



ORANGE COUNTY EMERGENCY MEDICAL SERVICES
PREHOSPITAL ALS STANDING ORDERS

PEDIATRIC MEDICATION VOLUME DOSE BY WEIGHT

#: I-20
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Org Date: 7/20
Revised: 6/18/2025

3-5 KG NEWBORN	Defibrillation (2-4J/kg) Cardioversion** (1J/kg)				Normal Vital Signs HR: 100-180 Respirations: 30-60 SBP: >60mmHg			
	8-16 joules 4 joules							
	Medication Concentration	Route	Dose	mLs	Medication Concentration	Route	Dose	mLs
	**Adenosine (1 st dose) 3mg/mL	Rapid IV	0.4 mg	0.1 mL BHO	**Hydroxocobalamin 25mg/mL	IV	280 mg Over 15 min	11 mL BHO
	**Adenosine (2 nd dose) 3mg/mL	Rapid IV	0.8 mg	0.3 mL BHO	Lidocaine 2% 100mg/5mL	IO	2 mg	0.15 mL
	Albuterol 2.5mg/3mL	Neb	2.5 mg	3 mL	Lidocaine 2% (Cardiac arrest) 100mg/5mL	IV/IO	4 mg	0.2 mL
	Amiodarone (VF/pulseless VT) 50mg/mL	IV/IO	20 mg	0.4 mL	Midazolam (Seizure 1 st line) 5mg/mL	IM	0.8 mg	0.16 mL
	**Amiodarone (VT w/ pulse) 50mg/mL	IV	20 mg Over 10 min.	0.4 mL BHO	Midazolam (Seizure) 5mg/mL	IV/IO/IN	0.4mg	0.1 mL
	Atropine (Bradycardia) 1mg/mL	IV/IO	0.1 mg	0.1 mL	**Midazolam (Toxic delirium) 5mg/mL	IN/IV/IM	0.4 mg	0.1 mL BHO
	Atropine (Bradycardia) 0.1mg/mL	IV/IO	0.1 mg	1 mL	**Midazolam (Cardioversion) 5mg/mL	IN/IV/IM	0.4 mg	0.1 mL BHO
Atropine (Organophosphate) 1mg/mL	IV	0.1 mg	0.1 mL	**Morphine 4mg/mL	IV carpuject	0.4 mg	0.1 mL BHO <2yrs	
Atropine (Organophosphate) 0.1mg/mL	IV	0.1 mg	1 mL	**Morphine 10mg/10mL	IV carpuject	0.4 mg	0.4 mL BHO <2yrs	
Atropine (Organophosphate) 1mg/mL	IM	0.4 mg	0.4 mL	**Morphine 10mg/mL	IM	0.4 mg	0.05 mL BHO <2yrs	
Dextrose 10% 100 mg/mL	IV		20 mL	Naloxone 0.8mg/2mL	IN/IV/IM	0.4 mg	1 mL	
Diphenhydramine 50mg/mL	IV/IO/IM	4 mg	0.1 mL	Naloxone 1mg/mL	IN/IV/IM	0.4 mg	0.4 mL	
Epinephrine (Anaphylaxis) 1mg/mL (1:1000)	IM	0.04 mg	0.04 mL	Naloxone 4mg/0.1mL	IN	Single spray		
Epinephrine (Anaphylaxis) 0.1mg/mL (1:10,000)	IV/IO	0.04 mg	0.4 mL	Normal Saline 0.9% NaCl	IV/IO	80 mL		
**Epinephrine (Push dose) 10mcg/mL	IV/IO	4 mcg	0.4 mL BHO	Normal Saline 0.9% NaCl	Neb	3 mL		
Epinephrine (Cardiac arrest) 0.1mg/mL (1:10,000)	IV/IO	0.04 mg	0.4 mL	Ondansetron 4mg	ODT	N/A		
**Fentanyl 50mcg/mL	IN/IV/IM	8 mcg	0.2 mL BHO <2 yrs	Sodium Bicarbonate 1mEq/mL	IV/IO	4 mEq	4 mL	
Glucagon 1mg/mL	IM	0.5 mg	0.5 mL	1:1 dilution with NS Toradol (Ketorolac) 15mg/mL	IV/IO/IM		N/A	
**Base Hospital Order				All milliliters rounded				

Updated 06.18.2025

3-5 KG
NEWBORN

Approved:

