

DRUG NAME	ADULT DOSE / ROUTE	PEDIATRIC DOSE / ROUTE	ACTION	INDICATIONS	CONTRA-INDICATIONS	ADVERSE REACTIONS
<b>Adenocard™</b> (Adenosine)  Classification: Antiarrhythmic	Initial dose 6 mg rapid IV (over 1-2 seconds) followed immediately by a 10mL rapid saline flush.  If the first dose does not eliminate the rhythm in 1-2 minutes, give 12 mg rapid IV followed by 10mL rapid saline flush.  Antecubital vein is preferred site	Initial dose 0.1 mg/kg rapid IV or IO (over 1-2 seconds) followed immediately by rapid saline flush of 2- 5mL.  May double ADENOSINE dose 0.2mg/kg and repeat once if needed.  <b>Max dose 0.3mg/kg with maximum single dose of 12mg.</b>	Slows the conduction of electrical impulses at the AV node	Stable reentry SVT, including that associated with accessory bypass tracts (Wolff-Parkinson-White Syndrome), unresponsive to vagal maneuvers.  Does not convert atrial fibrillation, atrial flutter or ventricular tachycardia.	Sick sinus syndrome, 2 <sup>nd</sup> or 3 <sup>rd</sup> degree A-V block, or poison- or drug-induced tachycardia.	Common reactions are generally mild and short-lived: sense of impending doom, flushing, chest pressure, throat tightness, numbness. Patients will have a brief episode of one or more transient dysrhythmias, which may include asystole, following administration.
<b>Albuterol</b> (Ventolin™)  Classification: Bronchodilator, beta agonist	2.5 mg of 0.83% solution (3 mL) via nebulizer (6 LPM oxygen supply) until mist stops (usually 5 – 15 min). May repeat x1.		Binds and stimulates Beta <sub>2</sub> receptors, resulting in bronchial smooth muscle relaxation and bronchodilation.	Asthma, bronchitis with bronchospasm, COPD with wheezing, allergic reaction / anaphylaxis with wheezing.	Angioedema, hypersensitivity to albuterol or levalbuterol, Use with caution in lactating patients, cardiovascular disease history.	Hyperglycemia, hypokalemia, palpitations, tachydysrhythmias, anxiety, tremors, nausea/vomiting, throat irritation, dry mouth, HTN, insomnia, headache, paradoxical bronchospasm.
<b>Aspirin</b> Classification: Antiplatelet Agent	324 mg (4 x 81 mg chewable tablets) chewed and swallowed.	<b>NOT FOR PEDIATRIC USE</b>	Given as an early potent anticoagulant. Blocks formation of thromboxane A <sub>2</sub> , which causes platelets to aggregate (clump together) and form plugs that cause obstruction or constriction of small coronary arteries. Reduces overall mortality of acute MI and reduces nonfatal re-infarction.	Suspected acute coronary syndrome or chest pain suspicious of cardiac origin.	GI bleeding / active ulcers, hemorrhagic stroke, history of bleeding or clotting disorders, known hypersensitivity. Use with caution if hx. of asthma.  Contact Medical Control prior to admin. of NITRATES if pt. is taking erectile dysfunction meds. (i.e. Viagra, Levitra, Cialis).  Pregnancy risk Class C (use with caution), except for third trimester Class D risk (contraindicated unless Medical Control orders).	Anaphylaxis, angioedema, bronchospasm, bleeding, stomach irritation, nausea & vomiting, bleeding, tinnitus.

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<b>Atropine (Atropine Sulfate)</b>  Classification: Anticholinergic  <b>NOTE: Nerve Gas dosages not included in drug appendix</b>	Bradycardia 0.5 mg rapid IV q 3-5 min. Up to a total dose of 0.04mg/kg.3 mg total	Bradycardia 0.02 mg/kg rapid IV/IO  Minimum dose: 0.1 mg  -Maximum single dose: child 0.5 mg ≤ 8 yrs,  adolescent 1 mg > 8yrs  May be repeated once in 5 minutes.	Competes with acetylcholine at the site of the muscarinic receptor. Receptors affected include salivary, bronchial, sweat glands, eyes, heart and GI tract (most to least sensitive). Increases SA & AV node conduction.	Symptomatic Bradycardia  Nerve agent exposure, organophosphate poisoning.	Acute myocardial infarction, myasthenia gravis, GI obstruction, closed-angle glaucoma, known sensitivity to atropine / belladonna alkaloids or sulfites.  Will not be effective for infranodal heart blocks (Type II or 3 <sup>rd</sup> degree).	Decreased secretions / dry mouth, intense facial flushing and hot skin temperature, blurred vision or pupil dilation and photophobia, tachycardia, restlessness. May cause paradoxical bradycardia if dose administered is too low or given too slowly.
