POLICY:

- All medications will be administered and documented as outlined in system policy.
- Concentrations and packaging of medications may change depending on availability; adjust volume administered to ensure proper dosing.
- IV/IO bolus should be administered over 10 seconds.
- Slow IV push should be administered over 1 – 2 minutes.

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	ADMINISTRATION GUIDELINE	MONITOR, REPORT, DOCUMENT	INDICATIONS	CONTRAINDICATIONS
Acetaminophen 500 mg tablets	1 gram (2 tablets) one dose only	N/A	Swallow	Temperature	Sepsis Syndrome	Known liver disease
Adenosine 12 mg in 4 mL Prefilled syringe	12 mg	1st dose - 0.1 mg/kg 2nd dose - 0.2 mg/kg Max dose 12 mg	Rapid IV/IO	Continuous ECG Attempt to record conversion	Narrow complex tachycardia	Heart block Heart transplant Resuscitated PNB
Albuterol/ Ipratropium (Ventolin/ Atrovent) 2.5 mg albuterol / 0.5 mg ipratropium in 3 mL unit dose	5 mg albuterol /1 mg ipratropium in 3 mL, Max dose 15 mg albuterol/ 3 mg ipratropium	2.5 mg albuterol / 0.5mg ipratropium in 3 mL Max dose 7.5 mg albuterol/ 1.5 mg ipratropium	Nebulized; Do not dilute	Patients with cardiac history over the age of 60 will have ECG monitoring during administration Heart rate Change in respiratory status	Respiratory distress	Heart rate >180
Amiodarone (Cordarone) 150 mg in 3 mL Carpuject	300 mg --- 150 mg add to 100 mL D5W	5mg/kg --- 5mg/kg add to 100 mL D5W, Max dose 300 mg	IV/IO bolus --- IV/IO drip, run over 10 minutes	ECG changes Blood pressure	Cardiac arrest --- Wide complex tachycardia	2nd or 3rd degree AV block, Bradycardia Not to be administered via ETT
Aspirin 81 mg Chewable tablet	324 mg - 4 tablets	N/A	Chew and swallow	N/A	Angina / acute coronary syndrome	Allergy

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	ADMINISTRATION GUIDELINE	MONITOR, REPORT, DOCUMENT	INDICATIONS	CONTRAINDICATIONS
Atropine 1mg in 10 mL Prefilled	0.5 - 1 mg Minimum dose 0.1 mg Max dose 0.04 mg/kg	0.02 mg/kg Minimum dose 0.1 mg Max dose 1 mg	IV/IO	Heart rate before and after administration; BP within 5 minutes of administration; ECG changes	Bradycardia	Tachycardia
	2 mg	0.4 mg/kg	ET			
	2 - 5 mg	0.5 mg/kg	IV/IO	Salivation Lacrimation Urination Diaphoresis GI upset Emesis	Organophosphate poisoning	
Calcium Gluconate 1g in 10mL Single dose vial	3 g Max dose 3g	60 mg/kg Max dose 3000mg	IV/IO Push over 2-5 minutes	ECG changes Watch carefully for infiltration Bradycardia	Suspected hyper-kalemia in cardiac arrest; As directed by medical control	Ventricular fibrillation Ventricular tachycardia
D5 in Water 100 mL bag	Used to dilute amiodarone, sodium bicarbonate	Used to dilute dextrose and sodium bicarbonate		Monitor for infiltration Monitor pediatric blood glucose levels		None
Dextrose 25 g in 50 mL Prefilled	25 g	500 mg/kg (2 ml/kg of diluted solution) to a max of 25 g/dose	IV bolus or swallowed *IO in cardiac arrest* Dilute 1:1 with D5W for patients less than 100 lbs/45 kg	Changes in level of consciousness Repeat blood sugar determination Watch carefully for infiltration	Hypoglycemia	If hypoglycemic, no Contraindications