Carl Schultz, MD

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6-7 kg 3 MONTHS	Defibrillation (2-4 J/kg) Cardioversion** (1 J/kg)				Normal Vital Signs HR: 100-160 Respirations: 25-40 SBP: >70mmHg			
	12-24 joules 6 joules							
	Medication Concentration	Route	Dose	mLs	Medication Concentration	Route	Dose	mLs
Updated 06.18.2025	**Adenosine (1 st dose) 3mg/mL	Rapid IV	0.6 mg	0.2 mL BHO	**Hydroxocobalamin 25mg/mL	IV	420 mg Over 15 min	17 mL BHO
	**Adenosine (2 nd dose) 3mg/mL	Rapid IV	1.2 mg	0.4 mL BHO	Lidocaine 2% 100mg/5mL	IO	3 mg	0.15 mL
	Albuterol 2.5mg/3mL	Neb	5 mg	6 mL	Lidocaine 2% (Cardiac arrest) 100mg/5mL	IV/IO	6 mg	0.3 mL
	Amiodarone (VF/pulseless VT) 50mg/mL	IV/IO	30 mg	0.6 mL	Midazolam (Seizure 1 st line) 5mg/mL	IM	1.2 mg	0.25 mL
	**Amiodarone (VT w/ pulse) 50mg/mL	IV	30 mg Over 10 min.	0.6 mL BHO	Midazolam (Seizure) 5mg/mL	IV/IO/IN	0.6 mg	0.1 mL
	Atropine (Bradycardia) 1mg/mL	IV/IO	0.14 mg	0.14 mL	**Midazolam (Toxic delirium) 5mg/mL	IN/IV/IM	0.6 mg	0.1 mL BHO
	Atropine (Bradycardia) 0.1mg/mL	IV/IO	0.14 mg	1.4 mL	**Midazolam (Cardioversion) 5mg/mL	IN/IV/IM	0.6 mg	0.1 mL BHO
	Atropine (Organophosphate) 1mg/mL	IV	0.14 mg	0.14 mL	**Morphine 4mg/mL	IV carpuject	0.6 mg	0.15 mL BHO <2yrs
	Atropine (Organophosphate) 0.1mg/mL	IV	0.14 mg	1.4 mL	**Morphine 10mg/10mL	IV carpuject	0.6 mg	0.6 mL BHO <2yrs
	Atropine (Organophosphate) 1mg/mL	IM	0.6 mg	0.6 mL	**Morphine 10mg/mL	IM	0.6 mg	0.05 mL BHO <2yrs
	Dextrose 10% 100 mg/mL	IV		30 mL	Naloxone 0.8mg/2mL	IN/IV/IM	0.6 mg	1.5 mL
	Diphenhydramine 50mg/mL	IV/IO/IM	6 mg	0.1 mL	Naloxone 1mg/mL	IN/IV/IM	0.6 mg	0.6 mL
	Epinephrine (Anaphylaxis) 1mg/mL (1:1000)	IM	0.06 mg	0.06 mL	Naloxone 4mg/0.1mL	IN		Single spray
	Epinephrine (Anaphylaxis) 0.1mg/mL (1:10,000)	IV/IO	0.06 mg	0.6 mL	Normal Saline 0.9% NaCl	IV/IO		120 mL
	**Epinephrine (Push dose) 10mcg/mL	IV	7 mcg	0.7 mL BHO	Normal Saline 0.9% NaCl	Neb		3 mL
	Epinephrine (Cardiac arrest) 0.1mg/mL (1:10,000)	IV	0.06 mg	0.6 mL	Ondansetron 4mg	ODT		N/A
	**Fentanyl 50mcg/mL	IN/IV/IM	12 mcg	0.25 mL BHO <2yrs	Sodium Bicarbonate 1mEq/mL	IV/IO	6 mEq	6 mL
	Glucagon 1mg/mL	IM	0.5 mg	0.5 mL	1:1 dilution with NS Toradol (Ketorolac) 15mg/mL	IV/IO/IM		N/A
	**Base Hospital Order				All milliliters rounded			

6-7 KG
3 MONTHS

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8-9 KG 6 MONTHS	Defibrillation (2-4 J/kg) Cardioversion** (1 J/kg)			16-32 joules 8 joules			Normal Vital Signs HR: 100-160 Respirations:20-40 SBP: >70mmHg			
	Medication Concentration	Route	Dose	mLs	Medication Concentration	Route	Dose	mLs		
	**Adenosine (1 st dose) 3mg/mL	Rapid IV	0.8 mg	0.3 mL BHO	**Hydroxocobalamin 25mg/mL	IV	560 mg Over 15 min	22 mL BHO		
	**Adenosine (2 nd dose) 3mg/mL	Rapid IV	1.6 mg	0.5 mL BHO	Lidocaine 2% 100mg/5mL	IO	4 mg	0.2 mL		
	Albuterol 2.5mg/3mL	Neb	5 mg	6 mL	Lidocaine 2% (Cardiac arrest) 100mg/5mL	IV/IO	8 mg	0.4 mL		
	Amiodarone (VF/pulseless VT) 50mg/mL	IV/IO	40 mg	0.8 mL	Midazolam (Seizure 1 st line) 5mg/mL	IM	1.6 mg	0.32 mL		
	**Amiodarone (VT w/ pulse) 50mg/mL	IV	40 mg Over 10 min.	0.8 mL BHO	Midazolam (Seizure) 5mg/mL	IV/IO/IN	0.8 mg	0.16 mL		
	Atropine (Bradycardia) 1mg/mL	IV/IO	0.16 mg	0.16 mL	**Midazolam (Toxic delirium) 5mg/mL	IN/IV/IM	0.8 mg	0.16 mL BHO		
	Atropine (Bradycardia) 0.1mg/mL	IV/IO	0.16 mg	1.6 mL	**Midazolam (Cardioversion) 5mg/mL	IN/IV/IM	0.8 mg	0.16 mL BHO		
	Atropine (Organophosphate) 1mg/mL	IV	0.16 mg	0.16 mL	**Morphine 4mg/mL	IV carpuject	0.8 mg	0.2 mL BHO <2yrs		
	Atropine (Organophosphate) 0.1mg/mL	IV	0.16 mg	1.6 mL	**Morphine 10mg/10mL	IV carpuject	0.8 mg	0.8 mL BHO <2yrs		
	Atropine (Organophosphate) 1mg/mL	IM	0.8 mg	0.8 mL	**Morphine 10mg/mL	IM	0.8 mg	0.08 mL BHO <2yrs		
	Dextrose 10% 100 mg/mL	IV		40 mL	Naloxone 0.8mg/2mL	IN/IV/IM	0.8 mg	2 mL		
	Diphenhydramine 50mg/mL	IV/IO/IM	8 mg	0.15 mL	Naloxone 1mg/mL	IN/IV/IM	0.8 mg	0.8 mL		
	Epinephrine (Anaphylaxis) 1mg/mL (1:1000)	IM	0.08 mg	0.08 mL	Naloxone 4mg/0.1mL	IN		Single spray		
	Epinephrine (Anaphylaxis) 0.1mg/mL (1:10,000)	IV/IO	0.08 mg	0.8 mL	Normal Saline 0.9% NaCl	IV/IO		160 mL		
	**Epinephrine (Push dose) 10mcg/mL	IV/IO	9 mcg	0.9 mL BHO	Normal Saline 0.9% NaCl	Neb		3 mL		
	Epinephrine (Cardiac arrest) 0.1mg/mL (1:10,000)	IV/IO	0.08 mg	0.8 mL	Ondansetron 4mg	ODT		N/A		
	**Fentanyl 50mcg/mL	IN/IV/IM	16 mcg	0.3 mL BHO <2yrs	Sodium Bicarbonate 1mEq/mL 1:1 dilution with NS	IV/IO	8 mEq	8 mL		
	Glucagon 1mg/mL	IM	0.5 mg	0.5 mL	Toradol(Ketorolac) 15mg/mL	IV/IO/IM		N/A		
**Base Hospital Order				All milliliters rounded						

