

# Medication Index



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Medication	Adult Dosage	Pediatric Dosage
<p><b><u>Adenosine</u></b> Advanced Paramedic</p> <p>* Decreases conduction of the electrical impulse through the AV node and interrupts AV reentry pathways in PSVT.</p> <p><b>Indication:</b></p> <ul style="list-style-type: none"> <li>• PSVT</li> </ul> <p><b>Contraindication:</b></p> <ul style="list-style-type: none"> <li>• 2<sup>nd</sup> or 3<sup>rd</sup> degree heart blocks</li> <li>• Sick Sinus Syndrome</li> </ul> <p><b>Side Effects:</b></p> <ul style="list-style-type: none"> <li>• Facial flushing, headache, shortness of breath, dizziness, feeling of impending doom.</li> </ul> <p><b>Supply:</b> 3 mg/ml Inj 2ml (3)</p>	<ul style="list-style-type: none"> <li>• 6mg fast IVP</li> <li>• Repeat dose 12 mg once.</li> </ul>	<ul style="list-style-type: none"> <li>• 1<sup>st</sup> dose- 0.1 mg/kg- Max dose of 6 mg.</li> <li>• Repeat dose is 0.2 mg/kg, Max dose of 12 mg.</li> </ul>
<p><b><u>Albuterol Sulfate</u></b> <b><u>(Proventil, Ventolin)</u></b> Advanced Paramedic</p> <p>* Bronchodilation</p> <p><b>Indication:</b> Agitated Chaotic Event</p> <p><b>Contraindication:</b> Hypersensitivity</p> <p><b>Side Effects:</b> Tremors, nausea, tachycardia, palpitations, nervousness, arrhythmias</p> <p><b>Dosage:</b> If a widened QRS or peaked T waves are noted, consider hyperkalemia may be present and then administer Albuterol:</p> <ul style="list-style-type: none"> <li>• 2.5 mg 0.083% solution via nebulizer and repeat immediately if time allows.</li> </ul> <p><b>Supply:</b> 2.5 mg of 0.083% solution (2)</p>	<ul style="list-style-type: none"> <li>• 2.5 mg in 3 mL NS</li> <li>• Set oxygen at 6-10 LPM (until nebulizer mists).</li> <li>• May be repeated immediately if time allows.</li> </ul>	<ul style="list-style-type: none"> <li>• 2.5 mg in 3 mL NS</li> <li>• &lt; 4 years old: face mask preferred but may use nebulizer held under the face.</li> <li>• ≥ 4 years old: Nebulizer with mouth piece or face mask.</li> </ul>


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Medication	Adult Dosage	Pediatric Dosage
<p><b><u>Amiodarone</u></b> Advanced Paramedic</p> <p>* Acts directly on the myocardium to delay repolarization and increase the duration of the action potential.</p> <p><b>Indication:</b> Cardiac Arrest- Ventricular Fibrillation/Pulseless V-Tach</p> <p><b>Contraindication:</b> Hypersensitivity, cardiogenic shock, severe bradycardias, sinus node dysfunction, heart blocks.</p> <p><b>Side Effects:</b> Bradycardia, hypotension, congestive heart failure, nausea, and vomiting.</p> <p><b>Dosage:</b> 300mg IV/IO bolus. Repeat dose at 150mg IV/IO bolus.</p> <p><b>Supply:</b> 150 mg/3 cc vial (3)</p>	<ul style="list-style-type: none"> <li>• Replace administration of Lidocaine during Cardiac Arrest- Ventricular Fibrillation/Pulseless V-Tach.               <ul style="list-style-type: none"> <li>➢ 300 mg IV/IO bolus for ventricular fibrillation/ pulseless V-tach.</li> <li>➢ May repeat 150 mg IV/IO bolus.</li> </ul> </li> </ul>	
<p><b><u>Diltiazem (Cardizem)</u></b> Advanced Paramedic</p> <p>* Diltiazem is a potent vasodilator, increasing blood flow and variably decreasing the heart rate via strong depression of AV node conduction.</p> <p><b>Indication:</b> Reentrant supraventricular tachydysrhythmias, atrial fibrillation of atrial flutter with a rapid ventricular response.</p> <p><b>Contraindication:</b> In patients with sick sinus syndrome or AV heart block in the absence of a functioning artificial pacemaker. In any wide QRS tachycardia resulting from a poisoning or drug overdose, Wolf Parkinson White (WPW) syndrome associated with either atrial flutter or atrial fibrillation, or ventricular tachycardia.</p> <p><b>Side Effects:</b> Tachycardia, hypertension, arrhythmias, chest pain, nausea, vomiting.</p> <p><b>Dosage:</b> if patient is &gt; 70 kg, administer 20 mg. If &lt; than 70 kg, administer 10 mg. (Max dose is 20 mg).</p> <p><b>Supply:</b> 5mg1ml (10 ml vial)</p>	<ul style="list-style-type: none"> <li>• If patient is &gt; 70 kg, administer 20 mg.</li> <li>• If &lt; than 70 kg, administer 10 mg. (Max dose is 20 mg).</li> </ul>	



