



Inland Counties Emergency Medical Agency

Serving San Bernardino, Inyo, and Mono Counties

Tom Lynch, EMS Administrator

Reza Vaezazizi, MD, Medical Director

DATE: January 22, 2015

TO: EMS Providers - ALS, BLS, EMS Aircraft
Hospital CEOs, ED Directors, Nurse Managers and PLNs
EMS Training Institutions and Continuing Education Providers
Inyo, Mono and San Bernardino County EMCC Members
Medical Advisory Committee (MAC) Members
Systems Advisory Committee (SAC) Members

FROM: Reza Vaezazizi, MD
Medical Director

SUBJECT: MEDICATION STANDARD ORDERS - DEXTROSE CLARIFICATION

ICEMA was asked by one of the educational providers for clarification of the blood glucose parameters for pediatric patients. Following review, ICEMA found that the blood glucose parameters for neonatal and pediatric administration were inadvertently omitted from the latest version of the ICEMA Reference #7040 - Medication Standard Orders. The attached revised protocol clarifies the blood glucose parameters for the administration of Dextrose to neonates and pediatric patients.

If you have any questions, please contact Ron Holk, RN, EMS Nurse Specialist at (909) 388-5808 or via e-mail at Ron.Holk@cao.sbcounty.gov.

RV/RH/jlm

Enclosure

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MEDICATION - STANDARD ORDERS

Adenosine (Adenocard) - Adult (ALS)

Stable narrow-complex SVT or Wide complex tachycardia:

Adenosine, 6 mg rapid IVP followed immediately by 20 cc NS bolus, and
Adenosine, 12 mg rapid IVP followed immediately by 20 cc NS bolus if patient
does not convert. May repeat one (1) time.

Reference #s 7010, 7020, 11050

Albuterol Aerosolized Solution (Proventil) - Adult (LALS, ALS)

Albuterol nebulized, 2.5 mg, may repeat two (2) times.

Reference #s 6090, 7010, 7020, 11010, 11100, 14030

Albuterol Metered-Dose Inhaler (MDI) (Proventil) - Specialty Programs Only Adult (LALS, ALS)

Albuterol MDI, four (4) puffs every ten (10) minutes for continued shortness of
breath and wheezing.

Reference #s 6090, 6110, Sheriff's Search and Rescue

Albuterol - Pediatric (LALS, ALS)

Albuterol nebulized, 2.5 mg, may repeat two (2) times.

Reference #s 7010, 7020, 14010, 14030, and 14070

Aspirin, chewable (LALS, ALS)

Aspirin, 325 mg PO chewed (one (1) adult non-enteric coated aspirin) or four (4)
chewable 81 mg aspirin.

Reference #s 2020, 6090, 6110, 7010, 7020, 11060

Atropine (ALS)

Atropine, 0.5 mg IV/IO. May repeat every five (5) minutes up to a maximum of 3 mg or 0.04 mg/kg.

Organophosphate poisoning:

Atropine, 2 mg IV/IO, repeat at 2 mg increments every five (5) minutes if patient remains symptomatic.

Reference #s 6090, 6110, 7010, 7020, 11040, 12020, 13010

Calcium Chloride (ALS)*Calcium Channel Blocker Poisonings:*

Calcium Chloride, 1 gm (10 cc of a 10% solution) IV/IO, base hospital order only.

Reference #s 2020, 7010, 7020, 13010

Dextrose - Adult (LALS, ALS)

Dextrose 10%/250 ml (D10W 25 gm) IV/IO Bolus

Reference #s 2020, 6090, 6110, 7010, 7020, 8010, 11050, 11070, 11080, 13020, 13030

Dextrose - Pediatric (LALS, ALS)

Hypoglycemia - Neonates (0 - 4 weeks) with blood glucose < 35 mg/dL or pediatric patients (greater than 4 weeks) with glucose < 60 mg/dL:

Dextrose 10%/250 ml (D10W 25 gm) 0.5 gm/kg (5 ml/kg) IV/IO

Reference #s 2020, 7010, 7020, 13020, 13030, 14040, 14050, 14060

Diphenhydramine - Adult (ALS)

Diphenhydramine, 25 mg IV/IO

Diphenhydramine, 50 mg IM

Reference #s 6090, 6110, 7010, 7020, 11010, 13010

Diphenhydramine - Pediatric (ALS)

Diphenhydramine, 1 mg/kg slow IV/IO, not to exceed adult dose of 25 mg, **or**

Diphenhydramine, 2 mg/kg IM not to exceed adult dose of 50 mg IM

Reference #s 7010, 7020, 14030

Dopamine - Adult (ALS)

Dopamine, infusion of 400 mg in 250 ml of NS IV/IO, titrated between 5 - 20 mcg/kg/min to maintain signs of adequate tissue perfusion.