	----- Haz-Mat Pesticide/Nerve Agent -----					
	2 mg rapid IV/IO q 5 minutes until secretions are signif. diminished	0.02 mg/kg rapid IV/IO. q 5 minutes until secretions are significantly diminished.				
<b>Benadryl™ (Diphenhydramine)</b>  Classification: Antihistamine	50 mg IM or slow IV over 2-3 minutes	Contact Medical Control prior to admin. for prolonged transport  1 mg/kg IM or slow IV/IO Max dose 50 mg.	Binds and blocks H <sub>1</sub> histamine receptors.	Allergic reactions and anaphylaxis	Acute asthma (thickens bronchial secretions). Caution in presence of CNS depressants like alcohol and drugs, cardiac history, known sensitivity.	Drowsiness / sedation, dizziness, headache, excitable state (paradoxical reaction in some children), wheezing / thickening of bronchial secretions, chest tightness, palpitations, hypotension, blurred vision, dry mouth, nausea / vomiting, diarrhea.
<b>Dextrose</b>  Classification: Antihypoglycemic	25 gm / 50 mL of 50% solution IVP	<u>≥ 8 years</u> 2 mL/kg of 50% solution  <u>1 – 8 years</u> 2 mL/kg of 25% solution <u>Infants under 2months</u>  4 mL/kg of 12.5% solution	Increase blood glucose concentrations.	Hypoglycemia.	Intracranial and intraspinal hemorrhage, hypovolemia, hypotension 2° tachydysrhythmias, delerium tremens.	Hyperglycemia, warmth / burning from IV injection, diuresis, thrombophlebitis, tissue necrosis if IV infiltration.

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<b>Dopamine</b> (Intropin™)  Classification: Adrenergic agonist, Inotrope	IV/IO piggyback infusion of 5mcgm/kg/min  1600 mcgm/mL concentration premix infusion (400 mg / 250 mL)	<b>NOT FOR PEDIATRIC            USE</b>	Stimulates dopaminergic, $\beta_1$ and $\alpha$ receptors in a dose- related fashion. Used in $\beta_1$ range for positive chronotropic and inotropic effect, to raise BP.	Symptomatic hypotension in the absence of hypovolemia, 2° to cardiogenic / neurogenic / septic shock, bradycardia refractory to atropine.	Pheochromocytoma, hypotension due to hypovolemia or tachydysrhythmia, known sensitivity including sulfites.	Tachydysrhythmia, palpitations, ventricular irritability, nausea & vomiting, HTN, headache, angina, tissue necrosis if IV infiltration.					
<b>Etomidate</b> (Amidate™)  Classification: Hypnotic	<u>Head Injured Intubation</u> 0.6 mg/kg IV over 30 seconds. No repeat dose.  Medical Intubation 0.3 mg/kg IV/IO over 30 seconds.  May repeat 0.3 mg/kg IV after 60 seconds_	<b>NOT FOR PEDIATRIC            USE</b>	Non-barbiturate hypnotic without analgesic properties. Has minimal effects on cardiac or respiratory systems. Onset 10-20 sec, duration 3-5 min.	Sedation for endotracheal intubation.	Hypersensitivity. Use in pregnancy only if potential benefits justify the potential risk to fetus.	Hypotension, respiratory depression, injection site pain, temporary involuntary muscle movements, frequent nausea & vomiting, hyper- or hypo- ventilation, short duration apnea, hiccups, laryngospasm, snoring, tachypnea, HTN, dysrhythmias.					
