

ACLS Drugs and Drips

	Amiodarone / Cordarone	Lidocaine	Procainamide / Pronestyl	Dopamine / Intropin																																																																																																				
Bolus Dose	<p>Antiarrhythmic CARDIAC ARREST – PULSELESS VT/VF Arrest Kit: (300mg bolus) Amiodarone 6mL Vial = 300mg 50mL Mini Bag D5W 30mL syringe with needle X 1</p> <p>Procedure</p> <ul style="list-style-type: none"> Draw up 24mL D5W in 30mL syringe (discard bag) In same syringe, draw up 6mL (300mg) Amiodarone to make up 30mL solution Inject Amiodarone rapidly 	<p>Antiarrhythmic Pre-loaded syringe 1 syringe = 100mg</p> <p>1.0 – 1.5 mg/kg IV push</p> <p>Example: A patient weighing 100 kg is given 1 – 1.5 pre-loaded syringes IV push</p>	<p>Antiarrhythmic Kit: Procainamide 1G (10mL of 100mg/mL) 50mL Mini Bag D5W X1 10mL syringe with needle X1 ContinFlow Tubing X1 LeverLoc Cannula X1 Med Added Label X1 Alcohol swabs X 2</p> <p>Procedure: Mix 1G (10mL of 100mg/mL) of procainamide in 50mL D5W (Concentration = 20mg/mL)</p> <p>Set VTBI = 50mL Primary Rate = 60mL/hr</p> <p>Infuse 60mL/hr (or 20mg/min)</p> <p>until:</p> <ol style="list-style-type: none"> dysrhythmia is suppressed hypotension occurs QRS widens by 50% the maximum dose of 17mg/kg is given 	<p>Inotrope / Pressor 400mg / 250mL D5W 200mg / 250mL D5W</p> <p>Renal Dose: 1-5 mcg/kg/min Stimulates renal perfusion (dopaminergic alpha receptors)</p> <p>Inotropic Dose: 5-10 mcg/kg/min Stimulates HR, BP, CO, and vasoconstriction (alpha & beta receptors)</p> <p>Pressor Dose: > 10 mcg/kg/min Stimulates renal, venous, mesenteric arterial vasoconstriction (alpha receptors)</p> <ul style="list-style-type: none"> Titrate according to patient's weight (see basic chart below) 																																																																																																				
Alternate Dose	<p>Tachycardia Kit: (150mg / 10min) Amiodarone 3mL Vial = 150mg 100mL Mini Bag D5W & tubing 5mL syringe with needle X 1</p> <p>Procedure</p> <ul style="list-style-type: none"> Draw up 3mL (150mg) of Amiodarone with 5mL syringe and add to mini bag To infuse mini bag over 10 minutes – Set VTBI = 100mL and Primary Rate = 600mL / hr 	<p>Repeat Dose: Lidocaine 0.5 to 0.75 mg/kg IV push over 3-5min, q5-10 minutes to a maximum total dose of 3mg/kg</p>																																																																																																						