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<p><b><u>Dopamine HCL, (Intropin)</u></b> Advanced Paramedic</p> <p>* Increases cardiac contractility, causes peripheral vasoconstriction, increases chronotropic and inotropic effects.</p> <p><b>Indications:</b> Hypotension</p> <p><b>Contraindications:</b> Hypovolemic shock (volume replacement MUST be accomplished prior to using Dopamine).</p> <p><b>Side Effects:</b> Tachycardia, hypertension, arrhythmias, chest pain, nausea, vomiting.</p> <p><b>Supply:</b> Vial contains 200 mg (5ml)</p>	<ul style="list-style-type: none"> <li><b>Infusion:</b> Begin at 5 mcg/kg/min IV/IO. Administer Dopamine to support BP as required to maintain MAP of 90-100</li> </ul>	
<p><b><u>Etomidate</u></b> Advanced Paramedic</p> <p>* Suppresses corticosteroid synthesis in the adrenal cortex by reversibly inhibiting 11-beta-hydroxylase, an enzyme important in adrenal steroid production; it leads to primary adrenal suppression.</p> <p><b>Indications:</b> Use of sedation in Drug Assisted Intubation.</p> <p><b>Contraindications:</b> In patients</p> <p><b>Side Effects:</b> Tachycardia, hypertension, arrhythmias, chest pain, nausea, vomiting.</p> <p><b>Supply:</b> 2 mg/ml Inj; 20 ml vial.</p>	<ul style="list-style-type: none"> <li>0.3 mg/kg IV/IO. Apply cricoid pressure following Etomidate administration.</li> </ul>	



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Medication	Adult Dosage	Pediatric Dosage
<p><b><u>Fentanyl, (Sublimaze)</u></b> Advanced Paramedic * Acts on the opiate receptors in the brain to block the sensation of pain.</p> <p><b>Indications:</b> Medication following intubation.</p> <p><b>Contraindications:</b> Head trauma, multiple trauma, decreased LOC, systolic BP &lt; 110 (children: systolic BP &lt; 80) , hypersensitivity</p> <p><b>Side Effects:</b> Respiratory depression, sedation, vomiting, bradycardia, decreased LOC, rigid chest syndrome with rapid push.</p> <p><b>Supply:</b> 5 ml vial contains 50 mcg/ml (4 vials in the DAI bags – 200 mcg total).</p>	<ul style="list-style-type: none"> <li>• 100 mcg IV/IO. Administered following intubation. Must be given with Midazolam and may be repeated once.</li> </ul>	<ul style="list-style-type: none"> <li>• 1 mcg/kg IV/IO. Max single dose is 50 mcg.</li> </ul>
<p><b><u>Haloperidol (Haldol)</u></b> Advanced Paramedic * Inhibits central nervous system (CNS) catecholamine receptors. Acts on CNS to depress subcortical areas, mid-brain and ascending reticular activating system in the brain.</p> <p><b>Indications:</b> Adult behavioral emergencies, agitated and aggressive patients who present a danger to themselves or to others who cannot be safely managed otherwise.</p> <p><b>Contraindications:</b> Hypersensitivity, pediatrics, Parkinson's disease, CNS depression, and suspected heart injury.</p> <p><b>Side Effects:</b> extrapyramidal symptoms (dystonic reaction), restlessness, spasms, Parkinson-like symptoms, drooling, hypotension, orthostatic hypotension, nausea, vomiting, blurred vision</p> <p><b>Supply:</b> 1 mg vial, 5 mg/ml (1)</p>	<ul style="list-style-type: none"> <li>• 5 mg IM for psychotic and hear injured patients (behavioral patients).</li> <li>• Do not administer to patients with history of seizures or prolonged QT intervals.</li> </ul>	

