

EMERGENCY MEDICATIONS

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EMERGENCY MEDICATIONS

Page	Medication	FR	EMT -B	EMT - I/RN	EMT - P
3	Activated Charcoal Call Drug		X	X	X
4	Adenosine				X
5	Albuterol			X	X
6	Amiodarone			X	X
7	Amyl Nitrate				X
8	Aspirin		X	X	X
9	Ativan				X
10	Atropine Sulfate			X	X
11	Atrovent			X	X
12	Calcium Gluconate Call Drug				X
13	Captopril				X
14	Dexamethasone				X
15	Dextrose 50% (IV)			X	X
16	Dextrose (Oral)	X	X	X	X
17	Diphenhydramine			X	X
18	Dopamine				X
19	Duoneb			X	X
20	Epinephrine 1:1,000	X	X	X	X
21	Epinephrine 1:10,000			X	X
22	Fentanyl			X	X
23	Furosemide			X	X
24	Glucagon			X	X
25	IV Solutions (BSS)			X	X
26	Labetalol CALL DRUG				X
27	Lidocaine			X	X
28	Lidocaine Pre-Mix			X	X
29	Magnesium Sulfate				X
30	Midazolam				X
31	Morphine Sulfate			X	X
32	Naloxone			X	X
33	Nitroglycerine			X	X
34	Nubain			X	X
35	Oxygen	X	X	X	X
36	Oxytocin CALL DRUG				X
37	Phenergan				X
38	Rocuronium				X
39	Sodium Bicarbonate				X
40	Succinylcholine				X
41	Thiamine				X
42	Vasopressin			X	X
43	Vecuronium				X
44	Zofran			X	X

ACTIVATED CHARCOAL

Activated Charcoal, Activated Carbon	[Basic / Intermediate / RN/ Paramedic]
Class: Absorbent	
Actions: Absorbs toxins by binding to them to prevent GI absorption.	
Indications: Adsorbent used in overdoses and poisonings, if emesis is not indicated.	
Contraindications <ol style="list-style-type: none"> 1. Acetaminophen [Tylenol] ingestion 2. Petroleum product ingestion 3. Corrosive (mineral acids, strong bases) ingestion 4. Alcohol (ethanol, methanol, isopropanol, ethylene glycol) ingestion 5. Lithium ingestion 6. Metals (iron, lead, mercury, etc.) ingestion 	
Side Effects: Vomiting, aspiration	
Dosage: <i>Adults:</i> 50 gm PO <i>Peds:</i> 1 gm/kg PO, up to 50 gm	
Supply: 25 gm bottles	
Comments: <ol style="list-style-type: none"> 1. Activated Charcoal interferes with Ipecac and many antidotes. 2. Patient must be alert to avoid aspiration. 3. Shake vigorously before using. 	

ADENOSINE

Adenosine, (Adenocard)	[Paramedic]
Class: Antiarrhythmic	
Actions: Slows conduction through the AV node.	
<p>Indications:</p> <ol style="list-style-type: none"> 1. Stable Narrow-QRS Tachycardia refractory to vagal maneuvers 2. Unstable Narrow-QRS Tachycardia if IV access immediately available: <ol style="list-style-type: none"> a. Rate \geq 150/min. (adult), \geq 220 (children) b. Regular rhythm c. QRS < 0.12 seconds 	
<p>Contraindications:</p> <ol style="list-style-type: none"> 1. Wide QRS (> 0.12 seconds) Tachycardia 2. Second or Third degree H.B. 3. Sick Sinus Syndrome 4. Hypersensitivity to the drug 	
Side Effects: Transient asystole, AV block, PVCs, hypotension	
<p>Dosage:<i>Adults:</i> 6 mg (2 ml) IV/IO over 1-2 sec. If not effective after 2 min., administer 12 mg [4 ml] IV/IO. Use most distal IV port. Follow with a 20 ml IV flush. <i>Free-flowing IV. Use injection port closest to body. Follow with a 10 ml IV flush from a separate syringe.</i></p> <p><i>Peds:</i> 0.1 mg/kg IV/IO over 1-2 sec. If not effective after 2 min., give 0.2 mg/kg. MAX dose: 12 mg. <i>Free-flowing IV. Use injection port closest to body. Follow with a 5 ml IV flush from a separate syringe.</i></p>	
Supply: 6mg/2ml Prefilled syringe 12mg/4ml Prefilled syringe	
<p>Comments:</p> <ol style="list-style-type: none"> 1. Does not convert atrial flutter, atrial fibrillation, or ventricular tachycardia. May cause temporary slowing. 2. Adenosine antagonized by Methylxanthines, such as caffeine, Theophyllin. May require larger dose to treat. 3. Adenosine effects are potentiated by dipryidomole and will require smaller doses to treat. 4. Presence of carbamazepine (Tegretol), may produce higher degrees of HB. or may develop asystole (1%) and can last for 3 days. 	

ALBUTEROL

Albuterol, (Proventil, Ventolin)	[Intermediate / RN/ Paramedic]
Class: Sympathomimetic (β_2 selective)	
Actions: Bronchodilation	
Indications: Asthma, Emphysema, COPD, Anaphylactic respiratory distress	
Contraindications: <u>Avoid</u> in the following unless symptoms are severe: <ol style="list-style-type: none">1. Chest pain2. Pulse > 140/min. (adults) or > 180/min. (children)3. Systolic BP > 180	
Side Effects: Tachycardia, hypertension, arrhythmias, tremor, anxiety, headache	
Dosage: < 4 yrs old: nebulizer held under the face ≥ 4 yrs old: nebulizer with mouth piece or face mask Set oxygen at 6-10 LPM [until nebulizer mists] May repeat every 10 minutes	
Supply: Bottle of 0.083% solution contains 2.5 mg in 3 ml.	
Comments: EMT-B's may assist with use of <u>patient's own</u> prescribed inhaler.	

AMIODARONE

Amiodarone	[Intermediate / RN/ Paramedic]
Class: Antiarrhythmic	
Actions: Depresses automaticity of SA node. Slows conduction & increases refractoriness of the AV node. Increases Atrial & Ventricular refractoriness	
Indications: Pulseless VF / VT, V-tach with pulse, Wide complex Tachycardia	
Contraindications: None in the face of pulseless VF / VT	
Side Effects: May produce vasodilation, hypotension, a prolonged QT interval, and a negative inotropic effect	
<p>Dosage:1. V-fib / Pulseless V-tach. 300 mg IV/IO may repeat once in 3 – 5 min. at 150 mg IV/IO. If pt converts administer drip at rate of 1mg/min</p> <p>2. V-tach with pulse / Wide complex Tachycardia. 150 mg in 100 ml LR or NS. Rapid infusion of 15 mg/min over 10 min., may repeat 150mg rapid infusion in 10 min. If pt converts administer drip at rate of 1mg/min</p>	
Supply: 150mg in 3 ml preload 150mg in 3 ml vial	
<p>Comments:Maintenance drip: May mix drip 150 mg in 100ml LR or NS and administer at 45 gtts to give 1mg/min on Micro drip set.</p> <p>Rapid Infusion: Mix in macro solu-set, or 150 mg in 100 ml LR or NS and administer at 150 gtts/min. over 10 min. for 15 mg/min infusion. (Approx. 37 gtts/15 sec.)</p>	