Updated 06.18.2025

8-9 KG 6 MONTHS	Defibrillation (2-4 J/kg) Cardioversion** (1 J/kg)			16-32 joules 8 joules			Normal Vital Signs HR: 100-160 Respirations:20-40 SBP: >70mmHg			
Medication Concentration	Route	Dose	mLs	Medication Concentration	Route	Dose	mLs			
**Adenosine (1 st dose) 3mg/mL	Rapid IV	0.8 mg	0.3 mL BHO	**Hydroxocobalamin 25mg/mL	IV	560 mg Over 15 min	22 mL BHO			
**Adenosine (2 nd dose) 3mg/mL	Rapid IV	1.6 mg	0.5 mL BHO	Lidocaine 2% 100mg/5mL	IO	4 mg	0.2 mL			
Albuterol 2.5mg/3mL	Neb	5 mg	6 mL	Lidocaine 2% (Cardiac arrest) 100mg/5mL	IV/IO	8 mg	0.4 mL			
Amiodarone (VF/pulseless VT) 50mg/mL	IV/IO	40 mg	0.8 mL	Midazolam (Seizure 1 st line) 5mg/mL	IM	1.6 mg	0.32 mL			
**Amiodarone (VT w/ pulse) 50mg/mL	IV	40 mg Over 10 min.	0.8 mL BHO	Midazolam (Seizure) 5mg/mL	IV/IO/IN	0.8 mg	0.16 mL			
Atropine (Bradycardia) 1mg/mL	IV/IO	0.16 mg	0.16 mL	**Midazolam (Toxic delirium) 5mg/mL	IN/IV/IM	0.8 mg	0.16 mL BHO			
Atropine (Bradycardia) 0.1mg/mL	IV/IO	0.16 mg	1.6 mL	**Midazolam (Cardioversion) 5mg/mL	IN/IV/IM	0.8 mg	0.16 mL BHO			
Atropine (Organophosphate) 1mg/mL	IV	0.16 mg	0.16 mL	**Morphine 4mg/mL	IV carpuject	0.8 mg	0.2 mL BHO <2yrs			
Atropine (Organophosphate) 0.1mg/mL	IV	0.16 mg	1.6 mL	**Morphine 10mg/10mL	IV carpuject	0.8 mg	0.8 mL BHO <2yrs			
Atropine (Organophosphate) 1mg/mL	IM	0.8 mg	0.8 mL	**Morphine 10mg/mL	IM	0.8 mg	0.08 mL BHO <2yrs			
Dextrose 10% 100 mg/mL	IV		40 mL	Naloxone 0.8mg/2mL	IN/IV/IM	0.8 mg	2 mL			
Diphenhydramine 50mg/mL	IV/IO/IM	8 mg	0.15 mL	Naloxone 1mg/mL	IN/IV/IM	0.8 mg	0.8 mL			
Epinephrine (Anaphylaxis) 1mg/mL (1:1000)	IM	0.08 mg	0.08 mL	Naloxone 4mg/0.1mL	IN		Single spray			
Epinephrine (Anaphylaxis) 0.1mg/mL (1:10,000)	IV/IO	0.08 mg	0.8 mL	Normal Saline 0.9% NaCl	IV/IO		160 mL			
**Epinephrine (Push dose) 10mcg/mL	IV/IO	9 mcg	0.9 mL BHO	Normal Saline 0.9% NaCl	Neb		3 mL			
Epinephrine (Cardiac arrest) 0.1mg/mL (1:10,000)	IV/IO	0.08 mg	0.8 mL	Ondansetron 4mg	ODT		N/A			
**Fentanyl 50mcg/mL	IN/IV/IM	16 mcg	0.3 mL BHO <2yrs	Sodium Bicarbonate 1mEq/mL 1:1 dilution with NS	IV/IO	8 mEq	8 mL			
Glucagon 1mg/mL	IM	0.5 mg	0.5 mL	Toradol(Ketorolac) 15mg/mL	IV/IO/IM		N/A			
**Base Hospital Order				All milliliters rounded						