Reference #s 7010, 7020, 8010, 8040, 10140, 11070, 11090, 14080

Dopamine - Pediatric (ALS)

Post resuscitation continued signs of inadequate tissue perfusion:

9 to 14 years Dopamine, 400 mg in 250 ml of NS to infuse at 5 - 20 mcg/kg/min IV/IO titrated to maintain signs of adequate tissue perfusion.

Reference #s 7010, 7020, 14040

Epinephrine (1:1000) - Adult (LALS, ALS)

Severe Bronchospasm, Asthma Attack, Pending Respiratory Failure, Anaphylactic Shock/Severe Allergic Reactions:

Epinephrine, 0.3 mg IM

Epinephrine (1:10,000) - Adult (ALS)

For Persistent severe anaphylactic shock:

Epinephrine (1:10,000), 0.1 mg slow IVP/IO. May repeat every five (5) minutes as needed to total dosage of 0.5 mg.

Cardiac Arrest, Asystole, PEA:

Epinephrine, 1 mg IV/IO

Reference #s 2020, 6090, 6110, 7010, 7020, 11010, 11070, 12020

Epinephrine (1:1000) - Pediatric (LALS, ALS)

Severe Bronchospasm, Asthma Attack, Pending Respiratory Failure, Anaphylactic Shock/Severe Allergic Reactions:

Epinephrine, 0.01 mg/kg IM not to exceed adult dosage of 0.3 mg.

Reference #s 2020, 6090, 7010, 7020, 11010, 14010, 14030

Epinephrine (1:10,000) - Pediatric (ALS)

Anaphylactic Shock (no palpable radial pulse and depressed level of consciousness):

Epinephrine (1:10,000), 0.01 mg/kg IV/IO, no more than 0.1 mg per dose. May repeat to a maximum of 0.5 mg.

Cardiac Arrest:

1 day to 8 years Epinephrine (1:10,000), 0.01 mg/kg IV/IO (do not exceed adult dosage)

9 to 14 years Epinephrine (1:10,000), 1.0 mg IV/IO

Newborn Care:

Epinephrine (1: 10,000), 0.01mg/kg IV/IO if heart rate is less than 60 after one (1) minute after evaluating airway for hypoxia and assessing body temperature for hypothermia.

Epinephrine (1:10,000), 0.005 mg/kg IV/IO every ten (10) minutes for persistent hypotension as a base hospital order or in radio communication failure.

Post resuscitation continued signs of inadequate tissue perfusion:

1 day to 8 years Epinephrine (1:10,000), 0.5 mcg/kg/min IV/IO drip

Reference #s 2020, 7010, 7020, 14030, 14040, 14090

Fentanyl - Adult (ALS)

Fentanyl, 50 mcg slow IV/IO over one (1) minute. May repeat every five (5) minutes titrated to pain, not to exceed 200 mcg.

Fentanyl, 100 mcg IM/IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Isolated Extremity Trauma, Burns:

Fentanyl, 50 mcg slow IV/IO push over one (1) minute. May repeat every five (5) minutes titrated to pain, not to exceed 200 mcg IV/IO, **or**

Fentanyl, 100 mcg IM/IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Pacing, synchronized cardioversion:

Fentanyl, 50 mcg slow IV/IO over one (1) minute. May repeat in five (5) minutes titrated to pain, not to exceed 200 mcg.

Fentanyl, 100 mcg IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Fentanyl - Pediatric (ALS)

Fentanyl, 0.5 mcg/kg slow IV/IO over one (1) minute. May repeat in five minutes titrated to pain, not to exceed 100 mcg.

Fentanyl, 1 mcg/kg IM/IN, may repeat every ten (10) minutes titrated to pain not to exceed 200 mcg.

Reference #s 2020, 6090, 6110, 7010, 7020, 7030, 9120, 10110, 10120, 11060, 11100, 13030, 14070, 15010, 15020

Glucose - Oral - Adult (BLS, LALS, ALS)

Glucose - Oral, one (1) tube for patients with an intact gag reflex and hypoglycemia.

Reference #s 7010, 7020, 11080, 11090, 11110, 13020

Glucose - Oral - Pediatric (BLS, LALS, ALS)

Glucose - Oral, one (1) tube for patients with an intact gag reflex and hypoglycemia.