ACETYLSALICYLIC ACID, Aspirin

Acetylsalicylic Acid , Aspirin	[Basic / Intermediate / RN / Paramedic]
Class: Analgesic, antipyretic	
Actions: Blocks platelet aggregation	
Indications: Chest pain suggestive of new AMI	
Contraindications: Hypersensitivity, intolerance, Allergy	
Side Effects: Urticaria, angioedema, bronchospasm, anaphylactic shock, nausea, vomiting, heartburn, GI bleed and prolonged bleeding	
Dosage: 4 chewable baby aspirin (81 mg each) PO	
Supply: 81 mg tablets	
Comments: Avoid in pediatrics	

AMYL NITRITE

Amyl Nitrite	[Paramedic]
Class: Inhalant	
Actions: Amyl Nitrate has affinity for cyanide ions; reacts with hemoglobin to form methemoglobin.	
Indications: Cyanide or hydrocyanic poisoning	
Contraindications:	
Side Effects: Headache	
Dosage: Adults & Pediatric: Breathe Amyl Nitrate vapors for 30 seconds, then breathe Oxygen for 30 seconds repeat this procedure continuously	
Supply:	
Comments: Protect yourself from exposure to cyanide sources. DO NOT BECOME A VICTIM YOURSELF.	

ATIVAN (Lorazepam)

Ativan (Lorazepam)	[Paramedic]
Class: Tranquilizer, Anti-convulsant and Skeletal muscle relaxant.	
Actions: Binds specifically to sites in the brain acting to inhibit the chaotic neurotransmission seen in seizures.	
Indications: <ol style="list-style-type: none"> 1. Status seizures 2. As an amnesic / anxiolytic prior to cardioversion 3. Chemical restraint 	
Contraindications: Hypersensitivity to the drug, acute narrow-angle glaucoma	
Side Effects: <ol style="list-style-type: none"> 1. Drowsiness, dizziness, fatigue and ataxia. 2. Most likely to produce respiratory depression in patients who have taken other depressant drugs, especially alcohol and barbiturates, or when given rapidly. 	
Dosage: <ol style="list-style-type: none"> 1. Generalized convulsive status epilepticus (GCSE) Adult 0.5-2.0 mg IV/IO/IM Pediatric 0.1mg/kg IV/IO/IM 2. Cardioversion premedication Adult 0.5-2.0 mg IV/IO/IM 3. Chemical Restraint 0.5-2.0 mg IV/IO/IM slow push to a maximum dose of 4.0 mg. If given IM, do not dilute. Dilute 1 – 1 for IV/IO. 4. For pain management with MS, 0.5 -1 mg IV/IO/IM. 	
Supply: 2 mg/ml Carpuject / Vial 2 mg/ml – 2 ml Vial	
Comments: <ol style="list-style-type: none"> 1. Lorazepam's advantage over Diazepam is that it is shorter acting and does not markedly suppress respirations as does Diazepam. 2. Consider rectal administration (if unable to administer IV) in seizing children. Contact Medical Control hospital prior to doing so. 	

ATROPINE SULFATE

Atropine Sulfate	[Intermediate / RN / Paramedic]
Class: Parasympatholytic (anticholinergic)	
Actions: Blocks acetylcholine receptors (decreases vagal tone thus increasing heart rate)	
Indications: 1. Narrow-QRS (< 0.12 sec) Bradycardia with systolic BP < 90, decreased LOC, chest pain, or PVC's 2. Severe organophosphate (insecticide) poisoning	
Contraindications: 1. Wide-QRS (≥ 0.12 sec) Bradycardia in (adults only) 2. Glaucoma	
Side Effects: Tachycardia, chest pain, blurred vision, headache, dry mouth, flushing, urinary retention	
<p>Dosage:<i>Bradycardia:</i> 0.5 mg IV/IO. Repeat in 5 min. if needed. Total Max dose = 0.04mg/kg.</p> <p><i>Children:</i> 0.02 mg/kg IV/IO or 0.04 mg/kg ET (Avoid age < 1 month). Repeat dose in 5 min. if the heart rate is < 80/min. MINIMUM DOSE: 0.1 mg MAXIMUM TOTAL DOSE (child): 1.0 mg 0.04 mg/kg MAXIMUM TOTAL DOSE (adolescent): 2.0 mg 0.04 mg/kg</p> <p><i>Organophosphate Poisoning:</i> 1 - 2 mg IV, IO, IM repeated q. 20 to 30 min. until muscarinic symptoms disappear or atropine toxicity appears.</p>	
Supply: Prefilled syringe contains 1 mg (10 ml) Vial: 20 ml – 0.4 mg/ml	
Comments: 1. Use cautiously in patients with chest pain 2. Severe organophosphate poisoning requires double doses if: <ul style="list-style-type: none"> • Systolic BP < 90 • Decreased LOC • Respiratory distress • Excessive oral secretions • Pulse < 60 	

ATROVENT (Ipratropium Bromide)

Atrovent (ipratropium Bromide)	[Intermediate / RN / Paramedic]
Class: Anticholinergic	
Actions: Inhibits interaction of acetylcholine at receptor sites of the bronchial smooth muscle resulting in bronchial dilation.	
Indications: For Relief of Bronchospasms in those with COPD	
Contraindications: Glaucoma,	
Side Effects: N/V, Dry mouth, cramps, anxiety, dizziness, H/A, cough , worsening of Bronchospasms	
Dosage: Adult and pediatric 0.5 mg nebulized mixed with albuterol dose.	
Supply: 2.5 ml of solution per preloaded dose for nebulization	
<p>Comments:Mix with Albuterol to form “Duoneb” – Administer once, all subsequent Neb treatments are to be Albuterol. Duoneb will be second treatment for pediatric patients if Albuterol treatment does not break asthma.</p> <p style="color: orange;">NOTE: <i>Atrovent (meter dose inhaler, auto inhaler only) should not be administered to individuals allergic to soya lecithin or related food products, e.g. soya beans or peanuts. Current formulations of NEBULIZED Atrovent do not contain these agents and can be administered to individuals allergic to soya lecithin.</i></p>	