<b>Epinephrine</b>  Classification: Adrenergic agonist, Inotrope	<p style="text-align: center;"><u>Cardiac Arrest</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;">           1 mg (10 mL) of 1:10,000            solution IV/IO             Repeat q 3 min as long as            pt pulseless         </td> <td style="width: 50%; vertical-align: top;">           0.01 mg/kg (0.1 mL/kg) of            1:10,000 solution IV/IO            (also for  <u>bradycardias</u>),             Repeat q 3-5 min as long as            pt pulseless         </td> </tr> </table> <p style="text-align: center;"><u>Asthma (Adult) / Allergic Reaction (Ad-Ped)</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <u>Asthma:</u>            1:1000 at 0.01mg/kg            Up to 0.3mg IM            (may repeat in 15min)             Allergic reaction: 1:1000            at 0.3-0.5mg IM         </td> <td style="width: 50%; vertical-align: top;"> <u>Mild Resp. Distress:</u>            1:1000 (1mg/1mL)            0.01mg/kg IM            Do not exceed 0.3mg            (or 0.3ml)         </td> </tr> </table> <p style="text-align: center;"><u>Anaphylaxis</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;">           0.5 mg (5 mL) of 1:10,000            solution IV/IO            OR            1 mg (10 mL) 1:10,000 ET            OR            0.5 mg (0.5 mL) 1:1000            injected SL or IM. May         </td> <td style="width: 50%; vertical-align: top;"> <u>Severe Cardio/Resp.            Compromise:</u>            1:1000 at 0.01 mg/kg IM or            if IV established            1:10,000 solution IV per            length based Peds tape         </td> </tr> </table>	1 mg (10 mL) of 1:10,000 solution IV/IO  Repeat q 3 min as long as pt pulseless	0.01 mg/kg (0.1 mL/kg) of 1:10,000 solution IV/IO (also for <u>bradycardias</u> ),  Repeat q 3-5 min as long as pt pulseless	<u>Asthma:</u> 1:1000 at 0.01mg/kg Up to 0.3mg IM (may repeat in 15min)  Allergic reaction: 1:1000 at 0.3-0.5mg IM	<u>Mild Resp. Distress:</u> 1:1000 (1mg/1mL) 0.01mg/kg IM Do not exceed 0.3mg (or 0.3ml)	0.5 mg (5 mL) of 1:10,000 solution IV/IO OR 1 mg (10 mL) 1:10,000 ET OR 0.5 mg (0.5 mL) 1:1000 injected SL or IM. May	<u>Severe Cardio/Resp.            Compromise:</u> 1:1000 at 0.01 mg/kg IM or if IV established 1:10,000 solution IV per length based Peds tape	<p style="text-align: center;"><u>Cardiac Arrest</u></p> Stimulates both $\alpha$ and $\beta$ receptors; produces increased blood pressure, increased heart rate, bronchodilation.	<p style="text-align: center;"><u>Cardiac Arrest</u></p> Allergic Reaction / Anaphylaxis / Acute Asthma / COPD with wheezing /Croup / Epiglottitis	None in cardiac arrest or anaphylaxis. Use with caution if not in arrest and pt has hx of HTN, angina, CAD or hyperthyroidism.	Palpitations, tachycardia, HTN, angina, anxiety, tremors, headache
1 mg (10 mL) of 1:10,000 solution IV/IO  Repeat q 3 min as long as pt pulseless	0.01 mg/kg (0.1 mL/kg) of 1:10,000 solution IV/IO (also for <u>bradycardias</u> ),  Repeat q 3-5 min as long as pt pulseless										
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<b>Glucagon</b> (GlucaGen™)  Classification: Hormone Antihypoglycemic agent	<u>Diabetic / Glucose Emergencies</u>  1 mg IM/IN	IM 0.02-0.03mg/kg  Dose maximum 1mg	Causes a breakdown of stored glycogen into glucose.    Independent of β blockade, positive inotropic and chronotropic and improved AV conduction	Hypoglycemic patient without venous access.    β or calcium channel blocker OD with symptomatic bradycardias including AV blocks (dosage required usually exceeds that carried in field)	Hypersensitivity to glucagons or proteins	Nausea / vomiting, dizziness, headache
<b>Lasix™</b> (furosemide)    Classification: Loop diuretic	20-40 mg IV	<b>NOT FOR PEDIATRIC USE</b>	Inhibits the absorption of sodium and chloride ions and water in the kidney, resulting in decreased absorption of water and increased production of urine.	Pulmonary edema, congestive heart failure	Known sensitivity to sulfonamides or furosemide, hypovolemia, electrolyte depletion, pregnancy, hypotension	Vertigo, dizziness, weakness, orthostatic hypotension, hypokalemia, thrombophlebitis. Patients with anuria, severe renal failure, untreated hepatic coma, increasing azotemia and electrolyte depletion can develop life-threatening consequences.
