drug chart regardless of initial BP or lung sounds”
  - Removed BHO for push-dose epinephrine

S-177

Sepsis



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EMERGENCY MEDICAL SERVICES

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[1] Suspected sepsis should be reported to the Base Hospital and upon transfer of care at the receiving hospital.

DRAFT

New Additions

- BLS
  - Added "Assess for altered mental status" and associated criteria
- ALS
  - Added "Tachycardia"
  - Added "Altered LOC"
  - Added "If no rales or hypotensive for age, give additional IV/IO fluid bolus per drug chart, MR x2"
  - Added footnote "Suspected sepsis should be reported to the Base Hospital and upon transfer of care at the receiving hospital."

POLICY UPDATES

Policies with Revisions Effective July 1, 2024

- S-002 Policy and Protocol Approval Process
- P-305 Paramedic Accreditation/Reaccreditation
- P-401 Paramedic Scope of Practice
- P-405 Communications Failure
- P-405A Communications Failure Report
- S-411 Reporting of Suspected Child, Dependent Adult, or Elder Abuse/Neglect
- P-430 Special Assignment – Fireline Paramedic
- B-450 EMT Scope of Practice
- S-610 Ambulance Patient Offload Time Standard
- S-836 Critical Care Transport Unit Inventory
- T-710 Designation of a Trauma Center

POLICY UPDATES

New Policies Effective July 1, 2024

- S-030 Extracorporeal Cardiopulmonary Resuscitation (ECPR) Critical Care System
- S-804 First Responder Inventory
- S-882 Emergency Medical Dispatch Programs
- S-882A Emergency Medical Dispatch Plan

POLICY UPDATES

Policies Sunsetting on July 1, 2024

- P-301A Paramedic Training Program Application Form
- P-302A Application for Out-of-County Paramedic Internship
- S-306A Application for Authorization as Approved Provider of Prehospital CE in San Diego County
- B-351A EMT Training Programs Application
- B-325 Perilaryngeal Airway Adjuncts Training Program Requirements
- D-822 Perilaryngeal Airway Adjuncts Service Provider Designation
- S-610A Transfer of Care Procedure
- P-806 ALS First Responder Inventory
- P-807 Wildland ALS Kit Inventory
- B-834 BLS First Responder Inventory
- P-408 Variation from San Diego County Protocols for Advanced Life Support
- P-408A QCS Confidential Prehospital QA Report – MD Variation Detail