Range	<p>0.5 – 1.0mg / minute MAX daily dose = 2g</p>	<p>1 – 4mg / minute MAX dose = 3mg/kg</p>	<p>1 – 4mg / minute</p>	<p>2 – 20 mcg/kg/min</p>																																																																																																				
Drip	<p>Kits: Amiodarone 6mL & 3mL Vials (Volume = 9mL = 450mg) 250mL Glass Bottle D5W 10mL syringe with needle X 1</p> <p>Procedure</p> <p>Kit 1: mix Amiodarone 9mL or 450mg in 250mL glass bottle D5W Rate 1 (1mg/min) X 6 hours: Set VTBI = 200mL and Primary Rate = 33mL / hour Rate 2 (0.5mg/min) X 18 hours: Set VTBI = 50mL and Primary Rate = 17mL / hour</p> <p>Kit 2 mix Amiodarone 9mL or 450mg in 250mL glass bottle D5W Continue Rate 2 (0.5mg/min) Set VTBI = 250mL and Primary Rate = 17mL / hour</p>	<p>Mix 1 gram (10mL of 100mg/mL) of Procainamide in 250mL D5W = 4mg/mL</p> <p>1mg/min = 15mL / hour 2mg/min = 30mL / hour 3mg/min = 45mL / hour 4mg/min = 60mL / hour</p> <p>Decrease dose in presence of renal failure.</p>	<p>FOR USE WITH 400mg/250mL ONLY</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">mcg/kg/min</th> <th colspan="10">Patient weight in kg</th> </tr> <tr> <td></td> <th>40</th><th>50</th><th>60</th><th>70</th><th>80</th><th>90</th><th>100</th> <th>40</th><th>50</th><th>60</th><th>70</th><th>80</th><th>90</th><th>100</th> </tr> </thead> <tbody> <tr> <td>2 mcg</td> <td>3</td><td>4</td><td>5</td><td>5</td><td>6</td><td>7</td><td>8</td> <td>3</td><td>4</td><td>5</td><td>5</td><td>6</td><td>7</td><td>8</td> </tr> <tr> <td>5 mcg</td> <td>8</td><td>9</td><td>11</td><td>13</td><td>15</td><td>17</td><td>19</td> <td>8</td><td>9</td><td>11</td><td>13</td><td>15</td><td>17</td><td>19</td> </tr> <tr> <td>10 mcg</td> <td>15</td><td>19</td><td>23</td><td>26</td><td>30</td><td>34</td><td>38</td> <td>15</td><td>19</td><td>23</td><td>26</td><td>30</td><td>34</td><td>38</td> </tr> <tr> <td>15 mcg</td> <td>23</td><td>28</td><td>34</td><td>39</td><td>45</td><td>51</td><td>56</td> <td>23</td><td>28</td><td>34</td><td>39</td><td>45</td><td>51</td><td>56</td> </tr> <tr> <td>20 mcg</td> <td>30</td><td>38</td><td>45</td><td>53</td><td>60</td><td>68</td><td>75</td> <td>30</td><td>38</td><td>45</td><td>53</td><td>60</td><td>68</td><td>75</td> </tr> </tbody> </table>	mcg/kg/min	Patient weight in kg											40	50	60	70	80	90	100	40	50	60	70	80	90	100	2 mcg	3	4	5	5	6	7	8	3	4	5	5	6	7	8	5 mcg	8	9	11	13	15	17	19	8	9	11	13	15	17	19	10 mcg	15	19	23	26	30	34	38	15	19	23	26	30	34	38	15 mcg	23	28	34	39	45	51	56	23	28	34	39	45	51	56	20 mcg	30	38	45	53	60	68	75	30	38	45	53	60	68	75
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ACLS Drugs and Drips - Continued