Reference #s 7010, 7020, 14050, 14060

Glucagon - Adult (LALS, ALS)

Glucagon, 1 mg IM/SC/IN, if unable to establish IV. May administer one (1) time only.

Betablocker Poisoning:

Glucagon, 1 mg IV/IO (base hospital order only)

Reference #s 6090, 6110, 7010, 7020, 11080, 13010, 13030

Glucagon - Pediatric (LALS, ALS)

Glucagon, 0.025 mg/kg IM/IN, if unable to start an IV. May be repeated one (1) time after twenty (20) minutes for a combined maximum dose of 1 mg.

Reference #s 7010, 7020, 13030, 14050, 14060

Ipratropium Bromide Inhalation Solution (Atrovent) - Adult (ALS) use with Albuterol

Atrovent, 0.5 mg nebulized. Administer one (1) dose only.

Reference #s 7010, 7020, 11010, 11100

Ipratropium Bromide Metered-Dose Inhaler (MDI) (Atrovent) - Specialty Programs Only Adult (ALS) use with Albuterol

When used in combination with Albuterol MDI use Albuterol MDI dosing.

Reference #s 6090, 6110, 7010, 7020

Ipratropium Bromide Inhalation Solution (Atrovent) - Pediatric (ALS) use with Albuterol

1 day to 12 months Atrovent nebulized, 0.25 mg. Administer one (1) dose only.
1 year to 14 years Atrovent nebulized, 0.5 mg. Administer one (1) dose only.

Reference #s 7010, 7020, 14010, 14030, 14070

Lidocaine - Adult (ALS)

Intubation, King Airway, NG/OG, for suspected increased intracranial pressure (ICP):
Lidocaine, 1.5 mg/kg IV/IO

VT/VF:

Initial Dose: Lidocaine, 1.5 mg/kg IV/IO

May administer an additional 0.75 mg/kg IV/IO, repeat once in five (5) to ten (10) minutes for refractory VF.

VT/VF Infusion:

Lidocaine, 2 mg/min IV/IO drip

V-Tach, Wide Complex Tachycardia – with Pulses:

Lidocaine, 1.5 mg/kg slow IV/IO

May administer an additional 0.75 mg/kg IV/IO, repeat once in five (5) to ten (10) minutes for refractory VF

Initiate infusion of Lidocaine 2 mg/min IV/IO drip.

Reference #s 2020, 6090, 7010, 7020, 8010, 8040, 10030, 10080, 11050, 11070, 15010

Lidocaine - Pediatric (ALS)

Intubation, King Airway, NG/OG, for suspected increased intracranial pressure (ICP):

Lidocaine, 1.5 mg/kg IV/IO

Cardiac Arrest:

1 day to 8 years Lidocaine, 1.0 mg/kg IV/IO

9 to 14 years Lidocaine, 1.0 mg/kg IV/IO

May repeat Lidocaine at 0.5 mg/kg after five (5) minutes up to total of 3.0 mg/kg.

Reference #s 2020, 7010, 7020, 14040

Lidocaine 2% (Intravenous Solution) - Pediatric and Adult (ALS)

Pain associated with IO infusion:

Lidocaine , 0.5 mg/kg slow IO push over two (2) minutes, not to exceed 40 mg total.

Reference #s 2020, 7010, 7020, 10140

Magnesium Sulfate (ALS)

Polymorphic Ventricular Tachycardia:

Magnesium Sulfate, 2 gm in 100 ml of NS IV/IO over five (5) minutes for polymorphic VT if prolonged QT is observed during sinus rhythm post-cardioversion.

Eclampsia (Seizure/Tonic/Clonic Activity):

Magnesium Sulfate, 4 gm diluted with 20 ml NS, IV/IO slow IV push over three (3) to four (4) minutes.

Magnesium Sulfate, 2 gm in 100 cc of NS at 30 cc per hour IV/IO to prevent continued seizures.

Reference #s 2020, 7010, 7020, 8010, 14080

Midazolam - Adult (ALS)

Seizure:

Midazolam, 2.5 mg IN/IV/IO. May repeat in five (5) minutes for continued seizure activity, **or**

Midazolam, 5 mg IM. May repeat in ten (10) minutes for continued seizure activity.

Assess patient for medication related reduced respiratory rate or hypotension.

Maximum of three (3) doses using any combination of IM/IN/IV/IO may be administered for continued seizure activity. Contact base hospital for additional orders and to discuss further treatment options.