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Medication	Adult Dosage	Pediatric Dosage
<p><b><u>Ketamine</u></b> Advanced Paramedic *Hypnotic (sleep producing), analgesic (pain relieving) and amnesic (short term memory loss) effects.</p> <p><b>Indications:</b> Adjunct to Fentanyl in patients with severe traumatic pain associated with fracture reduction and splinting, and multiple or significant fractures in patients requiring facilitated extrication due to entrapment.</p> <p><b>Contraindications:</b> Age &lt; 1 year, known hydrocephalus or raised intraocular pressure, hypertension, pregnant patients.</p> <p><b>Side Effects:</b> Blurred vision, confusion, drowsiness, increased/decreased blood pressure/heart rate, mental or mood changes, nausea or vomiting, nightmares.</p> <p><b>Supply:</b> 50 mg/ml Inj., 10 ml vial (2)</p>	<ul style="list-style-type: none"> <li>• 1.5 mg/kg IV/IO for induction.</li> <li>• 2 mg/kg. IV/IO or 4 mg/kg IM (max 400mg) for Agitated Chaotic Event.</li> <li>• 2 mg/kg IV/IO for reduction/realignment of fractures/dislocations.</li> </ul>	
<p><b><u>Labetalol</u></b> Advanced Paramedic</p> <p>*Competitive alpha 1 receptor blocker &amp; nonselective beta receptor blocker. Causes peripheral vasodilation and decreases cardiac output.</p> <p><b>Indications:</b> Hypertensive crisis (systolic &gt; 200; diastolic &gt; 120) with symptoms of headache, chest pain, altered mental status. Hypertensive related to Stroke (systolic &gt; 185; diastolic &gt; 110). Tachydysrhythias.</p> <p><b>Contraindications:</b> Hypersensitivity, CHF, cardiogenic shock, bradycardia, children</p> <p><b>Side Effects:</b> Headache, dizziness, ventricular dysrhythmias, postural hypotension, dyspnea</p> <p><b>Supply:</b> 5 mg/ml (4 ml vial)</p>	<ul style="list-style-type: none"> <li>• 10 mg IV/IO over 10 minutes.</li> </ul>	