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	ADMINISTRATION GUIDELINE	MONITOR, REPORT, DOCUMENT	INDICATIONS	CONTRAINDICATIONS
Diphenhydramine (Benadryl) 50 mg in 1 mL, 25 mg pills	25 – 50 mg	1 mg/kg Max dose 25 mg	IV/IO Push, IM Swallow for pills only	Changes in level of consciousness	Anaphylaxis	Presence of a self-administered CNS depressant
Dopamine 200 mg in 250 mL Premixed IV	2 – 20 mcg/kg/min	2 – 20 mcg/kg/min	IV/IO drip	ECG changes Headache Watch carefully for infiltration	Hypotension	Hypovolemic shock Ventricular fibrillation, Ventricular tachycardia or PVCs
DuoDote Kit Atropine 2.1 mg/0.7 mL Pralidoxine 600 mg/2 mL Autoinjector	Atropine – 2 mg IM Pralidoxine – 600 mg IM	N/A	IM autoinjectors	Change in symptoms Change in level of consciousness	Chemical exposure	Mild symptoms with no miosis
Epinephrine 1:1000 – 1 mg in 1 mL vial	0.3 mg (greater than 30 kg) or adult autoinjector 0.5 - 1 mg 2 mg	0.15 mg (less than 30 kg) or pediatric autoinjector 0.01 mg/kg 0.1 mg/kg	IM, or autoinjector (Vastus lateralis preferred site) IV/IO ET	Breath sounds and vital signs within 5 minutes of administration Effect on heart rate ECG changes	Anaphylaxis Cardiac arrest	No absolute contraindications in a life-threatening situation Use caution when administering to patient with hypertension or coronary artery disease
Epinephrine 1:10,000 1 mg in 10 mL Prefilled	0.1 mg/kg 0.5 – 1mg 2 mg ET	0.01 mg/kg Max dose 1 mg IV/IO – 0.01mg/kg Max dose 1 mg 0.1 mg/kg Max dose 1 mg	IV/IO IV/IO ET	Breath sounds and vital signs within 5 minutes of administration Effect on heart rate ECG changes	Refractory anaphylaxis Cardiac arrest Cardiac arrest	No absolute contraindications in a life-threatening situation Use caution when administering to patient with hypertension or coronary artery disease

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	ADMINISTRATION GUIDELINE	MONITOR, REPORT, DOCUMENT	INDICATIONS	CONTRAINDICATIONS
Fentanyl 100 mcg/ 2 mL Carpuject/tubex	1 mcg/kg Max single dose 100 mcg	0.5 – 1mcg/kg Max single dose 50 mcg	IV/IO Push, IM, IN	Change in pain level Changes in respiratory rate and effort Capnography Agitation post airway placement	Pain management	Respiratory depression GCS < 14 Hypotension
	0.5 mcg/kg Max single dose 100 mcg	0.5 mcg/kg Max single dose 50 mcg	IV/IO Push		Sedation post airway placement	
Glucagon 1 mg with 1 mL diluting solution	1 mg	1 mg	IM, IN	Level of consciousness Repeat blood glucose determination	Hypoglycemia	Known hypersensitivity Known pheochromocytoma
Glucose (oral) 15 g in 37.5 g Gel tube	15g	15g	Swallowed	Level of consciousness	Hypoglycemia	Lack of gag reflex Patient unable to swallow
Hydroxocobalamin (CYANOKIT®) (1) 5 g vial Reconstitute with 200 mL saline or D5W	5 g IV/IO drip	70 mg/kg Max dose 5 g	IV/IO drip infused wide open over 15 minutes	Blood pressure Nausea Headache Site reactions Rash	Cyanide poisoning	None
Ketamine 500 mg in 5 mL Vial	1 mg/kg; max dose 100 mg	1 mg/kg IV; max dose 100 mg	IV; dilute 1:1 with NS	Heart rate and rhythm Blood pressure Level of consciousness / hallucinations Excessive salivation Respiratory rate Capnography	Excited delirium; Immediate threat of harm to self or others	Hydrocephalus Allergy
	3 mg/kg max dose 300 mg	3 mg/kg max dose 300 mg	IM; do not dilute			
	0.3 mg/kg	0.3mg/kg	IV/IO		Sedation	
Lidocaine (Xylocaine) 20 mg/mL in 5 ml vial	1 mg/kg Max dose 40 mg	1mg/kg Max dose mg	IO Push	ECG changes	Pain management in conscious patients with IO insertion	Heart block Junctional arrhythmia Brady arrhythmia