Pacing, synchronized cardioversion:

Midazolam, 2 mg slow IV/IO push or IN

Reference #s 6090, 6110, 7010, 7020, 10110, 10120, 11080, 13020, 14080

Midazolam - Pediatric (ALS)

Seizures:

Midazolam, 0.1 mg/kg IV/IO with maximum dose 2.5 mg. May repeat Midazolam in five (5) minutes, **or**

Midazolam, 0.2 mg/kg IM/IN with maximum dose of 5 mg. May repeat Midazolam in ten (10) minutes for continued seizure. IN dosage of Midazolam is doubled due to decreased surface area of nasal mucosa resulting in decreased absorption of medication.

Assess patient for medication related reduced respiratory rate or hypotension.

Maximum of three (3) doses using any combination of IM/IN/IV/IO may be administered for continued seizure activity. Contact base hospital for additional orders and to discuss further treatment options.

Reference #s 7010, 7020, 14060

Morphine - Adult (ALS)

Morphine, 2 mg IV/IO. May repeat in 2 mg increments every three (3) minutes, not to exceed 10 mg IV/IO.

Isolated Extremity Trauma, Burns:

Morphine, 5 mg IV/IO. May repeat every five (5) minutes to a maximum of 20 mg for adequate tissue perfusion, **or**

Morphine, 10 mg IM.

Pacing, synchronized cardioversion:

Morphine, 2 mg IV/IO. May repeat in 2 mg increments every three (3) minutes, titrated to pain, not to exceed 10 mg IV/IO.

Reference #s 2020, 6090, 6110, 7010, 7020, 7030, 9120, 10110 10120, 11060, 11100, 13030, 15010

Morphine - Pediatric (ALS)

Morphine, 0.1 mg/kg IV/IO not to exceed 2 mg increments, for a total of 5 mg, **or**

Morphine, 0.2 mg/kg IM for a total of 10 mg IM, titrated for pain relief

Burns:

Morphine, 0.1 mg/kg IV/IO not to exceed 5 mg increments, for a total of 20 mg, **or**

Morphine, 0.2 mg/kg IM for a total of 10 mg IM, titrated for pain relief

Reference #s 2020, 7010, 7020, 7030, 14070, 15020

Naloxone (Narcan) - Adult (LALS, ALS)

Resolution of respiratory depression related to suspected narcotic overdose:

Naloxone, 0.5 mg IV/IO/IM/IN, may repeat Naloxone 0.5 mg IV/IO/IM/IN every two (2) to three (3) minutes if needed.

Do not exceed 10 mg of Naloxone total regardless of route administered.

Reference #s 6110, 7010, 7020, 11070, 11080

Naloxone (Narcan) - Pediatric (LALS, ALS)

Resolution of respiratory depression related to suspected narcotic overdose:

1 day to 8 years	Naloxone, 0.1 mg/kg IV/IO
9 to 14 years	Naloxone, 0.5 mg IV/IO

May repeat every two (2) to three (3) minutes if needed. Do not exceed the adult dosage of 10 mg IV/IO/IM/IN.

Reference #s 7010, 7020, 14040, 14050

Nitroglycerin (LALS, ALS)

Nitroglycerin, 0.4 mg sublingual/transmucosal

One (1) every three (3) minutes as needed. May be repeated as long as patient continues to have signs of adequate tissue perfusion. **If a Right Ventricular Infarction is suspected, the use of nitrates requires base hospital contact.**

Nitroglycerin is contraindicated if there are signs of inadequate tissue perfusion or if sexual enhancement medications have been utilized within the past forty-eight (48) hours.

Reference #s 6090, 6110, 7010, 7020, 11010, 11060

Ondansetron (Zofran) - Patients four (4) years old to Adult (ALS)

Nausea/Vomiting:

Ondansetron, 4 mg slow IV/IO/ODT

All patients four (4) to eight (8) years old: May administer a total of 4 mgs of Ondansetron prior to base hospital contact.

All patients nine (9) and older: May administer Ondansetron 4 mg and may repeat twice, at ten (10) minute intervals, for a total of 12 mgs prior to base hospital contact.

May be used as prophylactic treatment of nausea and vomiting associated with narcotic administration.

Reference #s 6110, 7010, 7020, 9120, 10100, 15010, 15020

Phenylephrine HCL (ALS)

Phenylephrine, 0.5 mg metered dose may be repeated once prior to additional attempt

Reference #s 7010, 7020, 10050

Procainamide (ALS)

SVT, V-Tach or Wide Complex Tachycardias:

Procainamide, 20 mg/min IV/IO; may repeat until arrhythmia suppressed, symptomatic hypotension, QRS widens by more than 50% or maximum dose of 17 mg/kg administered. If arrhythmia suppressed, begin infusion of 2 mg/min.