<b>Lidocaine</b> (Xylocaine™)  Classification: Antiarrhythmic Class 1b	<u>IV-Fib/Pulseless VTach</u>  1.5mg/kg IV/IO, First dose  May repeat 0.75mg/kg IV/IO  Maximum 3mg/kg	<b>NOT FOR PEDIATRIC USE</b>	Exerts antidysrhythmic action by suppressing automaticity in the His-Purkinje system and by elevating electrical stimulation threshold for ventricular dysrhythmias. Used to lower the threshold for electrical conversion.	Pre- and post-defibrillation in ventricular fibrillation and unstable ventricular tachycardia, persistent stable ventricular tachycardia	AV blocks, bleeding, thrombocytopenia, known sensitivity to lidocaine, sulfite or paraben.  Use with caution if hx of liver or renal disease, CHF, hypoxia, elderly.	Toxicity (signs may include anxiety, apprehension, euphoria, nervousness, disorientation, dizziness, blurred vision, other CNS changes), seizures without warning, hypotension, pain at injection site.
<b>Morphine Sulfate</b>  Classification: Opiate agonist, schedule C-II	<u>Severe Chest Pain/Pulmonary Edema (Dialysis Pt):</u> 2-10mg IV in 1-2mg increments q 5 minutes  <u>Pulmonary Edema due to Heart Failure:</u> 2mg IV q 5 minutes up to 10mg. Avulsion/Amputation 5-10 mg  <u>Crush Injury</u> 2 mg Increments  <u>Burns/Cold:</u> 5-10mg slow IV in 5mg increments q 5 minutes	<u>Thermal, Electrical, Chemical Burns, Consider:</u>  IV per length based Peds tape  <u>Cold Emergencies:</u> <u>'At discretion of Physician or ECRN':</u>  0.1mg/kg IV/IM	Binds with opioid receptors to produce narcotic analgesia. CNS depressant, causes peripheral vasodilation.	Moderate to severe pain, cardiac ischemic chest pain.	Respiratory depression, shock / hypotension, known sensitivity. Use with caution in acute bronchial asthma, respiratory insufficiency, head trauma.	Respiratory depression, hypotension, nausea & vomiting, dizziness, lightheadedness, sedation, euphoria, dysphoria, worsening of bradycardia & heart block in some patients with inferior wall MI, seizures, anaphylactic reaction.

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<b>Narcan™</b> (naloxone)  Classification: Opioid antagonist	2 mg IV/IM/IN, may repeat q 5 min, Up to 6 mg	Narcan 0.1 mg/kg IV/IO/IM/IN	Binds the opioid receptor and blocks the effects of narcotics.	Narcotic overdoses, reversal of administered narcotics.	None	Withdrawal symptoms, tachycardia & HTN, seizures. Consider restraint use
<b>NTG</b> (nitroglycerine, NitroStat™)  Classification: Antianginal agent	gr 1/150 tab SL OR 0.4mg SL spray  May repeat x 2 in 5 minutes. If no IV consider hospital contact prior to administration	Contact Medical Control	Smooth muscle relaxant resulting in peripheral vasodilation	Ischemic chest pain (angina, AMI), pulmonary edema	↑ ICP, hypotension, hypovolemia. Caution if hx of glaucoma.  Oral medications for erectile dysfunction (Viagra®, Levitra®, Cialis®, etc.) or pulmonary hypertension (Revatio™), may potentiate the effect of nitrates.	H/A, ↓B/P, nausea / vomiting, flushing, orthostatic, hypotension/syncope
<b>Nitrous Oxide</b> (Nitronox™)  Classification: Inhaled Anesthetic	Provides 50% O <sub>2</sub> & 50% Nitrous oxide, self administered by demand valve mask	Same as adult	CNS depressant, alters perception of pain. Rapid onset and short duration of effect.	Musculoskeletal injuries with mild - moderate pain (≤ 4/10)	Altered mental status, hx of pulmonary disease, chest injury, alcohol or drug intoxication, face injuries, pregnant females.	Numbness, light-headedness, drowsiness/sedation, numbness/tingling in face, slurred speech, headache, nausea / vomiting
<b>Oral Glucose</b> (Glucose 15™) (Sugar solution)  Classification: Oral anti-hypoglycemic	One tube (up to 15 gm of delivered glucose)	Same as adult	Carbohydrate, increases serum glucose level (onset approx 10 min)	Hypoglycemia in patients with normal mental status and intact gag reflex.	Altered mental status, no gag reflex	Nausea, potential for aspiration in patients with impaired airway reflexes