	Nitroglycerin / Tridil Vasodilator	Epinephrine / Adrenalin Sympathomimetic	Isoproterenol / Isuprel Inotrope	Diltiazem / Cardizem Antiarrhythmic	Nitroprusside / Nipride Vasodilator	
Bolus Dose	Not given direct IV	Peripheral injection should be followed by 20mL flush Pre-loaded syringe = 1:10,000 / 10mL (1mg) Repeat q3-5 minutes during arrest	Not given direct IV Recommended only for temporary control of symptomatic bradycardia when atropine and dobutamine have failed and pacing is not available	First Dose: 0.25mg/kg IV slowly over 2 minutes (Conc. 5mg/mL) Patient weight in kg 50 60 70 80 90 100 First dose in mL 2.5 3 3.5 4 4.5 5 mL mL mL mL mL mL	Not given direct IV Potent vasodilator used in hypertensive crisis and CHF Note: Wrap solution and tubing in foil or other opaque cover	
Alternate Dose	Nitroglycerin spray 1 – 2 sprays (0.4 – 0.8mg) under the tongue	2 – 2.5mg (2 – 2.5 mL of 1:1000 concentration) diluted in 10mL NS via ET tube	Not given direct IV	Second Dose: 0.35mg/kg IV slowly over 2 minutes (Concentration 5mg/mL) Patient weight in kg 50 60 70 80 90 100 Second dose in mL 3.5 4.2 4.9 5.6 6.3 7 mL mL mL mL mL mL	Not given direct IV Mix Nitroprusside 50 mg in D5W 250mL (200 mcg/mL) and run as per chart below	
Range	10 – 20 mcg / minute	2 – 10 mcg / minute	2 – 10 mcg / minute	5 – 15 mg / hour	0.1 – 10 mcg / kg / min	
Drip	Pre-mixed 50mg in 250mL glass bottle D5W Increase by 5–10 mcg/min q 5 minutes to desired effect 10mcg/min = 3mL / hr 20mcg/min = 6mL / hr 30mcg/min = 9mL / hr 40mcg/min = 12mL / hr 50mcg/min = 15mL / hr 60mcg/min = 18mL / hr 70mcg/min = 21mL / hr 80mcg/min = 24mL / hr 90mcg/min = 27mL / hr	Mix Epinephrine 1mg (1mL of 1:1000 amp) in D5W or NS 250mL (conc. = 4 mcg/mL) 2mcg/min = 30mL / hr 3mcg/min = 45mL / hr 4mcg/min = 60mL / hr 5mcg/min = 75mL / hr 6mcg/min = 90mL / hr 7mcg/min = 105mL / hr 8mcg/min = 120mL / hr 9mcg/min = 135mL / hr 10mcg/min = 150mL / hr	Mix Isoproterenol 1 mg (5 mL) in D5W 500mL (conc. = 2 mcg/mL) Titrate to HR (60 beats / min) 2mcg/min = 60mL / hr 3mcg/min = 90mL / hr 4mcg/min = 120mL / hr 5mcg/min = 150mL / hr 6mcg/min = 180mL / hr 7mcg/min = 210mL / hr 8mcg/min = 240mL / hr 9mcg/min = 270mL / hr 10mcg/min = 300mL / hr	Mix Diltiazem 125mg (25mL) in D5W 100mL (concentration = 1 mg/mL) * The recommended initial infusion rate of Diltiazem is 10 mg / hour. An infusion rate of 5 mg / hour may be appropriate for some patients. Dose Infusion Rate 5 mg / hour * 5 mL / hour 10 mg / hour 10 mL / hour 15 mg / hour 15 mL / hour	mg / kg / min. 0.1 0.5 1 2 4 8 10 mg / kg / min. 0.1 0.5 1 2 4 8 10	Patient weight in kg 50 60 70 80 90 100 1.5 1.8 2 2.4 2.7 3 7.5 9 10 12 14 15 15 18 21 24 27 30 30 36 42 48 54 60 60 72 84 96 108 120 120 144 168 192 216 240 150 180 210 240 270 300