Reference #s 7010, 7020, 8010, 8040, 11050

Sodium Bicarbonate (ALS)

Tricyclic Poisoning:

Sodium Bicarbonate, 1 mEq/kg IV/IO

Reference #s 2020, 7010, 7020, 13010

Verapamil (ALS)

SVT if adenosine is ineffective:

Verapamil, 5 mg slow IV/IO over three (3) minutes, may repeat every fifteen (15) minutes to a total dose of 20 mg.

Reference #s 7010, 7020, 11050



MEDICATION - STANDARD ORDERS

Adenosine (Adenocard) - Adult (ALS)

Stable narrow-complex SVT or Wide complex tachycardia:

Adenosine, 6 mg rapid IVP followed immediately by 20 cc NS bolus, and
Adenosine, 12 mg rapid IVP followed immediately by 20 cc NS bolus if patient
does not convert. May repeat one (1) time.

Reference #s 7010, 7020, 11050

Albuterol Aerosolized Solution (Proventil) - Adult (LALS, ALS)

Albuterol nebulized, 2.5 mg, may repeat two (2) times.

Reference #s 6090, 7010, 7020, 11010, 11100, 14030

Albuterol Metered-Dose Inhaler (MDI) (Proventil) - Specialty Programs Only Adult (LALS, ALS)

Albuterol MDI, four (4) puffs every ten (10) minutes for continued shortness of
breath and wheezing.

Reference #s 6090, 6110, Sheriff's Search and Rescue

Albuterol - Pediatric (LALS, ALS)

Albuterol nebulized, 2.5 mg, may repeat two (2) times.

Reference #s 7010, 7020, 14010, 14030, and 14070

Aspirin, chewable (LALS, ALS)

Aspirin, 325 mg PO chewed (one (1) adult non-enteric coated aspirin) or four (4)
chewable 81 mg aspirin.

Reference #s 2020, 6090, 6110, 7010, 7020, 11060

Atropine (ALS)

Atropine, 0.5 mg IV/IO. May repeat every five (5) minutes up to a maximum of 3 mg or 0.04 mg/kg.

Organophosphate poisoning:

Atropine, 2 mg IV/IO, repeat at 2 mg increments every five (5) minutes if patient remains symptomatic.

Reference #s 6090, 6110, 7010, 7020, 11040, 12020, 13010

Calcium Chloride (ALS)*Calcium Channel Blocker Poisonings:*

Calcium Chloride, 1 gm (10 cc of a 10% solution) IV/IO, base hospital order only.

Reference #s 2020, 7010, 7020, 13010

Dextrose - Adult (LALS, ALS)

Dextrose 10%/250 ml (D10W 25 gm) IV/IO Bolus

Reference #s 2020, 6090, 6110, 7010, 7020, 8010, 11050, 11070, 11080, 13020, 13030

Dextrose - Pediatric (LALS, ALS)

Hypoglycemia - Neonates (0 - 4 weeks) with blood glucose < 35 mg/dL or pediatric patients (greater than 4 weeks) with glucose < 60 mg/dL:

Dextrose 10%/250 ml (D10W 25 gm) 0.5 gm/kg (5 ml/kg) IV/IO

Reference #s 2020, 7010, 7020, 13020, 13030, 14040, 14050, 14060

Diphenhydramine - Adult (ALS)

Diphenhydramine, 25 mg IV/IO

Diphenhydramine, 50 mg IM

Reference #s 6090, 6110, 7010, 7020, 11010, 13010

Diphenhydramine - Pediatric (ALS)

Diphenhydramine, 1 mg/kg slow IV/IO, not to exceed adult dose of 25 mg, **or**

Diphenhydramine, 2 mg/kg IM not to exceed adult dose of 50 mg IM

Reference #s 7010, 7020, 14030

Dopamine - Adult (ALS)

Dopamine, infusion of 400 mg in 250 ml of NS IV/IO, titrated between 5 - 20 mcg/kg/min to maintain signs of adequate tissue perfusion.

Reference #s 7010, 7020, 8010, 8040, 10140, 11070, 11090, 14080

Dopamine - Pediatric (ALS)

Post resuscitation continued signs of inadequate tissue perfusion:

9 to 14 years Dopamine, 400 mg in 250 ml of NS to infuse at 5 - 20 mcg/kg/min IV/IO titrated to maintain signs of adequate tissue perfusion.