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10-11 KG 1 YEAR	Defibrillation (2-4 J/kg) Cardioversion** (1 J/kg)				Normal Vital Signs HR: 90-140 Respirations: 24-40 SBP: >80mmHg					
	Medication Concentration		Route	Dose	mLs	Medication Concentration		Route	Dose	mLs
	**Adenosine (1 st dose) 3mg/mL		Rapid IV	1 mg	0.3 mL BHO	**Hydroxocobalamin 25mg/mL		IV	700 mg Over 15 min	28 mL BHO
	**Adenosine (2 nd dose) 3mg/mL		Rapid IV	2 mg	0.7 mL BHO	Lidocaine 2% 100mg/5mL		IO	5 mg	0.25 mL
	Albuterol 2.5mg/3mL		Neb	5 mg	6 mL	Lidocaine 2% (Cardiac arrest) 100mg/5mL		IV/IO	10 mg	0.5 mL
	Amiodarone (VF/pulseless VT) 50mg/mL		IV/IO	50 mg	1 mL	Midazolam (Seizure 1 st line) 5mg/mL		IM	2 mg	0.4 mL
	**Amiodarone (VT w/ pulse) 50mg/mL		IV	50 mg Over 10 min.	1 mL BHO	Midazolam (Seizure) 5mg/mL		IV/IO/IN	1 mg	0.2 mL
	Atropine (Bradycardia) 1mg/mL		IV/IO	0.2 mg	0.2 mL	**Midazolam (Toxic delirium) 5mg/mL		IN/IV/IM	1 mg	0.2 mL BHO
	Atropine (Bradycardia) 0.1mg/mL		IV/IO	0.2 mg	2 mL	**Midazolam (Cardioversion) 5mg/mL		IN/IV/IM	1 mg	0.2 mL BHO
	Atropine (Organophosphate) 1mg/mL		IV	0.2 mg	0.2 mL	**Morphine 4mg/mL		IV carpuject	1 mg	0.25 mL BHO <2yrs
	Atropine (Organophosphate) 0.1mg/mL		IV	0.2 mg	2 mL	**Morphine 10mg/10mL		IV carpuject	1 mg	1 mL BHO <2yrs
	Atropine (Organophosphate) 1mg/mL		IM	1 mg	1 mL	**Morphine 10mg/mL		IM	1 mg	0.1 mL BHO <2yrs
	Dextrose 10% 100 mg/mL		IV		50 mL	Naloxone 0.8mg/2mL		IN/IV/IM	0.8 mg	2 mL
	Diphenhydramine 50mg/mL		IV/IO/IM	10 mg	0.2 mL	Naloxone 1mg/mL		IN/IV/IM	1 mg	1 mL
	Epinephrine (Anaphylaxis) 1mg/mL (1:1000)		IM	0.1 mg	0.1 mL	Naloxone 4mg/0.1mL		IN	Single spray	
	Epinephrine (Anaphylaxis) 0.1mg/mL (1:10,000)		IV/IO	0.1 mg	1 mL	Normal Saline 0.9% NaCl		IV/IO	200 mL	
	**Epinephrine (Push dose) 10mcg/mL		IV/IO	10 mcg	1 mL BHO	Normal Saline 0.9% NaCl		Neb	3 mL	
	Epinephrine (Cardiac arrest) 0.1mg/mL (1:10,000)		IV/IO	0.1 mg	1 mL	Ondansetron 4mg		ODT	N/A	
	**Fentanyl 50mcg/mL		IN/IV/IM	20 mcg	0.4 mL BHO <2yrs	Sodium Bicarbonate 1mEq/mL		IV/IO	10 mEq	10 mL
	Glucagon 1mg/mL		IM	0.5 mg	0.5 mL	Toradol (Ketorolac) 15mg/mL		IV/IO/IM	N/A	
**Base Hospital Order					All milliliters rounded					