CALCIUM GLUCONATE

Calcium Gluconate	[RN / Paramedic]
Class: Membrane stabilizer and antidote	
<p>Actions:</p> <ol style="list-style-type: none"> 1. Calcium is the most common cation in the human body and the majority of the body stores are located in bone. 2. It is critical in many different cellular processes and is essential for the functional integrity of muscle (skeletal, smooth and cardiac) and nervous tissues. 	
<p>Indications:</p> <ol style="list-style-type: none"> 1. As a membrane stabilizer in suspected hyperkalemia. Reverses EKG changes pending correction of the extracellular potassium concentration. 2. As a potential antidote in suspected calcium channel blocker overdoses, hydrofluoric acid poisoning and iatrogenic magnesium intoxication. 	
<p>Contraindications:</p> <ol style="list-style-type: none"> 1. Digoxin Poisoning. 2. Hypercalcemia 	
<p>Side Effects: Rapid IV administration can cause:</p> <ol style="list-style-type: none"> 1. Bradycardia 2. Vasodilatation 3. Hypotension 4. Syncope 5. Local irritation & burning 	
<p>Dosage: 10 - 20 mL calcium gluconate (0.2 - 0.3 mL/kg children) over 10 - 20 minutes</p>	
<p>Supply: 10 mL of 10% solution contains 93 mg (4.65 mEq) of calcium.</p>	
<p>Comments:</p> <ol style="list-style-type: none"> 1. Administer slowly (no faster than 2.0 ml/min) and stop if the patient complains of pain. 2. Inject using a small needle in large vein and do not mix with bicarbonate. 3. Avoid use with patients who are on Digoxin since calcium can augment the positive inotropic and negative chronotropic effects of digitalis preparations. 4. Suspect hyperkalemia in patient with wide complex arrhythmia or tall peaked T-waves and Hx of renal failure. 	

CAPTOPRIL (Capoten)

Captopril (Capoten)

[Paramedic]

Class:Ace Inhibitor

Actions:Prevents conversion of angiotensin I to angiotensin II, a potent vasoconstrictor. Decreases peripheral arterial resistance so there is reduced sodium and water retention and lowers blood pressure. Onset occurs in 15-30 minutes. Persist for 6-12 hours.

Indications:

1. Flash pulmonary Edema
2. CHF

Contraindications:

1. Pts. Hypersensitive to the drug
2. Pts. Sensitive to any other ACE inhibitor

Precautions:

1. Use with caution in Pts. With impaired renal function
2. Pts. with serious auto-immune disease (Lupus, etc.)
3. Elderly may be more sensitive to drug's hypotensive effects.

Side Effects:

1. May cause tachycardia, hypotension, angina.
2. Nausea, vomiting, abdominal pain.
3. Severe Reaction may be rash, swelling of tongue, angioedema of the face and extremities.

Dosage:12.5 mg Sub lingual 1 time. (*May dampen with small amount of sterile water or normal saline to help tablet to dissolve.*)

Supplied:12.5 mg white tab.

DEXAMETHASONE (Decadron)

Dexamethasone (Decadron)

[Paramedic]

Class: Corticosteroid

Actions: Dexamethasone is a synthetic steroid that suppresses acute and chronic inflammation. In addition, it potentiates vascular smooth muscle relaxation by beta-adrenergic agonists and may alter airway hyperactivity.

Indications: Moderate to severe asthma/COPD.
Severe allergic reactions.
Croup

Precautions: May cause hypertension and hyperglycemia.

Dosage: *Adult* (≥ 40): 10 mg IV, IO, IM, PO.
Pediatric (≤ 40): 0.6 mg/kg, up to 10 mg, IV, IO, IM, PO.

Comments: May cause nausea, vomiting, headache or dizziness.

DEXTROSE 50%

Dextrose 50%

[Intermediate/ RN / Paramedic]

Class: Carbohydrate

Actions: Elevates blood glucose level

- Indications:**
1. GCS \leq 12
 2. Rapid glucose determination $<$ 70 mg/dl
 3. Rapid glucose determination – Stroke Patient $<$ 60 mg/dl
 4. Seizures lasting \geq 3 minutes

Contraindications: None if life-threatening. Relative contraindications are intracranial hemorrhage and stroke.

Side Effects: Tissue injury if infiltration occurs. Aspirate blood before and during the injection.

Dosage: *Adult:* 25 gm IV/IO

Child: 25-50 lbs – 12.5 gm (25.0 ml D50 mixed with 25.0 ml NaCl)

$<$ 25 lbs – 6.25 gm (12.5 ml D50 mixed with 37.5 ml NaCl)

Repeat one dose in 2 minutes if the GCS is \leq 12.

Supply: Prefilled syringe contains 25 gm (50 ml)

Comments: Perform rapid glucose determination before administration.

DEXTROSE (ORAL)

Dextrose (Oral)	[FR / Basic / Intermediate / RN / Paramedic]
Class: Oral Glucose	
Actions: Glucose is the body's basic fuel.	
Indications: 1. Hypoglycemic states usually associated with insulin shock in diabetes	
Contraindications: Patients who are semiconscious or are experiencing a diminishing level of consciousness should not be given oral glucose due to potential airway compromise.	
Side Effects:	
Dosage: Give patient oral glucose or sugared juice, honey, molasses, Kayro syrup, etc.... if patient awake.	
Supply: 25 g per tube Glucose 15 gm tube	
Comments: Effect is delayed in elderly people with poor circulation.	

DIPHENHYDRAMINE

Diphenhydramine HCL, Benadryl ®	[Intermediate / RN / Paramedic]
Class: Antihistamine	
Actions: 1. Blocks histamine receptors 2. Has an antiemetic effect	
Indications: 1. Second Line for Anaphylaxis 2. Dystonic reactions to antipsychotic drugs.	
Contraindications: 1. Asthma 2. Glaucoma 3. Allergy to Benadryl 4. Weight < 22 lbs (10 kg)	
Side Effects: Decreased LOC, seizures, tachycardia, hypotension, dry mouth, urinary retention	
Dosage: 1. Adults 25 to 50 mg slow IV/IO or deep IM 2. Pediatric 1 mg/kg IM/IV/IO, not to exceed 50 mg	
Supply: Prefilled carpject contains 50 mg (1 ml)	

DOPAMINE HCL, (Intropin)

Dopamine HCL, (Intropin)	[Paramedic]
Class: Sympathomimetic	
Actions: 1. Increases cardiac contractility 2. Causes peripheral vasoconstriction 3. Increases chronotropic and inotropic effects Low Dose Action (< 10 mcg/kg/min.) → β effects predominate High Dose Action (> 10 mcg/kg/min.) → α effects	
Indications: Non-hypovolemic shock	
Contraindications: Hypovolemic shock (volume replacement MUST be accomplished prior to using Dopamine)	
Side Effects: Tachycardia, hypertension, arrhythmias, chest pain	
Dosage: 1.Adult Infusion: 5-20 mcg/kg/min. IV/IO. Titrate to systolic BP = 100. Place 400 mg in 250 ml D ₅ W [1600 mcg/ml]. Shake. 2. Pediatric Start at 2 – 5 mcg/kg/min titrate for effect. Mix 100mg in 250ml D ₅ W [400 mcg/ml]	
Supply: Vial contains 200 mg (5 ml) Premixed – 1600mcg/250ml NS	
Comments: Not compatible with Sodium Bicarbonate or other Alkaline solutions	

mcg/kg/min	Patient weight in kg											
	2.5	5	10	20	30	40	50	60	70	80	90	100
2 mcg				1.5	2	3	4	5	5	6	7	8
5 mcg		1	2	4	6	8	9	11	13	15	17	19
10 mcg	1	2	4	8	11	15	19	23	26	30	34	38
15 mcg	1.4	3	6	11	17	23	28	34	39	45	51	56
20 mcg	2	4	8	15	23	30	38	45	53	60	68	75
Microdrops per minute (or ml/hr)												
Mix 400 mg in 250 ml D5W (1600 mcg/ml) or Mix 800 mg in 500 ml D5W (1600 mcg/ml) & run at:												

EXAMPLE 1: Rapid calculation of 5 mcg/kg administration = Patient weight in pounds, drop the last digit, minus 2 from the remainder. This will equal ml/hr (microdrops per min.).
 Patient weighs 126 pounds: 126, drop 6, minus 2 = 10 ml/hr or microdrops per minute.