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	ADMINISTRATION GUIDELINE	MONITOR, REPORT, DOCUMENT	INDICATIONS	CONTRAINDICATIONS
Midazolam (Versed) 5 mg in 5 mL vial	1 - 4 mg Max dose 4 mg	0.1mg/kg Max dose 2 mg	IV/IO Push, IN, rectal	Changes in respiratory rate and effort Changes in level of consciousness and seizure activity Capnography Agitation post airway placement	Chemical restraint Seizure	Hypotension Presence of a self-administered CNS depressant
	10 mg Max 10 mg	0.25 mg/kg Max 5 mg	IM			
	0.1 mg/kg Max 2 mg	0.1 mg/kg Max 2 mg	IV/IO		Sedation post airway placement	
Naloxone (Narcan) 2 mg in 2 mL Prefilled	0.5 mg	0.1 mg/kg Max single dose 0.5 mg	IV/IO bolus, ET, IM, IN	Change in level of consciousness	Narcotic overdose	Allergy
Nitroglycerin Metered spray canister – 0.4 mg/spray	0.4 mg	N/A	Sublingual metered spray	Blood pressure prior to and after administration Headache	Angina / acute coronary syndrome/ CHF	Hypotension Use of Viagra-like medication (phosphodiesterase inhibitor) within last 72 hours
Normal Saline 1000 mL, 250mL bags, 2mL carpuject	As needed for volume replacement or to administer medications	20 mL/kg	fluid bolus	Label date and time set up assembled Document mL of fluid infused Blood pressure Monitor for infiltration Attempt to keep warm in extreme cold	Fluid replacement	Discard after 24 hours or if no longer sterile
Ondansetron (Zofran) 4 mg oral dissolving tablets	Over 30 kg: 8 mg	15 – 30 kg: 4 mg	oral dissolving tablet	Headache Dizziness Dysarthria	Nausea/ vomiting	Prolonged QT complex: Male: greater than 450 ms Female: greater than 470 ms
Ondansetron 2 mg/mL in 2 mL vial	0.1 mg/kg– max 4 mg	0.1 mg/kg - max 4 mg	IV/IO Push	Headache Dizziness Dysarthria	Nausea/ vomiting	Prolonged QT complex: Male: greater than 450 ms Female: greater than 470 ms

MEDICATION	USUAL ADULT DOSE	USUAL PEDS DOSE	ADMINISTRATION GUIDELINE	MONITOR, REPORT, DOCUMENT	INDICATIONS	CONTRAINDICATIONS
Sodium Bicarbonate 50 mEq in 50 mL Prefilled	0.5 - 1 mEq/kg	1 mEq/kg	IV/IO Bolus; dilute for infants 5 kg and less 1:1 with D5W	Change in level of consciousness ECG changes if given for tricyclic OD	Acidosis; Tricyclic OD	Do not mix with epinephrine or dopamine

Dopamine Drip Rate Chart – based on standard premixed solution of 200 mg/250 mL, using microdrip tubing (60 gtt/min/mL)

Formula: Amount to give (mcg) X weight (kg) X drip factor ÷ amount on hand (mcg/mL)
Example: Start a dopamine drip at 7.5 mcg on a patient who weighs 176 lbs, using standard premised dopamine (200 mg/250 mL or 800 mcg/mL)

$$\frac{7.5 \text{ mcg X } 80 \text{ kg X } 60\text{gtt/min/mL}}{800 \text{ mcg/mL}} = \frac{36000}{800} = 45 \text{ gtt/min}$$

	lbs: 99	110	121	132	143	154	165	176	187	198	209	220
	kg: 45	50	55	60	65	70	75	80	85	90	95	100
Dose: 1 mcg/kg/min	4	4	4	5	5	5	6	6	6	7	7	8
2.5	8	9	10	11	12	13	14	15	16	17	18	19
5	17	19	21	23	24	26	28	30	32	34	36	38
7.5	25	28	31	34	37	39	42	45	48	51	53	56
10	34	38	41	45	49	53	56	60	64	68	71	75
15	51	56	62	68	73	79	84	90	96	101	107	113
20	68	75	83	90	98	105	113	120	128	135	143	150
25	84	94	103	113	122	131	141	150	159	169	178	189
30	101	113	124	135	146	158	169	180	191	203	214	225
35	118	131	144	158	171	184	197	210	223	236	249	263
40	135	150	165	180	195	210	225	240	255	270	285	300
45	152	169	186	203	219	236	253	270	287	304	321	338
50	169	188	206	225	244	263	281	300	319	338	356	375