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Medication	Adult Dosage	Pediatric Dosage
<p><b><u>Levophed, (Norepinephrine)</u></b> Advanced Paramedic</p> <p>*Functions as a potent peripheral vasoconstrictor and as an inotropic stimulator of the heart and dilator of coronary arteries by stimulating the alpha and beta-1 receptors.</p> <p><b>Indication:</b> Post cardiac arrest, cardiogenic shock, fever (septic shock), dialysis-related issues, hypotension due to cardiogenic shock, septic, or neurogenic shock unresponsive to fluid challenge.</p> <p><b>Contraindication:</b> Hypertension</p> <p><b>Side Effects:</b> Few, though at higher doses, symptoms may include headache, palpitations, tachycardia, chest pain, and eventual hypertension. Bradycardia can result reflexively from an increase in blood pressure.</p> <p><b>Supply:</b> 4 mg/4 ml ampule or vial. Mix 16 mg (4 vials, 4mg each) in 250 ml of Normal Saline</p>	<ul style="list-style-type: none"> <li>Administer <b>LEVOPHED IV/IO infusion 5 mcg/min</b>. Titrate to a systolic BP &gt; 90mmHg. Maximum infusion rate is 12 mcg/min.</li> <li>Administration: Mix 16 mg (4 vials, 4 mg each) in 250ml of D5W. This concentration give 1 mcg/min. = 1 ml/hr. in the starting doses. Note this will alter slightly as the titration increases.</li> </ul>	
<p><b><u>Lorazepam (Ativan)</u></b> Advanced Paramedic</p> <p>* Binds to an allosteric site on GABA-A receptors, which are pentameric ionotropic receptors in the CNS. Binding potentiates the effects of the inhibitory neurotransmitter GABA, allowing chloride influx and causing hyperpolarization of the neuron.</p> <p><b>Indications:</b> Used to treat anxiety, status epilepticus, and for sedation induction and anterograde amnesia.</p> <p><b>Contraindications:</b> Hypersensitivity, severe respiratory failure, acute intoxication, pregnancy.</p> <p><b>Side Effects:</b> Difficulty breathing, nausea, weakness, drowsiness, unsteadiness.</p> <p><b>Supply:</b> 4 mg/ml Inj; 1ml</p>	<ul style="list-style-type: none"> <li>2 mg IV/IO or 4 mg/IM for Agitated Chaotic Event. Used as an alternative sedation to Midazolam.</li> </ul>	

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Medication	Adult Dosage	Pediatric Dosage
<p><b><u>Magnesium Sulfate 50%</u></b> Advanced Paramedic</p> <p>*CNS depressant, anticonvulsant, smooth muscle relaxant (vasodilation, bronchodilation).</p> <p><b>Indication:</b> Asthma, cardiac ROSC, eclampsia, and torsades de pointes</p> <p><b>Contraindication:</b> Hypersensitivity, complete heart block</p> <p><b>Side Effects:</b> Flushing, sweating, hypotension, bradycardia, complete heart block, depressed reflexes, respiratory paralysis, confusion</p> <p><b>Supply:</b> 2 mg premixed bags (2) (for a total of 4mg in drug box) <b>OR</b></p> <ul style="list-style-type: none"> <li>To make a 10% solution when drawing from the vial, add 8 ml of Normal Saline to each 1 gm (2ml) of Magnesium Sulfate.</li> </ul>	<p><b><u>Asthma:</u></b></p> <ul style="list-style-type: none"> <li>1-2g (10%) over 20 minutes. (1gm-2ml diluted to 10ml) (2gm – 4ml diluted to 20ml).</li> </ul> <p><b><u>Cardiac ROSC:</u></b></p> <ul style="list-style-type: none"> <li>4 gm over 15 minutes.</li> </ul> <p><b><u>Eclampsia:</u></b></p> <ul style="list-style-type: none"> <li>4 gm (10% - 40 ml) IV over 4 minutes; Max dose is 4gm. (8 ml diluted to 40ml).</li> </ul> <p><b><u>Torsades de Pointes:</u></b></p> <ul style="list-style-type: none"> <li><u>With a pulse:</u> ( 50%) loading dose of 2 g IV/IO over 5 minutes. Follow with 0.5 to 1 g per hour IV/IO.</li> <li><u>Pulseless:</u> (50%) 2 g IV/IO bolus.</li> </ul>	<p><b><u>Asthma:</u></b></p> <ul style="list-style-type: none"> <li>1-2g (10%) over 20 minutes. (1gm-2ml diluted to 10ml) (2gm – 4ml diluted to 20ml).</li> </ul> <p><b><u>Torsades de Pointes:</u></b></p> <ul style="list-style-type: none"> <li><u>With a pulse:</u> <b>(50%) 25-50 mg/kg IV/IO (max dose is 2g) over 15 minutes.</b></li> <li><u>Pulseless:</u> <b>(50%) 25-50 mg/kg IV/IO bolus (max dose is 2g).</b></li> </ul>
<p><b><u>Midazolam HCL, (Versed)</u></b> Advanced Paramedic</p> <p>*Sedation by direct action on CNS.</p> <p><b>Indication:</b> Seizures, sedation for cardioversion, sedation after intubation, severe agitation, tachycardia, or hallucinations caused by alcohol intoxication/withdraw, altered vital signs from cocaine or methamphetamine overdose.</p> <p><b>Contraindication:</b> Hypersensitivity, hypotension</p> <p><b>Side Effects:</b> Respiratory depression, hypotension, amnesia, apnea.</p> <p><b>Supply:</b> 1 mg/ml Inj.; 5ml.</p> <p>Comments: Advanced airway management equipment must be readily available. Be prepared for respiratory depression.</p>	<ul style="list-style-type: none"> <li>DAI: 2 mg</li> <li>Agitated Chaotic Event: 5 mg via mucosal atomizing device).</li> </ul> <p>Advanced airway management equipment must be readily available. Be prepared for respiratory depression.</p>	<ul style="list-style-type: none"> <li>0.15 mg/kg IV up to maximum of 5 mg.</li> <li>May administer same dose using nasal adaptor.</li> <li>May administer same dose IM if unable to readily establish IV/IO.</li> </ul> <p>Advanced airway management equipment must be readily available. Be prepared for respiratory depression.</p>