EXAMPLE 2: Take the patients weight in kg and divide that by 25. The answer is multiplied by the dose you want (eg. 5, 10, 15, 20 mcg's). 100kg patient / 25 = 4X5 mcg = 20 gtts/min.

DUONEB

Duoneb (Albuterol/ Atrovent mix)	[Intermediate / RN / Paramedic]
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Class:Bronchodilator

Actions:Medicine that opens up narrowed breathing passages in asthma, chronic bronchitis, and emphysema. Smooth muscle relaxant.

Indications:Asthma, Emphysema, COPD, Anaphylactic respiratory distress.

Contraindications:Pts. with chest pain.
Pulse > 140 /min. (adults) or > 180/min. (children)
Systolic B/P > 180
Pts. with glaucoma.

Precautions:Monitor Pt. Heart rate, B/P, Breath sounds

Side Effects:

1. Chest discomfort, angina.
2. Fast or irregular heartbeat.
3. Shortness of breath or wheezing
4. Skin rash or hives (allergic reaction).

Dosage:Adults: 3 ml vial Duoneb (2.5 mg Albuterol / 0.5 mg Atrovent) in nebulizer.
Children: Same as adults

Supplied:3 ml vial (Fish) 2.5 mg Albuterol/ 0.5 mg Atrovent

Comments:All subsequent neb treatments are to be Albuterol unless directed otherwise by OLMC.

EPINEPHRINE 1:1,000

Epinephrine 1:1,000, (Adrenalin)	[**Basic / Intermediate / RN / Paramedic]
Class: Sympathomimetic	
Actions: 1. α - Vasoconstriction: improves coronary blood flow and supports BP in anaphylactic shock. 2. β_1 – Inotropic and chronotropic effects. 3. β_2 – Bronchodilation.	
Indications: 1. Anaphylaxis 2. Pediatric cardiac arrest (see Epinephrine 1:10,000) 3. Bronchial asthma 4. Stridor & lower airway wheezing not broken by albuterol 5. ACLS applications (VF, pulseless VT, Asystole, PEA)	
Contraindications: <u>Avoid</u> use in the following unless symptoms are severe: 1. Chest pain 2. Pulse > 140/min. (adults) or > 180/min. (children) 3. Systolic BP > 180 4. Age > 40 years, contact OLMC.	
Side Effects: Tachycardia, hypertension, arrhythmias, tremor, anxiety, headache, chest pain	
Dosage:ANAPHYLAXIS: <i>Adults:</i> 0.3 mg (0.3 ml) SQ, IM <i>Children:</i> 0.2 mg (0.2 ml) SQ, IM <i>Infant:</i> 0.1 mg (0.1 ml) SQ, IM May repeat this dose once after 10 min. if needed. Paramedic <i>Adults:</i> 0.3-0.5 mg SQ, IM <i>Peds:</i> 0.1 mg SQ, IM RESPIRATORY DISTRESS: <i>Adults &</i> <i>Peds:</i> <i>Stridor, wheezing not broken with Albuterol</i> 3 ml in nebulizer CARDIAC: <i>Adult:</i> <i>ET tube – 2mg followed with flush of 8 ml NS</i> <i>Peds:</i> <i>ET tube – 0.1 ml/kg flushed with NS</i>	
Supply: 30 ml Vial – 1 mg/ml	

Comments: Cardiac doses are listed under Epinephrine 1:10,000.

FIRST RESPONDERS must use Epi Pens.

EMT-B's may assist with administration of patient's own prescribed **Epi pen** or **EPI pen Jr.**, Qualified departments administer **Epi pen/ Epi pen Jr.**, or Epi (1:1,000) at prescribed dose with 1 cc syringe marked in 0.1 cc (0.1mg) increments.

EPINEPHRINE 1:10,000

Epinephrine 1:10,000, (Adrenalin)	[Intermediate / RN / Paramedic]
Class: Sympathomimetic	
Actions: <ol style="list-style-type: none">1. α - Vasoconstriction: improves coronary blood flow and supports BP in anaphylactic shock.2. β_1 – Inotropic and chronotropic effects.3. β_2 – Bronchodilation.	
Indications: <ol style="list-style-type: none">1. V-Fib and Pulseless V-Tach2. Asystole3. PEA4. Pediatric Bradycardia unresponsive to ventilation (Paramedic Only)	
Contraindications: None	
Side Effects: Tachycardia, hypertension, arrhythmias	
Dosage:Paramedic Anaphylaxis: <i>Adults:</i> 0.5 mg (5 ml) IV/IO <i>Child/Infant:</i> 0.01 mg/kg (0.1 ml/kg) IV/IO Paramedic/Intermediate Cardiac ACLS: <i>Adults:</i> 1 mg (10 ml) IV/IO. Repeat every 3-5 minutes until pulse returns. <i>Children:</i> 0.01 mg/kg (0.1 ml/kg) IV/IO. Repeat every 3-5 minutes until pulse returns or bradycardia resolves. Epi 1:10,000 is not intended for ET administration. Use proper dose of EPI 1:1,000, followed by a flush of NS.	
Supply: Preload 1 mg /10 ml (1 ml = 0.1mg)	

ETOMIDATE (Amidate)

Etomidate (Amidate)	[Paramedic]
Class: Hypnotic Induction Agent	
Actions: Non-barbiturate hypnotic; lacks analgesic activity	
Indications: Induction for RSI.	
Kinetics: 1. Onset: within 60 seconds 2. Duration: 3-5 minutes	
Contraindications: 1. Known hypersensitivity. 2. Sepsis/septic shock	
Pregnancy Category C - not recommended	
Side Effects: 1. Adrenal suppression 2. Myoclonus 3. Transient pain on injection 4. Nausea/vomiting	
Dosage: Adult: 0.3 mg/kg IV/IO Pediatric: 0.3 mg/kg IV/IO Administer undiluted over 10 - 20 seconds	
Supply: 2 mg/mL Supplied in a pre-load syringe containing 40 mg in 20 mL	
Comments: First line induction agent for RSI. Advantages: Cerebroprotective and minimal myocardial/respiratory depression Disadvantages: Adrenal suppression/increased risk of death in septic patients. Excessively rapid injection may be followed by a fall in blood pressure. IV incompatibility with vecuronium	