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10-11 KG
1 YEAR

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12-14 KG 2 YEARS	Defibrillation (2-4 J/kg)		24-48 joules	Normal Vital Signs				12-14 KG 2 YEARS	
	Cardioversion** (1 J/kg)		15 joules	HR: 90-140 Respirations:20-30 SBP: >80mmHg					
	Medication Concentration	Route	Dose	mLs	Medication Concentration	Route	Dose		mLs
	**Adenosine (1 st dose) 3mg/mL	Rapid IV	1.2 mg	0.4 mL BHO	**Hydroxocobalamin 25mg/mL	IV	840 mg Over 15 min		34 mL BHO
	**Adenosine (2 nd dose) 3mg/mL	Rapid IV	2.4 mg	0.8 mL BHO	Lidocaine 2% 100mg/5mL	IO	6 mg		0.3 mL
	Albuterol 2.5mg/3mL	Neb	5 mg	6 mL	Lidocaine 2% (Cardiac arrest) 100mg/5mL	IV/IO	12 mg		0.6 mL
	Amiodarone (VF/pulseless VT) 50mg/mL	IV/IO	70 mg	1.4 mL	Midazolam (Seizure 1 st line) 5mg/mL	IM	2.4 mg		0.5 mL
	**Amiodarone (VT w/ pulse) 50mg/mL	IV	70 mg Over 10 min.	1.4 mL BHO	Midazolam (Seizure) 5mg/mL	IV/IO/IN	1.2 mg		0.25 mL
	Atropine (Bradycardia) 1mg/mL	IV/IO	0.24 mg	0.24 mL	**Midazolam (Toxic delirium) 5mg/mL	IN/IV/IM	1.2 mg		0.25 mL BHO
	Atropine (Bradycardia) 0.1mg/mL	IV/IO	0.24 mg	2.4 mL	**Midazolam (Cardioversion) 5mg/mL	IN/IV/IM	1.2 mg		0.25 mL BHO
	Atropine (Organophosphate) 1mg/mL	IV	0.24 mg	0.24 mL	**Morphine 4mg/mL	IV carpuject	1.2 mg		0.3 mL BHO <2 yrs
	Atropine (Organophosphate) 0.1mg/mL	IV	0.24 mg	2.4 mL	**Morphine 10mg/10mL	IV carpuject	1.2 mg		1.2 mL BHO <2 yrs
	Atropine (Organophosphate) 1mg/mL	IM	1.2 mg	1.2 mL	**Morphine 10mg/mL	IM	1.2 mg		0.12 mL BHO <2 yrs
	Dextrose 10% 100 mg/mL	IV		60 mL	Naloxone 0.8mg/2mL	IN/IV/IM	0.8 mg		2 mL
	Diphenhydramine 50mg/mL	IV/IO/IM	12 mg	0.25 mL	Naloxone 1mg/mL	IN/IV/IM	1 mg		1 mL
	Epinephrine (Anaphylaxis) 1mg/mL (1:1000)	IM	0.12 mg	0.12 mL	Naloxone 4mg/0.1mL	IN	Single spray		
	Epinephrine (Anaphylaxis) 0.1mg/mL (1:10,000)	IV/IO	0.12 mg	1.2 mL	Normal Saline 0.9% NaCl	IV/IO	240 mL		
	**Epinephrine (Push dose) 10mcg/mL	IV/IO	10 mcg	1 mL BHO	Normal Saline 0.9% NaCl	Neb	3 mL		
	Epinephrine (Cardiac arrest) 0.1mg/mL (1:10,000)	IV/IO	0.12 mg	1.2 mL	Ondansetron 4mg	ODT	N/A		
	**Fentanyl 50mcg/mL	IN/IV/IM	24 mcg	0.5 mL BHO <2 yrs	Sodium Bicarbonate 1mEq/mL	IV/IO	12 mEq		12 mL
Glucagon 1mg/mL	IM	0.5 mg	0.5 mL	Toradol (Ketorolac) 15mg/mL	IV/IO/IM	N/A			
**Base Hospital Order				All milliliters rounded					

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19-23 KG 5-6 YEARS Updated 06.18.2025	Defibrillation (2-4 J/kg) Cardioversion** (1 J/kg)			Normal Vital Signs HR: 70-120 Respirations: 15-30 SBP: >85mmHg				19-23 KG 5-6 YEARS
	40-80 joules 20 joules							
	Medication Concentration	Route	Dose	mLs	Medication Concentration	Route	Dose	
	**Adenosine (1 st dose) 3mg/mL	Rapid IV	2 mg	0.7 mL BHO	**Hydroxocobalamin 25mg/mL	IV	1400 mg Over 15 min	56 mL BHO
	**Adenosine (2 nd dose) 3mg/mL	Rapid IV	4 mg	1.3 mL BHO	Lidocaine 2% 100mg/5mL	IO	10 mg	0.5 mL
	Albuterol 2.5mg/3mL	Neb	5 mg	6 mL	Lidocaine 2% (Cardiac arrest) 100mg/5mL	IV/IO	20 mg	1 mL
	Amiodarone (VF/pulseless VT) 50mg/mL	IV/IO	100 mg	2 mL	Midazolam (Seizure 1 st line) 5mg/mL	IM	4 mg	0.8 mL
	**Amiodarone (VT w/ pulse) 50mg/mL	IV	100 mg Over 10 min.	2 mL BHO	Midazolam (Seizure) 5mg/mL	IV/IO/IN	2 mg	0.4 mL
	Atropine (Bradycardia) 1mg/mL	IV/IO	0.4 mg	0.4 mL	**Midazolam (Toxic delirium) 5mg/mL	IN/IV/IM	2 mg	0.4 mL BHO
	Atropine (Bradycardia) 0.1mg/mL	IV/IO	0.4 mg	4 mL	**Midazolam (Cardioversion) 5mg/mL	IN/IV/IM	2 mg	0.4 mL BHO
	Atropine (Organophosphate) 1mg/mL	IV	0.4 mg	0.4 mL	Morphine 4mg/mL	IV carpuject	2 mg	0.5 mL
	Atropine (Organophosphate) 0.1mg/mL	IV	0.4 mg	4 mL	Morphine 10mg/10mL	IV carpuject	2 mg	2 mL
	Atropine (Organophosphate) 1mg/mL	IM	2 mg	2 mL	Morphine 10mg/mL	IM	2 mg	0.2 mL
	Dextrose 10% 100 mg/mL	IV		100 mL	Naloxone 0.8mg/2mL	IN/IV/IM	0.8 mg	2 mL
	Diphenhydramine 50mg/mL	IV/IO/IM	20 mg	0.4 mL	Naloxone 1mg/mL	IN/IV/IM	1 mg	1 mL
	Epinephrine (Anaphylaxis) 1mg/mL (1:1000)	IM	0.2 mg	0.2 mL	Naloxone 4mg/0.1mL	IN	Single spray	
	Epinephrine (Anaphylaxis) 0.1mg/mL (1:10,000)	IV/IO	0.2 mg	2 mL	Normal Saline 0.9% NaCl	IV/IO	250 mL	
	**Epinephrine (Push dose) 10mcg/mL	IV/IO	10 mcg	1 mL BHO	Normal Saline 0.9% NaCl	Neb	3 mL	
	Epinephrine (Cardiac arrest) 0.1mg/mL (1:10,000)	IV/IO	0.2 mg	2 mL	Ondansetron 4mg	ODT	4 mg	
	Fentanyl 50mcg/mL	IN/IV/IM	40 mcg	0.8 mL	Sodium Bicarbonate 1mEq/mL	IV/IO	20 mEq	20 mL
	Glucagon 1mg/mL	IM	0.5 mg	0.5 mL	Toradol (Ketorolac) 15mg/mL	IV/IO/IM	5.5 mg	0.4 mL
**Base Hospital Order				All milliliters rounded				