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Medication	Adult Dosage	Pediatric Dosage
<p><b><u>Nitroglycerin, (Nitrostat)</u></b> Advanced Paramedic</p> <p><b>Indication:</b> Chest discomfort (cardiac causes suspected), pulmonary edema, CHF</p> <p><b>Contraindication:</b> Systolic BP &lt; 100, acute stroke, nitro intolerance, Use of sexual enhancement drugs within 24 hrs.</p> <p><b>Side Effects:</b> Hypotension, tachycardia, syncope, headache, flushing, bradycardia may occur in AMI.</p> <p><b>Supply:</b> Nitroglycerin / D5W 100 mcg/ml Inj. ; 252 ml</p>	<p><b>Infusion:</b> Start drip at 25 mcg/min. if systolic BP is greater than 160 systolic. Titrate dose up or down 10 mcg/kg until target BP (140/90) is achieved.</p>	
<p><b><u>Rocuronium</u></b> Advanced Paramedic</p> <p>*Rocuronium is a nondepolarizing neuromuscular blocking agent with a rapid to intermediate onset of action. Rocuronium produced neuromuscular blockade by competing with acetylcholine for cholinergic receptors at the motor end plate.</p> <p><b>Indication:</b> As an adjunct to general anesthesia for inpatients and outpatients to facilitate both rapid sequence and routine tracheal intubation and to provide skeletal muscle relaxation during surgery or mechanical ventilation.</p> <p><b>Contraindication:</b> Hypersensitivity, seizures, status epilepticus.</p> <p><b>Side Effects:</b> Anaphylaxis, residual paralysis, myopathy, increased pulmonary vascular resistance.</p> <p><b>Supply:</b> 10mg/ml Inj; 10 ml</p>	<ul style="list-style-type: none"> <li>• If Succinylcholine is contraindicated; use Rocuronium 1.6 mg/kg IV/IO.</li> </ul>	