ACLS Drugs and Drips - Continued

	Verapamil / Isoptin	Vasopressin / Pitressin	Norepinephrine / Levophed	Labetolol / Trandate	Dobutamine / Dobutrex
Bolus Dose	Antiarrhythmic PSVT, Rapid Afib/Flutter give 2.5 – 5mg IV slowly	Vasopressor Cardiac Arrest (VF/VT) give 40 U IV Push	Vasopressor Not given direct IV	Antihypertensive Give 10 – 20mg IV over 1 – 2 minutes	Inotrope Not given direct IV
Alternate Dose	Give 5 – 10mg IV slowly every 15 minutes to a maximum of 30mg			May repeat or double dose every 10 minutes until a total dose of 150 – 300mg OR Start infusion of 2 – 8mg / min according to the following basic chart	Not given direct IV Mix 250mg in 250mL D5W for a concentration of 1mg/mL and run according to the following basic chart
Range	1 – 10mg / hr	0.1 – 0.4 U / min Max 1 – 2 U / min	0.5 – 30 mcg/ min	2 – 8mg / min	2 – 20 mcg / kg / min
	Mix 100mg verapamil in 250mL D5W For a conc. of 0.4mg/mL	Mix 125 U in 250mL D5W Conc. = 0.5U/mL	Mix 4mg in 250mL D5W Conc. = 16mcg/mL	Mix 250mg (50mL) labetalol in 200mL D5W for a concentration of 1mg/mL and run at:	Patient weight in kg
	mg / hr = mL / hr	U / min = mL / hr	mcg / min = mL / hr	2mg / min	50
		0.1 U	0.5mcg/min	4mg / min	60
		0.2 U	1mcg/min	6mg / min	70
		0.3 U	2mcg/min	8mg / min	80
		0.4 U	3mcg/min		90
		0.5 U	4mcg/min	120mL / hr	100
		0.6 U	5mcg/min		
		0.7 U	6mcg/min	240mL / hr	
		0.8 U	7mcg/min		
		0.9 U	8mcg/min	360mL / hr	
		1.0 U	9mcg/min		
		1.1 U	10mcg/min	480mL / hr	
		1.2 U	11mcg/min		
		1.3 U	12mcg/min		
		1.4 U	13mcg/min		
		1.5 U	14mcg/min		
		1.6 U	15mcg/min		
		1.7 U	16mcg/min		
		1.8 U	17mcg/min		
		1.9 U	18mcg/min		
		2.0 U	19mcg/min		
			20mcg/min		
			25mcg/min		
			30mcg/min		
			113mL/hr		
Drip	1mg/hr 2mg/hr 3mg/hr 4mg/hr 5mg/hr 6mg/hr 7mg/hr 8mg/hr 9mg/hr 10mg/hr	3mL/hr 5mL/hr 8mL/hr 10mL/hr 13mL/hr 15mL/hr 18mL/hr 20mL/hr 23mL/hr 25mL/hr	2mL/hr 4mL/hr 8mL/hr 11mL/hr 15mL/hr 19mL/hr 23mL/hr 26mL/hr 30mL/hr 34mL/hr 38mL/hr 41mL/hr 45mL/hr 49mL/hr 53mL/hr 56mL/hr 60mL/hr 64mL/hr 68mL/hr 71mL/hr 75mL/hr 94mL/hr 113mL/hr	Rate mL / hour	
				Drugs that can be given via Endotracheal Tube:	
				L = Lidocaine	
				E = Epinephrine	
				A = Atropine	
				N = Narcan	
				Administer at 2 – 2.5 times the recommended IV dose, diluted in 10mL of NS or distilled water.	
				Pass a catheter beyond the tip of the tracheal tube, stop compressions, spray the drug solution quickly down the tracheal tube, follow immediately with several quick insufflations to create a rapidly absorbed aerosol, then resume chest compressions	