FENTANYL (Sublimaze)

Fentanyl (Sublimaze)	[Intermediate/RN/Paramedic]
Class: Narcotic Analgesic	
<p>Actions:Acts on the opiate receptors in the brain to block the sensation of pain</p> <ol style="list-style-type: none"> 1. Approximately 80 times more potent than Morphine 2. No prominent hemodynamic changes 3. Has sedative effects 4. Duration of action 30 – 60 min, Onset 2 – 3 min 	
<p>Indications:</p> <ol style="list-style-type: none"> 1. Allergy to Morphine or as 1st line analgesic with the following: 2. Traumatic injuries with severe pain; (i.e., orthopedic injuries.) 3. Non traumatic pain; (i.e., cancer, abdominal pn., kidney stones.) 4. Pain from Burns 5. Analgesic of choice in pediatrics 	
<p>Contraindications:</p> <ol style="list-style-type: none"> 1. Allergy 2. Pts' taking MAO inhibitors currently or within the last 14 days. 	
<p>PrecautionsUse with Caution in pts with hepatic or head injury</p>	
<p>Side Effects:</p> <ol style="list-style-type: none"> 1. Respiratory depression or arrest. 2. Nausea & Vomiting 3. Bradycardia 4. Hypotension 5. Raised ICP 	
<p>Dosage:<i>Adults:</i> 25 – 100 mcg IV/IO/IM (1 mcg/kg) initial loading dose, slowly over 1-2 min., repeat with ½ initial dose as needed, titrate to BP, Pain and respiratory status.</p> <p><i>Pediatric:</i> 1 -2 mcg/kg IV/IO/IM for initial loading dose, slowly over 1-2 min. repeat with ½ initial dose as needed, titrate to BP, Pain and respiratory status.</p>	
<p>Supply:Carpject 100 mcg / 2 ml</p>	
<p>Comments:Rapid administration may cause muscle rigidity of respiratory muscles. Muscle rigidity may have to be treated with Succs or Zemuron.</p> <p>MAO Inhibitors will potentiate Fentanyl administration.</p>	

FUROSEMIDE, (Lasix)

Furosemide, (Lasix)	[Intermediate / RN / Paramedic]
Class: Diuretic	
Actions: 1. Inhibits reabsorption of NaCl 2. Promotes prompt diuresis 3. Vasodilatation	
Indications: Pulmonary edema with signs and symptoms of volume overload (recent weight gain, peripheral edema, JVD).	
Contraindications: Pregnancy Systolic BP < 100 Known severe hypokalemia Allergy to sulfa compounds	
Side Effects: Hypotension, low potassium (hypokalemia)	
Dosage: <i>Adults:</i> 40 mg (4 ml) IV/IO at 15-20 mg/min. Double the dose (80 mg) for patients taking PO Lasix daily. <i>Children:</i> 1 mg/kg (0.1 ml/kg) IV/IO at 15-20 mg./min.	
Supply: Vial contains 40 mg (4 ml) Ansyrr LL Syringe – 40 mg / 4 ml	
Comments:	

GLUCAGON HCL

Glucagon HCL	[Intermediate / RN / Paramedic]
Class: Hormone (Antihypoglycemic agent)	
Actions: 1. Causes breakdown of glycogen to glucose 2. Elevates blood glucose level	
Indications: Unable to administer IV D ₅₀ in: 1. GCS ≤ 12 2. Rapid glucose determination < 70 mg/dl. 3. Rapid glucose determination suspected stroke pt.< 60 mg/dl 4. Seizure lasting ≥ 3 min.	
Contraindications: Allergy to protein compounds	
Side Effects: Nausea, vomiting	
Dosage: <i>Adults:</i> 1 mg (1 ml) IM <i>Children:</i> 1 mg (1 ml) IM < 20 kg – 0.5 mg IM	
Supply: Vial containing 1 mg powder, vial containing 1 ml diluent.	
Comments: Useful in β-blocker overdoses. Requires significant quantity to be effective.	

IV SOLUTION (BSS)

IV Solution (BSS)	[Intermediate / RN / Paramedic]
Class: Electrolyte	
Actions: They provide water and electrolytes for replacement of acute extracellular fluid losses and they do not disturb the normal electrolyte balance since the electrolyte composition and tonicity approach that of normal plasma.	
Indications: A balanced salt solution is indicated for replacement of fluid volume losses such as in trauma, burns, dehydration, or shock.	
Contraindications:	
Side Effects: Balanced salt solutions should be used with caution in patients with renal impairment (hyperkalemia), cardiac and respiratory disorders (fluid overload), or extremes of age.	
Dosage: See procedure on CONTROL AND MONITORING OF INTRAVENOUS SOLUTIONS. Administer IV/IO	
Supply: 100,250, 500 and 1,000 ml	
Comments: Either Lactated Ringers or Normal Saline 0.9%	

KETAMINE HCL (Ketalar)

Ketamine (Ketalar)	[Paramedic]
Class: Sedative, Analgesic	
Actions: Phencyclidine (PCP) derivative causes dissociative anesthesia characterized by profound analgesia and amnesia with retention of protective airway reflexes, spontaneous respirations and cardiopulmonary stability. Releases endogenous catecholamines Dilates bronchial smooth muscles Stimulates beta receptors in the lungs	
Indications: Pre-induction agent for RSI.	
Kinetics: 1. Onset: within 1 - 2 minutes 2. Duration: 15 - 30 minutes	
Contraindications: 1. Known hypersensitivity. 2. Coronary artery disease 3. Acute globe injury or glaucoma 4. Known or suspected schizophrenia	
Pregnancy Category C - not recommended	
Side Effects: Laryngospasm Hypersalivation Emesis Hypertension Emergence reaction Possible increase intracranial pressure (ICP) and intraocular pressure (IOP)	
Dosage: Adult & Pediatric: 2 mg/kg IV/IO Administer slow IV/IO over 60 seconds * May also be given IM Adult & Pediatric: 4 mg/kg IM	
Supply: 10 mg/mL	
Comments: Administer with midazolam 2.5 mg IV/IO <u>in adults</u> to prevent/treat negative emergence reaction Monitor closely for laryngospasm	

LABETALOL (Trandate)

Labetalol (Trandate) OLMC Approval Required	[Paramedic]
Class: Alpha- and beta-adrenergic blocker	
Actions: Competitive alpha1-receptor blocker as well as a nonselective beta-receptor blocker.	
Indications: Hypertensive Crisis – BP approx. 200/115	
Contraindications: 1. Bronchial asthma Congestive heart failure 2. Second- and third-degree heart block Bradycardia 3. Cardiogenic shock	
Side Effects: 1. Headache, Dizziness, Ventricular dysrhythmias 2. Hypotension, Dyspnea, Allergic reaction 3. Facial flushing, Diaphoresis, Postural hypotension	
Dosage: 10mg slow IV/IO over 1-2 min; additional dose of 10 - 20 mg can be given at 10-min interval to max dose 150 mg.	
Supply: 20 mg Carpuject	
Comments: 1. Blood pressure, pulse rate, ECG should be continuously monitored. 2. Observe for signs of congestive heart failure, bradycardia, and bronchospasm. 3. Should only be administered with the patient in a supine position. 4. Produces a predictable fall in BP within 5 – 10 minutes	