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Medication	Adult Dosage	Pediatric Dosage
<p><b><u>Sodium Bicarbonate</u></b> Advanced Paramedic</p> <p>*Increases blood PH</p> <p><b>Indication:</b> Cardiac arrest in a dialysis patient (hyperkalemia), tricyclic antidepressant overdose, calcium channel blocker overdose.</p> <p><b>Contraindication:</b> Hypersensitivity.</p> <p><b>Side Effects:</b> Metabolic alkalosis, increased sodium, decreased potassium.</p> <p><b>Supply:</b> Prefilled syringe contains 50 mEq (50 ml).</p>	<ul style="list-style-type: none"> <li>• 50 mEq (1 amp) IV if a widened QRS or peaked T waves are noted.</li> <li>• Providing optimum chest compressions and ventilation best treats acidosis in cardiac arrest.</li> <li>• This should be an early treatment consideration in dialysis patients in cardiac arrest.</li> <li>• Common tricyclic antidepressants: elavil, norpramin, pamelor, sinequan, tofranil.</li> <li>• Common calcium channel blockers: diltizdem, verapamil, amiodipine, nifedipine, nifedipine.</li> </ul>	
<p><b><u>Succinylcholine</u></b> Advanced Paramedic</p> <p>* A “persistent” depolarizaion of the neuromuscular junction. This depolarization is caused by Succinylcholine mimicking the effect of acetylcholine but without being rapidly hydrolyzed by acetylcholinesterase. This depolarization leads to desensitization.</p> <p><b>Indication:</b> Used in surgical procedures where a rapid onset and brief duration of muscle relaxation is needed (includes intubation, endoscopies, and ECT).</p> <p><b>Contraindication:</b> Hypersensitivity; recently had a severe burn, trauma, nerve damage, or an upper body movement injury. If patient has a personal or family history of muscle disease or malignant hyperthermia (a life-threatening state that includes high body temperatures).</p> <p><b>Side Effects:</b> Increased saliva, muscle pain following surgery, muscle twitching.</p> <p><b>Supply:</b> 20 mg/ml Ink; 10 ml</p>	<ul style="list-style-type: none"> <li>• 1.5 mg/kg IV/IO. If paralysis is inadequate. May be repeated- Succinylcholine at ½ original dose.</li> </ul>	

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Medication	Adult Dosage	Pediatric Dosage
<p><b><u>Tranexamic Acid, (TXA)</u></b> Advanced Paramedic</p> <p>*Promotes clot formation in the setting of massive hemorrhage.</p> <p><b>Indication:</b> hemostatic Agents. Adults in hemorrhagic shock with suspected need for massive blood transfusion (clinical evidence of marked blood loss-internal or external, sustained in tachycardia and hypotension).</p> <p><b>Contraindication:</b> Non-hemorrhagic shock, non-traumatic hemorrhagic shock, and hemorrhagic shock stabilized with other hemostatic agents/measures.</p> <p><b>Pharmacokinetics:</b> Onset of action within 4 hours after IV administration, exact time of onset unclear and variable. Delayed effects up to 48 hours consistence with anti-inflammatory actions.</p> <p><b>Side Effects:</b> TXA has not been shown to cause significant increase in deep venous thrombosis, pulmonary embolism, myocardial infarction, or stroke in published trails to date.</p> <p><b>Supply:</b> 1g / 10ml vial/ampule (100mg/ml). Always check concentration and dose per container at time of patient medication administration.</p>	<ul style="list-style-type: none"> <li>• 1 gram mixed in 100 ml NS infused over 10 minutes.</li> <li>• <b>Do not give TXA if less than 15 minutes from hospital.</b></li> <li>• <b>Administration of TXA should not delay transport</b></li> </ul>	
<p><b><u>Vasopressin (Pitressin)</u></b> Advanced Paramedic</p> <p>* Potent alpha agonist in cardiac arrest, causes vasoconstriction. Vasopressin does not have the negative, adverse effects of Epinephrine on the heart, such as increased ischemia and irritability and, paradoxically, the propensity for VF.</p> <p><b>Indication:</b> Cardiac arrest to replace first or second dose of Epinephrine.</p> <p><b>Contraindications:</b> Hypersensitivity</p> <p><b>Side Effects:</b> None when administered for indications.</p> <p><b>Supply:</b> 40 units</p>	<ul style="list-style-type: none"> <li>• 40 units IV/IO push, single dose prior to administration of Epinephrine during cardiac arrest.</li> </ul>	