Cardiac Care Drugs

Medication	Drug Type	Primary Indications	Contraindications	Usual Dosage	Side Effects
Adenosine Adenocard	Anti-arrhythmic	PSVT	2 nd or 3 rd degree AV block, V-Tach, sick sinus syndrome	6mg (2mL) IV rapidly over 1 – 3 sec. Then flush with 20mL NS bolus; and elevate IV arm. Initiate IV at antecubital site if possible. If no response in 1-2min, 12mg repeat dose with flush.	Transient dysrhythmias, facial flushing, dyspnea, chest pressure, hypotension, headache, nausea, bronchospasm.
ASA	Anti-platelet	AMI, Acute coronary syndrome	Allergy. Caution with asthma, ulcers, GI bleeding or disorders	160 – 320 mg P.O. (2 – 4 children's aspirins) Chew and swallow	GI bleeding
Atropine	Vagolytic	Asystole and symptomatic bradycardia	Tachycardia Glaucoma	Asystole, PEA: 1mg IV Push q3-5min; up to 0.04mg/kg total dose Symptomatic Bradycardia: 0.5 – 1 mg IV Push q3-5min; up to 0.04 mg/kg total dose	Dilated pupils, increased heart rate, V-Tach and VF, headache, dry mouth
Calcium Chloride 10%	Electrolyte	Calcium blocker toxicity; hypocalcemia with tetany; hyperkalemia; hypermagnesemia	VF, digitalis toxicity, hypercalcemia	500 – 1000mg IV slowly, (over 5 – 10 minutes)	Bradycardia, asystole, hypotension, VF, coronary & cerebral artery spasm, nausea and vomiting, extravasation causes necrosis
Calcium Gluconate 10%	Electrolyte	CCB OD; hypocalcemia; hyperkalemia; hypermagnesemia	VF, digitalis toxicity, hypercalcemia	500 – 1000mg IV slowly.	Bradycardia, hypotension, VF, arterial spasm, infiltration causes necrosis
Digoxin Lanoxin	Anti-arrhythmic	Atrial fibrillation; Atrial flutter; PSVT	VF, V-tach; use caution in renal failure. If HR < 60 withhold drug and consult	0.5 – 1 mg IV slowly, (over 2-3 minutes)	Toxicity: VT, hyperkalemia, anorexia, nausea and vomiting, fatigue, headache, hypotension, visual disturbances, weakness, diarrhea.
Furosemide Lasix	Diuretic	CHF / pulmonary edema, hypertensive crisis	Dehydration, hepatic coma, hypokalemia	0.5 – 1 mg/kg IV slowly. If no response, 2 mg/kg over 1-2min	Hypokalemia, hypotension, dehydration
Magnesium Sulfate 10%	Electrolyte	Cardiac arrest (Torsades, hypomagnesemia)	Renal disease, heart block, hypermagnesemia	1 – 2 grams IV Push (5 – 10 grams may be required)	Hypotension, asystole, cardiac arrest, respiratory and CNS depression, flushing, sweating
Metoprolol Betaloc	Beta Blocker	Tachycardia, hypertension, myocardial salvage after MI and refractory chest pain or tachycardia - excess sympathetic tone	CHF, bronchospasm, bradycardia, hypotension, cardiomegaly, thyrotoxicosis, history of asthma	5 mg IV slowly over 2 – 5 minutes, repeated q 5 minutes to a total of 15 mg. Then 50 mg orally bid for at least 24 hours, thereafter increased to 100 mg bid	Hypotension, CHF, bronchospasm, bradycardia, dizziness, chest pain, headache, nausea and vomiting. Note: Use of calcium blockers may potentiate side effects
Verapamil Isoptin	Calcium Channel Blocker	PSVT, rapid atrial fibrillation, atrial flutter	WPW or short PR syndrome with A-Fib or A-Flutter, heart blocks, V-Tach, hypotension, shock, IV beta blocker use, sick sinus syndrome, CHF	2.5 – 5 mg IV slowly over 2min (3min in elderly patients) (5 – 10 mg q 15 minutes) to a maximum total dose of 30 mg	Hypotension, AV block, bradycardia, asystole

References

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AMIODARONE KIT CONTENTS AND PROCEDURE CARDS

AMIODARONE

CARDIAC ARREST – PULSELESS VT/VF

Arrest Kit: (300mg bolus)

Amiodarone 6mL Vial = 300mg
50mL Mini Bag D5W X1
30mL syringe with needle X 1
Alcohol Swabs X 2

Procedure

- Draw up 24mL D5W in 30mL syringe (discard bag)
- In same syringe, draw up 6mL (300mg) Amiodarone to make up 30mL solution
- Inject Amiodarone rapidly

AMIODARONE

STABLE VT

Tachycardia Kit: (150mg / 10min)

Amiodarone 3mL Vial = 150mg
100mL Mini Bag D5W X 1
5 mL syringe with needle X 1
Continu-Flo Tubing X 1
LeverLock Cannula X 1
Medication Added Label X 1
Alcohol Swabs X 2

Procedure

- Draw up 3mL (150mg) of Amiodarone with 5mL syringe and add to mini bag
- To infuse mini bag over 10 minutes –
Set VTBI = 100mL and
Primary Rate = 600mL / hr

AMIODARONE

DRIP

Kits: Amiodarone 3mL & 6mL Vials (Volume = 9mL = 450mg)
250mL Glass Bottle D5W X 1
10mL syringe with needle X 1
Vented IV Tubing X 1
LeverLock Cannula X 1
Medication Added Label X 1
Alcohol Swabs X 2

Procedure

Kit 1: mix Amiodarone 9mL (450mg) in 250mL glass bottle D5W

Rate 1 (1mg/min) X 6 hours:
Set VTBI = 200mL and
Primary Rate = 33mL / hour

Rate 2 (0.5mg/min) X 18 hours:
Set VTBI = 50mL and
Primary Rate = 17mL / hour

Kit 2 mix Amiodarone 9mL (450mg) in 250mL glass bottle D5W

Continue Rate 2 (0.5mg/min)
Set VTBI = 250mL and
Primary Rate = 17mL / hour