Approved:

Carl Schultz, MD

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ORANGE COUNTY EMERGENCY MEDICAL SERVICES
PREHOSPITAL ALS STANDING ORDERS

PEDIATRIC MEDICATION VOLUME DOSE BY WEIGHT

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24-29 KG 7-8 YEARS Updated 06.18.2025	Defibrillation (2-4 J/kg) Cardioversion** (1 J/kg)		50-100 joules 30 joules		Normal Vital Signs HR: 70-110 Respirations: 15-30 SBP: >90mmHg			
	Medication Concentration	Route	Dose	mLs	Medication Concentration	Route	Dose	mLs
	**Adenosine (1 st dose) 3mg/mL	Rapid IV	2.5 mg	0.85 mL BHO	**Hydroxocobalamin 25mg/mL	IV	1820 mg Over 15 min	73 mL BHO
	**Adenosine (2 nd dose) 3mg/mL	Rapid IV	5 mg	1.7 mL BHO	Lidocaine 2% 100mg/5mL	IO	13 mg	0.65 mL
	Albuterol 2.5mg/3mL	Neb	5 mg	6 mL	Lidocaine 2% (Cardiac arrest) 100mg/5mL	IV/IO	25 mg	1.3 mL
	Amiodarone (VF/pulseless VT) 50mg/mL	IV/IO	125 mg	2.5 mL	Midazolam (Seizure 1 st line) 5mg/mL	IM	5 mg	1 mL
	**Amiodarone (VT w/ pulse) 50mg/mL	IV	125 mg Over 10 min.	2.5 mL BHO	Midazolam (Seizure) 5mg/mL	IV/IO/IN	2.5 mg	0.5 mL
	Atropine (Bradycardia) 1mg/mL	IV/IO	0.5 mg	0.5 mL	**Midazolam (Toxic delirium) 5mg/mL	IN/IV/IM	2.5 mg	0.5 mL BHO
	Atropine (Bradycardia) 0.1mg/mL	IV/IO	0.5 mg	5 mL	**Midazolam (Cardioversion) 5mg/mL	IN/IV/IM	2.5 mg	0.5 mL BHO
	Atropine (Organophosphate) 1mg/mL	IV	0.5 mg	0.5 mL	Morphine 4mg/mL	IV carpuject	2.5 mg	0.65 mL
	Atropine (Organophosphate) 0.1mg/mL	IV	0.5 mg	5 mL	Morphine 10mg/10mL	IV carpuject	2.5 mg	2.5 mL
	Atropine (Organophosphate) 1mg/mL	IM	2 mg	2 mL	Morphine 10mg/mL	IM	2.5 mg	0.25 mL
	Dextrose 10% 100 mg/mL	IV		130 mL	Naloxone 0.8mg/2mL	IN/IV/IM	0.8 mg	2 mL
	Diphenhydramine 50mg/mL	IV/IO/IM	25mg	0.5 mL	Naloxone 1mg/mL	IN/IV/IM	1 mg	1 mL
	Epinephrine (Anaphylaxis) 1mg/mL (1:1000)	IM	0.25 mg	0.25 mL	Naloxone 4mg/0.1mL	IN	Single spray	
	Epinephrine (Anaphylaxis) 0.1mg/mL (1:10,000)	IV/IO	0.25 mg	2.5 mL	Normal Saline 0.9% NaCl	IV/IO	250 mL	
	**Epinephrine (Push dose) 10mcg/mL	IV/IO	10 mcg	1 mL BHO	Normal Saline 0.9% NaCl	Neb	3 mL	
	Epinephrine (Cardiac arrest) 0.1mg/mL (1:10,000)	IV/IO	0.25 mg	2.5 mL	Ondansetron 4mg	ODT	4 mg	
	Fentanyl 50mcg/mL	IN/IV/IM	50 mcg	1 mL	Sodium Bicarbonate 1mEq/mL	IV/IO	25 mEq	25 mL
	Glucagon 1mg/mL	IM	0.5 mg	0.5 mL	Toradol (Ketorolac) 15mg/mL	IV/IO/IM	7 mg	0.5 mL
**Base Hospital Order				All milliliters rounded				

24-29 KG
7-8 YEARS

7-8 YEARS

24-29 KG
7-8 YEARS

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ORANGE COUNTY EMERGENCY MEDICAL SERVICES
PREHOSPITAL ALS STANDING ORDERS

