

Medications in PALS

Drug	Classification	Indications	Dose/Administration	Possible Side effects
Adenosine	Antiarrhythmic	SVT	1st dose = 0.1 mg/kg rapid IV push to max of 6 mg 2nd dose = 0.2 mg/kg rapid IV push to max of 12 mg	Dizziness, headache, metallic taste, shortness of breath, hypotension, slow or fast heart rate, nausea, flushing, sweating
Amiodarone	Antiarrhythmic	SVT, VT with pulses, VF, VT without pulse	SVT or VT with pulse: 5mg/kg load over 20-60 minutes to 300 mg max VF or VT without pulse: 5mg/kg rapid bolus to 300 mg max	Headache, dizziness, tremors, syncope, hypotension, bradycardia, CHF, nausea, vomiting, diarrhea, rash, skin discoloration, hair loss, flushing, coagulation problems
Atropine	Anticholinergic	Symptomatic bradycardia, toxins and overdoses	Bradycardia: 0.02 mg/kg IV with 0.5 mg max dose may repeat one time By ETT: 0.04-0.06 mg/kg Toxins/overdose: 0.02-0.05 mg/kg repeated every 20-30 minutes until symptoms reverse	Headache, dizziness, confusion, anxiety, flushing, visual difficulties, pupil dilation, dry mouth, tachycardia, high or low blood pressure, nausea, vomiting, constipation, urinary retention, painful urination, rash, dry skin

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Epinephrine	Catecholamine vasopressor, Inotrope	Anaphylaxis, asthma, symptomatic bradycardia, croup, shock, cardiac arrest, toxins or overdose	<p>Anaphylaxis: 0.01 mg/kg every 15 minutes to max of 0.3 mg</p> <p>Asthma: (1:1000) 0.01 mg/kg subcutaneous every 15 minutes to max 0.3 mg</p> <p>Symptomatic bradycardia: 0.01 mg/kg IV every 3-5 minutes to max dose of 1 mg</p> <p>Croup: 0.25 ml Racemic epi solution via nebulizer</p> <p>Cardiac arrest: 0.01 mg/kg (1:10000) IV or 0.1 mg/kg (1:1000) per ET tube every 3-5 minutes</p> <p>Shock: 0.1-1 mcg/kg/minute IV infusion</p> <p>Toxins/ODs: 0.01 mg/kg (1:10000) IV to max dose of 1 mg</p>	Tremors, anxiety, headaches, dizziness, confusion, hallucinations, dyspnea, SVT, VT, palpitations, hypertension, nausea, vomiting, hyperglycemia, hypokalemia, vasoconstriction
Oxygen	Elemental gas	Hypoxia, respiratory distress or failure, shock, trauma, cardiac arrest	In resuscitation, administer at 100% via high flow system and titrate to response to maintain oxygen saturation >94%	Headache, dry nose/ mouth, airway obstruction if secretions become dry

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Albumin	Plasma volume expander	Shock, trauma, burns	0.5-1 g/kg by rapid infusion	Fluid overload, increased respiratory rate, flushing, rash, hypocalcemia
Albuterol	Bronchodilator	Asthma, bronchospasm, hyperkalemia	2.5 mg if weight <20 kg 5 mg if weight >20 kg	Tremors, anxiety, headaches, bad taste, dry nose/throat, dyspnea, wheezing, tachycardia, hypotension, nausea, vomiting, flushing
Alprostadil	Prostaglandin vasodilator	Maintain patency of ductus arteriosus in congenital heart disease	Initial: 0.05-0.1 mcg/kg/minute Maintenance: 0.01-0.05 mcg/kg/minute	Apnea, bradycardia, vasodilation, hypotension, cardiac arrest, diarrhea, renal failure, flushing, fever, hypoglycemia, DIC, hypocalcemia, seizures
Calcium chloride/gluconate	Electrolyte	Hypocalcemia, hyperkalemia; consider for calcium channel blocker overdose	In cardiac arrest: 20 mg/kg IV bolus into central line In non-arrest: infuse over 30-60 minutes	Hypotension, cardiac arrhythmias, cardiac arrest, burn or sclerosis of peripheral veins, hypercalcemia

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Dexamethasone	Corticosteroid	Croup, asthma	0.6 mg/kg for one dose (max dose 16 mg)	Headache, insomnia, seizures, psychosis, visual difficulties, hypertension, edema, tachycardia, osteoporosis, diarrhea, nausea, GI bleeding, flushing, sweating, poor wound healing, hyperglycemia, sodium and fluid retention, hemorrhage, hypokalemia
Dextrose	Carbohydrate	Hypoglycemia	0.5-1 g/kg	Sclerosis of veins, hyperglycemia
Diphenhydramine	Antihistamine	Anaphylaxis after epinephrine	1-2 mg/kg every 4 to 6 hours to a max dose of 50 mg	Dizziness, drowsiness, CNS symptoms, blurred vision, pupil dilation, dry nose/mouth/throat, hypotension, tachycardia, nausea, vomiting, urinary retention or frequency, photosensitivity
Dobutamine	Beta-adrenergic	Ventricular dysfunction	2-20 mcg/kg/minute infusion	Headache, dizziness, hypotension, palpitations, angina, nausea, vomiting, thrombocytopenia