Reference #s 7010, 7020, 14040

Epinephrine (1:1000) - Adult (LALS, ALS)

Severe Bronchospasm, Asthma Attack, Pending Respiratory Failure, Anaphylactic Shock/Severe Allergic Reactions:

Epinephrine, 0.3 mg IM

Epinephrine (1:10,000) - Adult (ALS)

For Persistent severe anaphylactic shock:

Epinephrine (1:10,000), 0.1 mg slow IVP/IO. May repeat every five (5) minutes as needed to total dosage of 0.5 mg.

Cardiac Arrest, Asystole, PEA:

Epinephrine, 1 mg IV/IO

Reference #s 2020, 6090, 6110, 7010, 7020, 11010, 11070, 12020

Epinephrine (1:1000) - Pediatric (LALS, ALS)

Severe Bronchospasm, Asthma Attack, Pending Respiratory Failure, Anaphylactic Shock/Severe Allergic Reactions:

Epinephrine, 0.01 mg/kg IM not to exceed adult dosage of 0.3 mg.

Reference #s 2020, 6090, 7010, 7020, 11010, 14010, 14030

Epinephrine (1:10,000) - Pediatric (ALS)

Anaphylactic Shock (no palpable radial pulse and depressed level of consciousness):

Epinephrine (1:10,000), 0.01 mg/kg IV/IO, no more than 0.1 mg per dose. May repeat to a maximum of 0.5 mg.

Cardiac Arrest:

1 day to 8 years Epinephrine (1:10,000), 0.01 mg/kg IV/IO (do not exceed adult dosage)

9 to 14 years Epinephrine (1:10,000), 1.0 mg IV/IO

Newborn Care:

Epinephrine (1: 10,000), 0.01mg/kg IV/IO if heart rate is less than 60 after one (1) minute after evaluating airway for hypoxia and assessing body temperature for hypothermia.

Epinephrine (1:10,000), 0.005 mg/kg IV/IO every ten (10) minutes for persistent hypotension as a base hospital order or in radio communication failure.

Post resuscitation continued signs of inadequate tissue perfusion:

1 day to 8 years Epinephrine (1:10,000), 0.5 mcg/kg/min IV/IO drip

Reference #s 2020, 7010, 7020, 14030, 14040, 14090

Fentanyl - Adult (ALS)

Fentanyl, 50 mcg slow IV/IO over one (1) minute. May repeat every five (5) minutes titrated to pain, not to exceed 200 mcg.

Fentanyl, 100 mcg IM/IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Isolated Extremity Trauma, Burns:

Fentanyl, 50 mcg slow IV/IO push over one (1) minute. May repeat every five (5) minutes titrated to pain, not to exceed 200 mcg IV/IO, **or**

Fentanyl, 100 mcg IM/IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Pacing, synchronized cardioversion:

Fentanyl, 50 mcg slow IV/IO over one (1) minute. May repeat in five (5) minutes titrated to pain, not to exceed 200 mcg.

Fentanyl, 100 mcg IN. May repeat 50 mcg every ten (10) minutes titrated to pain, not to exceed 200 mcg.

Fentanyl - Pediatric (ALS)

Fentanyl, 0.5 mcg/kg slow IV/IO over one (1) minute. May repeat in five minutes titrated to pain, not to exceed 100 mcg.

Fentanyl, 1 mcg/kg IM/IN, may repeat every ten (10) minutes titrated to pain not to exceed 200 mcg.

Reference #s 2020, 6090, 6110, 7010, 7020, 7030, 9120, 10110 10120, 11060, 11100, 13030, 14070, 15010, 15020

Glucose - Oral - Adult (BLS, LALS, ALS)

Glucose - Oral, one (1) tube for patients with an intact gag reflex and hypoglycemia.

Reference #s 7010, 7020, 11080, 11090, 11110, 13020

Glucose - Oral - Pediatric (BLS, LALS, ALS)

Glucose - Oral, one (1) tube for patients with an intact gag reflex and hypoglycemia.

Reference #s 7010, 7020, 14050, 14060

Glucagon - Adult (LALS, ALS)

Glucagon, 1 mg IM/SC/IN, if unable to establish IV. May administer one (1) time only.

Betablocker Poisoning:

Glucagon, 1 mg IV/IO (base hospital order only)

Reference #s 6090, 6110, 7010, 7020, 11080, 13010, 13030

Glucagon - Pediatric (LALS, ALS)

Glucagon, 0.025 mg/kg IM/IN, if unable to start an IV. May be repeated one (1) time after twenty (20) minutes for a combined maximum dose of 1 mg.