PEDIATRIC MEDICATION VOLUME DOSE BY WEIGHT

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30-36 KG 9-12 YEARS Updated 06.18.2025	Defibrillation (2-4 J/kg) Cardioversion** (1 J/kg)			Normal Vital Signs HR: 60-100 Respirations: 15-20 SBP: >90mmHg				
	70-140 joules 30 joules							
	Medication Concentration	Route	Dose	mLs	Medication Concentration	Route	Dose	mLs
	**Adenosine (1 st dose) 3mg/mL	Rapid IV	3.5 mg	1.2 mL BHO	**Hydroxocobalamin 25mg/mL	IV	2380 mg Over 15 min	95 mL BHO
	**Adenosine (2 nd dose) 3mg/mL	Rapid IV	7 mg	2.4 mL BHO	Lidocaine 2% 100mg/5mL	IO	17 mg	0.85 mL
	Albuterol 2.5mg/3mL	Neb	5 mg	6 mL	Lidocaine 2% (Cardiac arrest) 100mg/5mL	IV/IO	35 mg	1.8 mL
	Amiodarone (VF/pulseless VT) 50mg/mL	IV/IO	175 mg	3.5 mL	Midazolam (Seizure 1 st line) 5mg/mL	IM	7 mg	1.4 mL
	**Amiodarone (VT w/ pulse) 50mg/mL	IV	150 mg Over 10 min.	3 mL BHO	Midazolam (Seizure) 5mg/mL	IV/IO/IN	3.5 mg	0.7 mL
	Atropine (Bradycardia) 1mg/mL	IV/IO	0.5 mg	0.5 mL	**Midazolam (Toxic delirium) 5mg/mL	IV/IO/IN	3.5 mg	0.7 mL BHO
	Atropine (Bradycardia) 0.1mg/mL	IV/IO	0.5 mg	5 mL	**Midazolam (Cardioversion) 5mg/mL	IN/IV/IM	3.5 mg	0.7 mL BHO
	Atropine (Organophosphate) 1mg/mL	IV	0.7 mg	0.7 mL	Morphine 4mg/mL	IV carpuject	3.5 mg	0.85 mL
	Atropine (Organophosphate) 0.1mg/mL	IV	0.7 mg	7 mL	Morphine 10mg/10mL	IV carpuject	3.5 mg	3.5 mL
	Atropine (Organophosphate) 1mg/mL	IM	2 mg	2 mL	Morphine 10mg/mL	IM	3.5 mg	0.35 mL
	Dextrose 10% 100 mg/mL	IV		175 mL	Naloxone 0.8mg/2mL	IN/IV/IM	0.8 mg	2 mL
	Diphenhydramine 50mg/mL	IV/IO/IM	35 mg	0.7 mL	Naloxone 1mg/mL	IN/IV/IM	1 mg	1 mL
	Epinephrine (Anaphylaxis) 1mg/mL (1:1000)	IM	0.35 mg	0.35 mL	Naloxone 4mg/0.1mL	IN	Single spray	
	Epinephrine (Anaphylaxis) 0.1mg/mL (1:10,000)	IV/IO	0.3 mg	3 mL	Normal Saline 0.9% NaCl	IV/IO	250 mL	
	**Epinephrine (Push dose) 10mcg/mL	IV/IO	10 mcg	1 mL BHO	Normal Saline 0.9% NaCl	Neb	3 mL	
	Epinephrine (Cardiac arrest) 0.1mg/mL (1:10,000)	IV/IO	0.35 mg	3.5 mL	Ondansetron 4mg	ODT	4 mg	
	Fentanyl 50mcg/mL	IN/IV/IM	50 mcg	1 mL	Sodium Bicarbonate 1mEq/mL	IV/IO	35 mEq	35 mL
Glucagon 1mg/mL	IM	0.5 mg	0.5 mL	Toradol (Ketorolac) 15mg/mL	IV/IO/IM	9 mg	0.6 mL	
**Base Hospital Order				All milliliters rounded				

9-12 YEARS 30-36 KG	Defibrillation (2-4 J/kg) Cardioversion** (1 J/kg)			Normal Vital Signs HR: 60-100 Respirations: 15-20 SBP: >90mmHg				
	70-140 joules 30 joules							
	Medication Concentration	Route	Dose	mLs	Medication Concentration	Route	Dose	mLs
	**Adenosine (1 st dose) 3mg/mL	Rapid IV	3.5 mg	1.2 mL BHO	**Hydroxocobalamin 25mg/mL	IV	2380 mg Over 15 min	95 mL BHO
	**Adenosine (2 nd dose) 3mg/mL	Rapid IV	7 mg	2.4 mL BHO	Lidocaine 2% 100mg/5mL	IO	17 mg	0.85 mL
	Albuterol 2.5mg/3mL	Neb	5 mg	6 mL	Lidocaine 2% (Cardiac arrest) 100mg/5mL	IV/IO	35 mg	1.8 mL
	Amiodarone (VF/pulseless VT) 50mg/mL	IV/IO	175 mg	3.5 mL	Midazolam (Seizure 1 st line) 5mg/mL	IM	7 mg	1.4 mL
	**Amiodarone (VT w/ pulse) 50mg/mL	IV	150 mg Over 10 min.	3 mL BHO	Midazolam (Seizure) 5mg/mL	IV/IO/IN	3.5 mg	0.7 mL
	Atropine (Bradycardia) 1mg/mL	IV/IO	0.5 mg	0.5 mL	**Midazolam (Toxic delirium) 5mg/mL	IV/IO/IN	3.5 mg	0.7 mL BHO
	Atropine (Bradycardia) 0.1mg/mL	IV/IO	0.5 mg	5 mL	**Midazolam (Cardioversion) 5mg/mL	IN/IV/IM	3.5 mg	0.7 mL BHO
	Atropine (Organophosphate) 1mg/mL	IV	0.7 mg	0.7 mL	Morphine 4mg/mL	IV carpuject	3.5 mg	0.85 mL
	Atropine (Organophosphate) 0.1mg/mL	IV	0.7 mg	7 mL	Morphine 10mg/10mL	IV carpuject	3.5 mg	3.5 mL
	Atropine (Organophosphate) 1mg/mL	IM	2 mg	2 mL	Morphine 10mg/mL	IM	3.5 mg	0.35 mL
	Dextrose 10% 100 mg/mL	IV		175 mL	Naloxone 0.8mg/2mL	IN/IV/IM	0.8 mg	2 mL
	Diphenhydramine 50mg/mL	IV/IO/IM	35 mg	0.7 mL	Naloxone 1mg/mL	IN/IV/IM	1 mg	1 mL
	Epinephrine (Anaphylaxis) 1mg/mL (1:1000)	IM	0.35 mg	0.35 mL	Naloxone 4mg/0.1mL	IN	Single spray	
	Epinephrine (Anaphylaxis) 0.1mg/mL (1:10,000)	IV/IO	0.3 mg	3 mL	Normal Saline 0.9% NaCl	IV/IO	250 mL	
	**Epinephrine (Push dose) 10mcg/mL	IV/IO	10 mcg	1 mL BHO	Normal Saline 0.9% NaCl	Neb	3 mL	
	Epinephrine (Cardiac arrest) 0.1mg/mL (1:10,000)	IV/IO	0.35 mg	3.5 mL	Ondansetron 4mg	ODT	4 mg	
	Fentanyl 50mcg/mL	IN/IV/IM	50 mcg	1 mL	Sodium Bicarbonate 1mEq/mL	IV/IO	35 mEq	35 mL
Glucagon 1mg/mL	IM	0.5 mg	0.5 mL	Toradol (Ketorolac) 15mg/mL	IV/IO/IM	9 mg	0.6 mL	
**Base Hospital Order				All milliliters rounded				