LIDOCAINE HCL

Lidocaine HCL, (Xylocaine)	[Intermediate / RN / Paramedic]
Class: Antiarrhythmic	
Actions: <ol style="list-style-type: none"> 1. Suppresses ventricular ectopy 2. Elevates threshold of ventricular fibrillation 3. Decreases ventricular automaticity 	
Indications: <ol style="list-style-type: none"> 1. V-Fib and V-Tach 2. Prevention of V-Fib and V-Tach 3. Numbing solution of bone marrow after conscious IO insertion. 	
Contraindications: <ol style="list-style-type: none"> 1. Lidocaine allergy and local anesthetics 2. Slow V-Tach (heart rate < 100/min., QRS ≥ 0.12 sec) 3. Bradycardia (heart rate < 60/min. adult; < 80/min. children) 4. Torsades de pointes 	
Side Effects: Decreased LOC, hypotension, numbness, seizures	
<p>Dosage:<i>Adults:</i> Cardiac arrest VF/VT 1.5 mg/kg IV/IO or 3 mg/kg ET (one dose only). Repeat IV in 5 minutes, if unsuccessful, to a max of 3 mg/kg.</p> <p><i>Adults:</i> Wide QRS Tachycardia 1.5 mg/kg IV/IO at 50 mg/min. or 3 mg/kg ET. Subsequent IV doses: Administer 0.75 mg/kg at 50 mg/min. every 5 min. Up to 2 doses (3 mg/kg total). Avoid additional doses in CHF, shock, liver failure, and age > 70 yrs.</p> <p><i>Children:</i> Cardiac arrest VF/VT 1.0 mg/kg IV/IO or 2 mg/kg ET (one dose only). Repeat IV dose every 5 minutes, if unsuccessful, to a max of 3 mg/kg.</p> <p><i>Children:</i> Wide QRS Tachycardia 1.0 mg/kg IV over 1 minute or 2 mg/kg ET. Subsequent IV doses: Administer 1.0 mg/kg over 1 minute every 5 min. up to a max of 3 mg/kg. Avoid additional doses in CHF, shock, or liver failure.</p> <p><i>Adults:</i> Conscious IO 0.5 mg/kg IO; 30 – 60 seconds for full effect; Not to exceed 50 mg.</p>	
Supply: Prefilled syringe contains 100 mg (5 ml), 2% solution	

LIDOCAINE PRE-MIX

LIDOCAINE HCL PRE-MIX	[Intermediate / RN / Paramedic]
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Class:Antiarrhythmic

- Actions:**
1. Suppress ventricular ectopy after RSC.
 2. Elevates threshold of ventricular fibrillation.
 3. Decreases ventricular automaticity.

- Indications:**
1. Control of V-Fib & V-tach after RSC.
 2. Prevention of V-Fib & V-tach after RSC.

- Contraindications:**
1. Lidocaine allergy and local anesthetics
 2. Slow V-tach (heart rate < 100/min., QRS > 0.12 sec.)
 3. Bradycardia (heart rate , 60/min. adult; < 80/min. children)
 4. Torsades de pointes

Side Effects:Decreased LOC, hypotension, numbness, seizures

Dosage:As a drip to suppress return of V-Fib or V-Tach, Use pump or Micro-drip Soluset to administer at starting rate of 1 mg/min. May increase dosage to 2, 3, or 4 mg/min. as break-thru ectopy occurs.

How Supplied:Pre-mixed 2 gm in 250 ml D5W bag

MAGNESIUM SULFATE 50%

Magnesium Sulfate 50%	[Paramedic]
Class: Anticonvulsant	
Actions: 1. CNS depressant 2. Anticonvulsant 3. Smooth muscle relaxant (vasodilation, bronchodilation)	
Indications: 1. Refractory V-Fib and Pulseless V-Tach 2. Eclampsia 3. Torsades de Pointes 4. Asthma with increasing ETCO ₂ , shark fin tracing and neb tx not working	
Contraindications: 1. Complete heart block 2. If reflexes disappear in the eclamptic patient, do not repeat dose.	
Side Effects: Flushing, sweating, hypotension, bradycardia, complete heart block, depressed reflexes, respiratory paralysis, confusion	
Dosage: <i>V-Fib or Pulseless V-Tach:</i> 2 gm (10% - 20 ml) IV/IO <i>Eclampsia:</i> 4 gm (10% - 40 ml) IV/IO over 4 minutes <i>Torsades de Pointes:</i> 2 gm (10% - 20 ml) IV/IO over 1 minute Doses may be repeated in 5 min.	
Supply: Vial contains 10 gm/ 20 ml. This equals 1 gm/2 ml of a 50% solution. To make 10% solution, add 8 ml of Normal Saline to each 1 gm (2 ml) of Magnesium Sulfate.	
Comments: 1. Torsades de Pointes is a form of V-Tach characterized alternating groups of positive and negative deflections on the cardiac monitor.	
Note: Magnesium drip: Add 1gm=2ml Magnesium Sulfate to 250 ml NS and run through macro drip @ 60 gtt per min. for 1 gm per hour.	

MIDAZOLAM HCL (Versed)

Midazolam HCL, (Versed)	[Paramedic]
Class: Sedative, hypnotic (Benzodiazepine)	
Actions: Sedation by direct action on CNS	
<p>Indications:</p> <ol style="list-style-type: none"> 1. Seizures not caused by hypoglycemia 2. Sedation for cardioversion, TCP. 3. Sedation for RSI. 4. Severe agitation, tachycardia, or hallucinations cause by alcohol intoxication/withdraw 5. Seizures, tachydysrhythmias, altered vitals signs from cocaine or Methamphetamine overdose. 6. Sedation 	
<p>Contraindications:</p> <ol style="list-style-type: none"> 1. Known hypersensitivity. 2. Hypotension 3. Shock 4. Coma 	
Side Effects: Respiratory depression, hypotension, amnesia, apnea	
<p>Dosage:</p> <p>Seizures Adult: 2 – 10 mg IV/IO or 5 – 15 mg IM Pediatric - 0.2 mg/kg – max 5 mg IM 0.05 – 0.1 mg/kg IV/IO; max 2.5 mg; may repeat to 5 mg for Sz. Lasting more than 5 min.</p> <p>Cardioversion / RSI Adult: 0.3 mg/kg IM/IV/IO Pediatric: 0.2 mg/kg IM/IV/IO < 6 y.o. max dose 3 mg > 6 y.o. max dose 5 mg</p> <p>Chemical Restraint 2 mg – 10 mg IV/IO/IM</p> <p>Pain Management May use 1mg – 2mg IV/IO/IM in conjunction With Morphine Sulfate.</p>	
Supply: 10mg / 2ml & 2mg / 2ml	
Comments: Advanced airway management equipment must be readily available. Be prepared for respiratory depression.	