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Dopamine	Catecholamine vasopressor, inotrope	Ventricular dysfunction, cardiogenic or distributive shock	2-20 mcg/kg/minute infusion titrated to response	Headache, dyspnea, palpitations, PVCs, SVT, VT, nausea, vomiting, acute renal failure
Etomidate	Short acting sedative with no analgesic properties	Sedation for intubation or for patients with hypotension or multiple trauma	0.2-0.4 mg/kg IV over 30 to 60 seconds with max dose of 20 mg	Fast or slow respiratory rate, high or low blood pressure, tachycardia nausea, vomiting, cough
Furosemide	Loop diuretic	Pulmonary edema, fluid overload	1 mg/kg IV or IM to max dose of 20 mg	Headache, weakness, vertigo, hearing and vision problems, dry mouth, ECG changes, nausea, vomiting, diarrhea, abdominal cramping, polyuria, glycosuria, muscle cramps, sweating, hives, hyperglycemia, anemia, hypokalemia, hyponatremia, metabolic alkalosis
Hydrocortisone	Corticosteroid	Adrenal insufficiency associated with septic shock	2 mg/kg IV bolus to max dose of 100 mg	Psychological signs, infections, blurred vision, hypertension, diarrhea, nausea, vomiting, osteoporosis, flushing, sweating, slow wound healing, hyperglycemia

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Inamrinone	Inotrope	Myocardial dysfunction, cardiogenic shock, CHF	Loading dose 0.75-1 mg/kg bolus over 5-10 minutes may repeat twice to max dose of 3mg/kg Infusion at 5-10 mcg/kg/minute	Hypoxemia, hypotension, angina, arrhythmias nausea, vomiting, abdominal pain, jaundice, allergic reactions, thrombocytopenia
Ipratropium	Anticholinergic bronchodilator	Asthma	250-500 mcg every 20 minutes via nebulizer for 3 doses	Anxiety, dizziness, headache, dry mouth, blurred vision, cough, bronchospasm, palpitations, nausea, vomiting, rash
Lidocaine	Antiarrhythmic	VF, pulseless VT, wide complex tachycardia, RSI	Tachyarrhythmias and VF: 1 mg/kg IV bolus followed by infusion of 20-50 mcg/kg/minute RSI: 1-2 mg/kg IV	CNS symptoms, tinnitus, blurred vision, hypotension, heart block, bradycardia, cardiac arrest, dyspnea, respiratory depression, nausea, vomiting, rash
Magnesium sulfate	Electrolyte, bronchodilator	Asthma; torsades de pointes; hypomagnesemia	Asthma: 25-50 mg/kg over 15-30 minutes IV Pulseless torsades: 25-50 mg/kg bolus VT with pulses and torsades: 25-50 mg/kg over 10-20 minutes	Confusion, sedation, weakness, respiratory depression, hypotension, heart block, bradycardia, cardiac arrest, nausea, vomiting, muscle cramps, flushing, sweating

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Methylprednisolone	Corticosteroid	Asthma, anaphylactic shock	2 mg/kg to max of 60 mg IV as loading dose; 0.5 mg/kg every 6 hours as maintenance dose	Depression, headache, weakness, hypertension, diarrhea, nausea, pancreatitis, ulcer, osteoporosis, hyperglycemia
Milrinone	Inotrope, vasodilator	Cardiogenic shock or post-surgery CHF	50 mcg/kg IV over 10-60 minutes as loading dose 0.25-0.75 mcg/kg/minute IV infusion as maintenance dose	Headache, tremor, hypotension, ventricular arrhythmias, angina, nausea, vomiting, jaundice, hypokalemia
Naloxone	Opioid antagonist	Narcotic reversal	For total reversal: 0.1 mg/kg IV bolus every 2 minutes to max dose of 2 mg Total reversal not needed: 1-5 mcg/kg IV (titrate to response required)	Seizures, drowsiness, rapid respiratory rate, pulmonary edema, VF, VT, tachycardia, asystole, hypertension nausea, vomiting

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Nitroglycerine	Vasodilator, antihypertensive	CHF, cardiogenic shock	Begin infusion at 0.25-0.5 mcg/kg/minute and titrate every 15-20 minutes to max dose of 10 mcg/kg/minute	Headache, dizziness, hypoxemia, hypotension, cardiac arrest, tachycardia, flushing, pallor
Nitroprusside	Vasodilator antihypertensive	Cardiogenic shock Hypertension	0.3-1 mcg/kg/minute for initial dose then titrate to max 8 mcg/kg/minute	Seizures, dizziness, headache, agitation, hypotension, slow or fast heart rate, nausea, vomiting
Norepinephrine	Inotrope vasopressor	Hypotensive shock	0.1-2 mcg/kg/minute titrated to desired BP	Headache respiratory distress hypertension arrhythmias renal failure

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Procainamide	Antiarrhythmic	SVT, atrial flutter, VT with pulse	15 mg/kg as loading dose over 30-60 minutes	Headache, dizziness, confusion, weakness, hypotension, prolonged QT interval, heart blocks and cardiac arrest, nausea, vomiting, diarrhea, rash, edema, anemia, neutropenia
Sodium bicarbonate	Electrolyte to produce alkalinity	Severe metabolic acidosis, hyperkalemia, tricyclic overdose	1 mEq/kg slow IV bolus to max of 50 mEq For overdose 1-2 mEq/kg bolus repeating until pH >7.45 follow with infusion of sodium bicarb solution to maintain alkalosis	CNS symptoms, arrhythmia, hypotension, cardiac arrest, renal calculi, cyanosis, edema, metabolic alkalosis and other derangements, water retention
Terbutaline	Bronchodilator, beta adrenergic agonist	Asthma, hyperkalemia	0.1-10 mcg/kg/ minute IV Infusion 10 mcg/kg SQ every 10-15 minutes until IV is established	CNS symptoms, palpitations, tachycardia, nausea, vomiting, arrhythmias, hypotension
Vasopressin	Antidiuretic hormone analogue	Cardiac arrest, septic shock	0.4-1 unit/kg bolus to max of 40 units	Fever, vertigo, dysrhythmias, hypertension, nausea, vomiting, abdominal cramps, urticaria