Reference #s 7010, 7020, 13030, 14050, 14060

Ipratropium Bromide Inhalation Solution (Atrovent) - Adult (ALS) use with Albuterol

Atrovent, 0.5 mg nebulized. Administer one (1) dose only.

Reference #s 7010, 7020, 11010, 11100

Ipratropium Bromide Metered-Dose Inhaler (MDI) (Atrovent) - Specialty Programs Only Adult (ALS) use with Albuterol

When used in combination with Albuterol MDI use Albuterol MDI dosing.

Reference #s 6090, 6110, 7010, 7020

Ipratropium Bromide Inhalation Solution (Atrovent) - Pediatric (ALS) use with Albuterol

1 day to 12 months Atrovent nebulized, 0.25 mg. Administer one (1) dose only.
1 year to 14 years Atrovent nebulized, 0.5 mg. Administer one (1) dose only.

Reference #s 7010, 7020, 14010, 14030, 14070

Lidocaine - Adult (ALS)

Intubation, King Airway, NG/OG, for suspected increased intracranial pressure (ICP):
Lidocaine, 1.5 mg/kg IV/IO

VT/VF:

Initial Dose: Lidocaine, 1.5 mg/kg IV/IO

May administer an additional 0.75 mg/kg IV/IO, repeat once in five (5) to ten (10) minutes for refractory VF.

VT/VF Infusion:

Lidocaine, 2 mg/min IV/IO drip

V-Tach, Wide Complex Tachycardia – with Pulses:

Lidocaine, 1.5 mg/kg slow IV/IO

May administer an additional 0.75 mg/kg IV/IO, repeat once in five (5) to ten (10) minutes for refractory VF

Initiate infusion of Lidocaine 2 mg/min IV/IO drip.

Reference #s 2020, 6090, 7010, 7020, 8010, 8040, 10030, 10080, 11050, 11070, 15010

Lidocaine - Pediatric (ALS)

Intubation, King Airway, NG/OG, for suspected increased intracranial pressure (ICP):

Lidocaine, 1.5 mg/kg IV/IO

Cardiac Arrest:

1 day to 8 years Lidocaine, 1.0 mg/kg IV/IO

9 to 14 years Lidocaine, 1.0 mg/kg IV/IO

May repeat Lidocaine at 0.5 mg/kg after five (5) minutes up to total of 3.0 mg/kg.

Reference #s 2020, 7010, 7020, 14040

Lidocaine 2% (Intravenous Solution) - Pediatric and Adult (ALS)

Pain associated with IO infusion:

Lidocaine , 0.5 mg/kg slow IO push over two (2) minutes, not to exceed 40 mg total.

Reference #s 2020, 7010, 7020, 10140

Magnesium Sulfate (ALS)

Polymorphic Ventricular Tachycardia:

Magnesium Sulfate, 2 gm in 100 ml of NS IV/IO over five (5) minutes for polymorphic VT if prolonged QT is observed during sinus rhythm post-cardioversion.

Eclampsia (Seizure/Tonic/Clonic Activity):

Magnesium Sulfate, 4 gm diluted with 20 ml NS, IV/IO slow IV push over three (3) to four (4) minutes.

Magnesium Sulfate, 2 gm in 100 cc of NS at 30 cc per hour IV/IO to prevent continued seizures.

Reference #s 2020, 7010, 7020, 8010, 14080

Midazolam - Adult (ALS)

Seizure:

Midazolam, 2.5 mg IN/IV/IO. May repeat in five (5) minutes for continued seizure activity, **or**

Midazolam, 5 mg IM. May repeat in ten (10) minutes for continued seizure activity.

Assess patient for medication related reduced respiratory rate or hypotension.

Maximum of three (3) doses using any combination of IM/IN/IV/IO may be administered for continued seizure activity. Contact base hospital for additional orders and to discuss further treatment options.

Pacing, synchronized cardioversion:

Midazolam, 2 mg slow IV/IO push or IN

Reference #s 6090, 6110, 7010, 7020, 10110, 10120, 11080, 13020, 14080

Midazolam - Pediatric (ALS)

Seizures:

Midazolam, 0.1 mg/kg IV/IO with maximum dose 2.5 mg. May repeat Midazolam in five (5) minutes, **or**

Midazolam, 0.2 mg/kg IM/IN with maximum dose of 5 mg. May repeat Midazolam in ten (10) minutes for continued seizure. IN dosage of Midazolam is doubled due to decreased surface area of nasal mucosa resulting in decreased absorption of medication.

Assess patient for medication related reduced respiratory rate or hypotension.