MORPHINE SULFATE

Morphine Sulfate	[Intermediate / RN / Paramedic]
Class: Narcotic Analgesic	
Actions: Acts on the opiate receptors in the brain to block the sensation of pain: CNS depressant Narcotic analgesic Vasodilation	
Indications: <ol style="list-style-type: none">1. Pain associated with acute MI2. Acute pain, such as isolated extremity trauma/orthopedic injuries.3. Back Spasms4. Pain from burns5. Cancer6. Non-traumatic abdominal pain.	
Contraindications: Multiple trauma, especially head trauma Decreased LOC from any cause Systolic BP < 110 (children: systolic BP < 80) Allergy to Morphine	
Side Effects: Respiratory depression, hypotension, vomiting, decreased LOC	
Dosage: IM dose 5 mg – 10 mg may repeat as needed IV/IO at 2 - 5 mg Repeat IV/IO dose after 5 min., as needed to max dose of 10 mg. (may give up to 20 mg for burn patients)	
Supply: Vial contains 10 mg (1 ml) Carpuject 10 mg/ 1 ml	
Comments: Halt the IV/IM injection if: Pain is relieved Systolic BP < 110 Respiratory depression	

NALOXONE, (Narcan)

Naloxone, (Narcan)	[Intermediate / RN / Paramedic]
Class: Narcotic Antagonist	
Actions: Reverses effects of narcotics by competing for opiate receptors.	
Indications: Respiratory depression or systolic BP < 90 in a narcotic overdose. Rule out narcotic OD in coma of unknown etiology	
Contraindications: None	
Side Effects: Awakened or awakening patient may become combative, may present with nausea and vomiting.	
Dosage: <i>Adults:</i> 0.4 - 2 mg., IV/IO/IM, SQ,SL,ET Max. 8 mg <i>Children (< 20 kg):</i> 0.1mg/kg, IV/IO/IM,SQ,SL,ET Max. 2 mg	
Supply: Carpject contains 2 mg Prefilled LL Syringe – 2 mg	
Comments: Halt the IV injection if agitation occurs. <u>Avoid</u> use in intubated patients. Reversal of coma, hypotension and respiratory depression is only temporary.	

NITROGLYCERIN, Nitrostat

Nitroglycerin, Nitrostat ®	[Intermediate / RN / Paramedic]
Class: Coronary Vasodilator	
Actions: Smooth muscle relaxant (vasodilator) Reduces peripheral resistance; reduces cardiac work	
Indications: Chest pain (cardiac cause suspected) Pulmonary Edema	
Contraindications: Systolic BP < 100 Acute stroke Nitroglycerin intolerance Patients taking erectile dysfunction drugs in last 48 hours	
Side Effects: Hypotension, tachycardia, syncope, headache. Bradycardia may occur in AMI.	
Dosage: 1. Tablet: 0.4 mg SL. 2. Spray (each squirt = 0.4 mg) Sublingual May be repeated every 5 minutes unless the systolic BP is < 100.	
Supply: Bottle containing tablets. Pump Spray Packets containing ointment (1 inch/packet)	
Comments: If the patient has taken nitroglycerin before without problems, nitroglycerin may be administered sublingually before an IV is started. If the patient has never taken nitroglycerin, an IV must be attempted prior to nitroglycerin administration. If unsuccessful with IV, give NTG SL, then reattempt IV. Wear gloves when applying ointment. Use caution in Bradycardia patients.	

NUBAIN

[Intermediate / RN /
Paramedic]

Nubain (nalbuphine HCL)

Class:Synthetic opioid- antagonist

Actions:1. CNS depressant
2. Narcotic analgesic
3. Vasodilation

Indications:Use in place of Morphine when patient is allergic to Morphine or you are a long distance from your MS supply.

Contraindications:Hypersensitivity to the drug.
Avoid in patients chronically using narcotics.

Side Effects:Hypotension, hypertension, n/v, dizziness, blurred vision, sedation.

Dosage:2.0-10mg IV/IO/IM, every 5-30 minutes up to 10 mgs without OLMC approval.

Supply:10 mg/ml 1ml ampule

Comments:1 mg = 0.1ml

OXYGEN

Oxygen	[FR, Basic, Intermediate, RN / Paramedic]																																				
Class: Component of acid/base balance and CO ₂ levels.																																					
Actions: Oxygen added to the inspired air raises the amount of oxygen in the blood and, therefore, the amount delivered to the tissues.																																					
Indications: <ol style="list-style-type: none"> 1. Suspected hypoxemia or respiratory distress from any cause. 2. Acute chest pain in which a myocardial infarction is suspected. 3. Shock (decreased oxygenation of tissues) from any cause. 4. Major Trauma. 5. Carbon monoxide poisoning. 6. Any time a patient is in respiratory distress. 																																					
Contraindications: None in above settings																																					
Side Effects: <ol style="list-style-type: none"> 1. Non humidified O₂ is drying and irritating to mucous membranes. 2. Restlessness may be an important sign of hypoxia, reevaluate the delivery of the oxygen. 3. Oxygen supports combustion. 4. Oxygen toxicity (overdose) is not a hazard from acute administration. 																																					
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OXYTOCIN (Pitocin)

Oxytocin (Pitocin)	[Paramedic]
Class: Hormone	
Actions: Increases electrical and contractile activity in uterine smooth muscle. Oxytocin can initiate or enhance rhythmic contractions at any time during pregnancy, but the uterus is most sensitive at term.	
Indications: 1. Labor augmentation (in-hospital only) 2. Control of post-partum hemorrhage. Use only by direct physician order	
Contraindications:	
Side Effects: 1. In large amount Oxytocin exhibits a transient but marked vasodilating effect and reflex tachycardia. 2. Cardiac arrhythmias may be precipitated or aggravated by Oxytocin.	
Dosage: IM: 10 USP units.	
Supply: Injectable Oxytocin (Pitocin [R]) contains 10 USP units (20mg) per ml.	
Comments: 1. Prior to its administration, the presence of a second fetus must be considered. Administration with fetus in uterus can cause rupture of uterus and/or death of fetus. 2. Administration should follow delivery of placenta whenever possible.	

PHENERGAN (Promethazine)

Phenergan (Promethazine)	[Paramedic]
Class: Antiemetic	
Actions: Competes with histamine for Hi-receptor sites on effector cells.	
Indications: 1. Second line antiemetic, may be used 10 – 15 min. after use of Zofran and no improvement. 2. Treatment of Nausea and Vomiting (Unrelated to Head Injury)	
Contraindications: Allergy	
Side Effects: 1. CNS Depression 2. Airway / Respiratory compromise	
Dosage: 12.5 mg – 25 mg IV/IO/IM (on average adult) 6.25 mg Adults > 60 yo	
Supply: 25 mg / 1 ml - preload	
Comments: Requires cardiac monitoring & Pulse Oximetry. Recommended to hang bag of NS and administer Phenergan slowly in port furthest from IV site with NS free flowing.	
WARNING: Inadvertent intra-arterial injection can result in gangrene of the effected extremity. Subcutaneous injection is contraindicated, for it may result in tissue necrosis.	