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37-49 KG (too tall for Broselow)

13-14 YEARS

Updated 06.18.2025

Defibrillation (2-4 J/kg)				80-160 joules				Normal Vital Signs			
Cardioversion** (1 J/kg)				40 joules				HR: 60-100 Respirations: 15-20 SBP: >90mmHg			
Medication	Route	Dose	mLs	Medication	Route	Dose	mLs				
Concentration				Concentration							
**Adenosine (1 st dose)	Rapid IV	4.5 mg	1.5 mL BHO	**Hydroxocobalamin	IV	3,150 mg Over 15 min	126 mL BHO				
3mg/mL				25mg/mL							
**Adenosine (2 nd dose)	Rapid IV	9 mg	3 mL BHO	Lidocaine 2%	IO	20 mg	1 mL				
3mg/mL				100mg/5mL							
Albuterol	Neb	5 mg	6 mL	Lidocaine 2% (Cardiac arrest)	IV/IO	45 mg	2.3 mL				
2.5mg/3mL				100mg/5mL							
Amiodarone (VF/pulseless VT)	IV/IO	225 mg	4.5 mL	Midazolam (Seizure 1 st line)	IM	9 mg	1.8 mL				
50mg/mL				5mg/mL							
**Amiodarone (VT w/ pulse)	IV	150 mg Over 10 min.	3 mL BHO	Midazolam (Seizure)	IV/IO/IN	4.5 mg	0.9 mL				
50mg/mL				5mg/mL							
Atropine (Bradycardia)	IV/IO	0.5 mg	0.5 mL	**Midazolam (Toxic delirium)	IN/IV/IM	4.5 mg	0.9 mL BHO				
1mg/mL				5mg/mL							
Atropine (Bradycardia)	IV/IO	0.5 mg	5 mL	**Midazolam (Cardioversion)	IN/IV/IM	4.5 mg	0.9 mL BHO				
0.1mg/mL				5mg/mL							
Atropine (Organophosphate)	IV	0.9 mg	0.9 mL	Morphine	IV carpuject	4 mg	1 mL				
1mg/mL				4mg/mL							
Atropine (Organophosphate)	IV	0.9 mg	9 mL	Morphine	IV carpuject	4.5 mg	4.5 mL				
0.1mg/mL				10mg/10mL							
Atropine (Organophosphate)	IM	2 mg	2 mL	Morphine	IM	4.5 mg	0.45 mL				
1mg/mL				10mg/mL							
Dextrose 10%	IV		225 mL	Naloxone	IN/IV/IM	0.8 mg	2 mL				
0.1mg/mL				0.8mg/2mL							
Diphenhydramine	IV/IO/IM	45 mg	0.9 mL	Naloxone	IN/IV/IM	1 mg	1 mL				
50mg/mL				1mg/mL							
Epinephrine (Anaphylaxis)	IM	0.45 mg	0.45 mL	Naloxone	IN	Single spray					
1mg/mL (1:1000)				4mg/0.1mL							
Epinephrine (Anaphylaxis)	IV/IO	0.3 mg	3 mL	Normal Saline	IV/IO	250 mL					
0.1mg/mL (1:10,000)				0.9% NaCl							
**Epinephrine (Push dose)	IV/IO	10 mcg	1 mL BHO	Normal Saline	Neb	3 mL					
10mcg/mL				0.9% NaCl							
Epinephrine (Cardiac arrest)	IV/IO	0.45 mg	4.5 mL	Ondansetron	ODT	4 mg					
0.1mg/mL (1:10,000)				4mg							
Fentanyl	IN/IV/IM	50 mcg	1 mL	Sodium Bicarbonate	IV/IO	45 mEq	45 mL				
50mcg/mL				1mEq/mL							
Glucagon	IM	0.5 mg	0.5 mL	Toradol (Ketorolac)	IV/IO/IM	12.5 mg	0.8 mL				
1mg/mL				15mg/mL							

**Base Hospital Order

All milliliters rounded

37-49 KG (too tall for Broselow)
13-14 YEARS

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