Maximum of three (3) doses using any combination of IM/IN/IV/IO may be administered for continued seizure activity. Contact base hospital for additional orders and to discuss further treatment options.

Reference #s 7010, 7020, 14060

Morphine - Adult (ALS)

Morphine, 2 mg IV/IO. May repeat in 2 mg increments every three (3) minutes, not to exceed 10 mg IV/IO.

Isolated Extremity Trauma, Burns:

Morphine, 5 mg IV/IO. May repeat every five (5) minutes to a maximum of 20 mg for adequate tissue perfusion, **or**

Morphine, 10 mg IM.

Pacing, synchronized cardioversion:

Morphine, 2 mg IV/IO. May repeat in 2 mg increments every three (3) minutes, titrated to pain, not to exceed 10 mg IV/IO.

Reference #s 2020, 6090, 6110, 7010, 7020, 7030, 9120, 10110 10120, 11060, 11100, 13030, 15010

Morphine - Pediatric (ALS)

Morphine, 0.1 mg/kg IV/IO not to exceed 2 mg increments, for a total of 5 mg, **or**

Morphine, 0.2 mg/kg IM for a total of 10 mg IM, titrated for pain relief

Burns:

Morphine, 0.1 mg/kg IV/IO not to exceed 5 mg increments, for a total of 20 mg, **or**

Morphine, 0.2 mg/kg IM for a total of 10 mg IM, titrated for pain relief

Reference #s 2020, 7010, 7020, 7030, 14070, 15020

Naloxone (Narcan) - Adult (LALS, ALS)

Resolution of respiratory depression related to suspected narcotic overdose:

Naloxone, 0.5 mg IV/IO/IM/IN, may repeat Naloxone 0.5 mg IV/IO/IM/IN every two (2) to three (3) minutes if needed.

Do not exceed 10 mg of Naloxone total regardless of route administered.

Reference #s 6110, 7010, 7020, 11070, 11080

Naloxone (Narcan) - Pediatric (LALS, ALS)

Resolution of respiratory depression related to suspected narcotic overdose:

1 day to 8 years	Naloxone, 0.1 mg/kg IV/IO
9 to 14 years	Naloxone, 0.5 mg IV/IO

May repeat every two (2) to three (3) minutes if needed. Do not exceed the adult dosage of 10 mg IV/IO/IM/IN.

Reference #s 7010, 7020, 14040, 14050

Nitroglycerin (LALS, ALS)

Nitroglycerin, 0.4 mg sublingual/transmucosal

One (1) every three (3) minutes as needed. May be repeated as long as patient continues to have signs of adequate tissue perfusion. **If a Right Ventricular Infarction is suspected, the use of nitrates requires base hospital contact.**

Nitroglycerin is contraindicated if there are signs of inadequate tissue perfusion or if sexual enhancement medications have been utilized within the past forty-eight (48) hours.

Reference #s 6090, 6110, 7010, 7020, 11010, 11060

Ondansetron (Zofran) - Patients four (4) years old to Adult (ALS)

Nausea/Vomiting:

Ondansetron, 4 mg slow IV/IO/ODT

All patients four (4) to eight (8) years old: May administer a total of 4 mgs of Ondansetron prior to base hospital contact.

All patients nine (9) and older: May administer Ondansetron 4 mg and may repeat twice, at ten (10) minute intervals, for a total of 12 mgs prior to base hospital contact.

May be used as prophylactic treatment of nausea and vomiting associated with narcotic administration.

Reference #s 6110, 7010, 7020, 9120, 10100, 15010, 15020

Phenylephrine HCL (ALS)

Phenylephrine, 0.5 mg metered dose may be repeated once prior to additional attempt

Reference #s 7010, 7020, 10050

Procainamide (ALS)

SVT, V-Tach or Wide Complex Tachycardias:

Procainamide, 20 mg/min IV/IO; may repeat until arrhythmia suppressed, symptomatic hypotension, QRS widens by more than 50% or maximum dose of 17 mg/kg administered. If arrhythmia suppressed, begin infusion of 2 mg/min.

Reference #s 7010, 7020, 8010, 8040, 11050

Sodium Bicarbonate (ALS)

Tricyclic Poisoning:

Sodium Bicarbonate, 1 mEq/kg IV/IO

Reference #s 2020, 7010, 7020, 13010

Verapamil (ALS)

SVT if adenosine is ineffective:

Verapamil, 5 mg slow IV/IO over three (3) minutes, may repeat every fifteen (15) minutes to a total dose of 20 mg.

Reference #s 7010, 7020, 11050

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