ROCURONIUM (Zemuron)

Rocuronium (Zemuron)	[Paramedic]
Class: Neuromuscular blocking agent	
Actions: Non-depolarizing neuromuscular blocking agent causing skeletal muscle relaxation.	
Indications: Continued paralyzation after intubation	
Contraindications: None in pre-hospital emergency setting	
Side Effects: 1. Airway compromise 2. Respiratory arrest	
Dosage: RSI or Prolonged Transport on Ventilator Initial dose: 1 mg/kg IV/IO Rebolus dose: 0.1 – 0.3 mg/kg IV/IO	
Supply: 10 mg/ml - 10 ml - vial	
Comments: Maximum neuromuscular blockade occurs within 3 to 5 minutes. Time to 25% recovery is 25 to 30 minutes.	

SODIUM BICARBONATE

Sodium Bicarbonate, NaHCO₃	[Paramedic]
Class: Alkalizing agent	
Actions: Buffers metabolic acidosis, neutralizes excess acids in the blood Increases pH	
Indications: Cardiac arrest early in dialysis Patients Known metabolic acidosis Cardiac arrest in a dialysis patient (hyperkalemia). Tricyclic antidepressant overdose	
Contraindications: Hypokalemia	
Side Effects: Metabolic alkalosis, increased sodium, decreased potassium	
Dosage: <i>Adults and Pediatrics:</i> 1 mEq/kg IV/IO (1 ml/kg). and then 0.5 mEq/kg or 1 amp until pulse is restored	
Supply: Prefilled syringe contains 50 mEq (50 ml)	
Comments: Providing optimum chest compressions and ventilation best treats acidosis in cardiac arrest. Sodium Bicarbonate may worsen outcome in cardiac arrest. Sodium Bicarbonate should be an early treatment consideration in dialysis patients in cardiac arrest. Common tricyclic antidepressants – Elavil ® (amitriptyline), Norpramin ® (desipramine), Pamelor ® (nortriptyline), Sinequan ® (doxepin), Tofranil ® (imipramine)	

SUCCINYLCHOLINE (Anectine)

Concerns: Do not administer Succs if:

1. Patient has burns greater than 24 hours or up to 2 years old.
2. Patient has a crush injury greater than 24 hours or up to 90 days old.
3. A patient has a stroke or cord trauma greater than 7 days old or up to 6 months old.

Succinylcholine (Anectine)	[Paramedic]
Class: Skeletal muscle relaxant	
Actions: Short acting, motor nerve depolarizing, skeletal muscle relaxant	
Indications: To achieve temporary paralysis where endotracheal intubation is indicated, and where muscle tone or seizure activity prevent it.	
Contraindications: Hypersensitivity	
Side Effects:	
Dosage: Adults: 1.5 mg/Kg IV/IO push or 2.5 mg/kg IM Children: <6 years: 2 mg/Kg IV/IO push or 4 mg/kg IM	
Supply: 200 mg / 10 ml - vial	
Comments: <ol style="list-style-type: none">1. Succinylcholine should not be administered unless personnel skilled in endotracheal intubation are present, and ready to perform the procedure.2. Oxygen therapy equipment and resuscitation drugs should be available.3. Succinylcholine produces paralysis, but does not alter a person's level of consciousness. Paralysis in the conscious patient is very frightening, therefore, sedation should be provided in any conscious or responsive patient; also verbal explanation should be provided to the patient during the procedure - even if you do not think the patient can hear you.	

THIAMINE

Thiamine	[Paramedic]
Class: B1 Vitamin	
Actions: Replace or supplement vitamin B1	
Indications: <ol style="list-style-type: none">1. In suspected alcoholics before or after the administration of 50% dextrose.2. In suspected Wernicke's or Korsakoff's syndrome.3. In malnourished patients.	
Contraindications:	
Side Effects: <ol style="list-style-type: none">1. Allergic reactions occur but are extremely rare.2. Rapid IV administration has been associated with hypotension.	
Dosage: 100 mg IV/IO/IM.	
Supply: 100 mg / 1 ml - vial 200 mg / 2 ml - vial	
Comments:	

VASOPRESSIN

Vasopressin

[Intermediate / RN / Paramedic]

Class:Vasopressor

Actions:Vasopressin is a non peptide hormone made in the posterior pituitary. Its primary role is water regulation with secondary role of vasoconstriction. It increases GI and uterine motility, platelet aggregation, and results in secretion of ACTH, aldosterone, factor VIII.

Vasopressin IV/IO is rapidly distributed. No dosage adjustments are needed for patients with renal, liver, heart failure, or advanced age.

Indications:V-Fib/Pulseless VT, Asystole, PEA

Contraindications:Hypersensitivity to the medication

Side Effects:

Dosage:Adults: 40 units IV/IO
Peds: Not indicated for pediatrics

Supplied:20 units/ 1ml Vial

Comments:

VECURONIUM (Norcuron)

Vecuronium (Norcuron)

[Paramedic]

Class: Neuromuscular blocking agent

Actions: Non-depolarizing neuromuscular blocking agent causing skeletal muscle relaxation.

Indications: Continued paralyzation after intubation

Contraindications: None in pre-hospital emergency setting

Side Effects:

1. Airway compromise
2. Respiratory arrest

Dosage: RSI or prolonged transport on ventilator
Initial Dose: 0.1 mg/kg IV/IO
Rebolus Dose: 0.01 – 0.03 mg/kg IV/IO

Supplied: 10 mg/10 ml – Vial (Comes in two vials, to be mixed)

Comments: Maximum neuromuscular blockage occurs within 3-5 minutes.
Time to 25% recovery is 25 to 30 minutes.

ZOFRAN (Ondansetron HCL)

Zofran (Ondansetron HCL)	[Intermediate/RN/Paramedic]
Class: Antiemetic	
Actions: Selective antagonist of a specific type of serotonin receptor (5-HT ₃) located in the DNS at the chemoreceptor trigger zone and in the nerve terminals of the vagus nerve.	
Indications: Motion sickness, nausea (unrelated to head injury), or adjunct to analgesics.	
Contraindications: Hypersensitivity / allergy	
Side Effects: 1. Headache	
Dosage: Adult: 4 mg IM or slow IV/IO (Over 2 min) 4 mg Tablet placed in mouth of conscious patient. Repeat 4 mg dose in 15 minutes if no relief from first dose Pediatric: < 2 years – 2 mg IM/IV/IO > 2 years – 4 mg IM/IV/IO	
Supply: 2 mg/ml - 2 ml Vial 4 mg oral dissolving tablet.	
Comments: 1. Does not typically cause sedation 2. Peak concentration occurs 10 min after IV dose & 40 min after IM	