<b>Sodium Bicarbonate 8.4%</b>  Classification: Electrolyte replacement	1 mEq/kg of an 8.4% solution IV/IO  <b>In cyclic overdoses,</b> consider additional dose for hypotension, altered mental status, dysrhythmias	<b>BICARB 8.4%*</b> IV/IO 1meq/kg OR 1ml/kg  <b>For infants under 3 months:</b>  <b>BICARB 4.2%*</b> IV/IO 1meq/kg OR 2ml/kg	Bicarbonate ion buffers acidosis and raises serum pH.  Slows uptake of cyclic antidepressants.	Cyclic antidepressant overdose.  To buffer acidosis in chronic renal failure/dialysis patients who are unstable or in cardiac arrest.	None when used as indicated	Minimal when used as indicated

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<b>Solu-Medrol</b> (methylprednisolone sodium succinate)	125mg in 2ml solution IV/IO given over 2-3 minutes followed by a 25-30 ml flush of 0.9% NS	2mg/kg up to the adult dose of 125mg. IV/IO given over 2-3 minutes followed by a 25-30 ml flush of 0.9% NS	Reduces inflammation	Anaphylaxis Asthma COPD	Cushings Syndrome Fungal Infection  Measles Varicella (Chickenpox) Known sensitivity (including sulfites) Use with caution in active infections, renal disease, penetrating spinal cord injury, hypertension, seizures, and CHF	Depression, Headache, HTN, NV/D, Fluid retention, Euphoria, Restlessness,  Bradycardia, Swelling,, Weakness, Parasthesia
<b>Tetracaine</b>  Classification: Local anesthetic	1 drop of 0.5%  solution in affected eye(s)	Same as adult	Topical anesthetic for the eye	Non-penetrating eye trauma with pain	Hypersensitivity to Tetracaine or ester-type anesthetics, inflamed or infected tissue, ruptured globe or penetrating injury	Transient stinging for 30 sec. after instillation  <b>Epithelial damage if excessive or prolonged use.</b>
<b>Versed™</b> (midazolam)  Classification: Benzodiazepine CNS depressant	<u>Drug Assisted Intubation</u> 2.5mg slow IVP until sedation is achieved up to maximum 10 mg  <u>All sedation and seizures:</u> 2.5mg slow IVP  In seizures, if no IV: 2.5 mg IM, (may repeat X 1 in 5 minutes)  In some SOPs, may give IM if unable to start IV: <b>&lt; 70 kg = 5 mg IM</b> <b>≥ 70 kg = 10 mg IM</b>  <u>Induction of Hypothermia for ROSC</u> 0.15mg slow IVP up to	<u>Drug Assisted Intubation:</u> 0.05mg/kg IV/IO increments up to 0.2 mg/kg maximum  <u>Conscious Sedation:</u> 0.05mg/kg IV/IO  <u>Seizures:</u> 0.1mg/kg IV/IO or 0.15mg/kg up to 2.5mg IM (may repeat x1)	Short acting benzodiazepine with CNS depressant, muscle relaxant, amnesic and anticonvulsant effects.	To induce sedation and amnesia prior to procedures. Anticonvulsant for seizure patients. Skeletal muscle relaxant for long bone fractures with muscle spasm. Sedative for combative or agitated psychiatric or head injured pts.	Hypersensitivity, narrow-angle glaucoma,. Caution in COPD, renal failure, CHF, elderly, pregnancy, concomitant alcohol or CNS depressant medication use	Amnesia, respiratory depression, agitation, tremors, dizziness, hypotension
<b>Xopenex™</b> (levalbuterol)	1.25 mg (3 mL) in 3 cc via nebulizer supplied with 6L O <sub>2</sub> until mist stops (5-15 min. May repeat x1.	Same as adult	Relaxes smooth muscle of the airways by acting on beta <sub>2</sub> receptors. Also inhibits release of mediators from mast cells in the airway	Treatment or prevention of bronchospasm in patients with reversible obstructive airway disease.	Hypersensitivity of levalbuterol HCL or racemic albuterol.	Nervousness and tremors.
<b>Zofran®</b> (ondansetron) Classification: Antiemetic	4 mg ODT (oral disintegrating tablet) Single dose only	Age ≥ 1, 4 mg ODT (oral disintegrating tablet) Single dose only	Selective serotonin 5-HT <sub>3</sub> receptor antagonist	Nausea	Hypersensitivity	Diarrhea, headache, lightheadedness.