

Pharmacotherapy approved: January 20, 2017



## Orlando Health ADULT CONTINUOUS INFUSION STANDARD DILUTIONS AND DOSING GUIDELINES

(All intravenous preparation of medications should be done by pharmacy except in emergent situations)

**DISCLAIMER:** The following table is intended to serve as a general guideline for the continuous infusion of medications in adult patients. Variations in the diluent, maximum concentration, and/or dosing may be appropriate in select circumstances. These guidelines are not intended to replace clinical judgment. A physician order is required when a concentration or diluent that differs from the standard concentration is needed.

**DISCLAIMER:** The designation of "PREMIX" in this table does not guarantee that the medication will be dispensed as the premixed formulation. The use of the premixed product or standard volume may be site specific or may change based on availability.

**NOTE:** Physician must be notified prior to exceeding the upper limit of the usual dose range for vasoactive medications. For non-titrated weight-based medications if the daily weight changes by 10% as compared to the med-calc weight the physician should be contact to clarify the dose

DRUG	STANDARD CONCENTRATION/DILUENT	ALTERNATIVE DILUENT	LOADING DOSE	USUAL STARTING DOSE	USUAL DOSE RANGE	ALTERNATE CONCENTRATION(S)
<b>VASOACTIVE/ INOTROPIC MEDICATIONS</b>						
<b>Dobutamine (Dobutrex)</b>	<b>PREMIX in D5W</b> 500 mg/250 mL (2 mg/mL)	NS	N/A	5 mcg/kg/min	2-20 mcg/kg/min	500 mg/100 mL (5 mg/mL)
<b>Dopamine (Intropin)</b>	<b>PREMIX in D5W</b> 800 mg/250 mL (3200 mcg/mL)	NS	N/A	5 mcg/kg/min	2-20 mcg/kg/min	1600 mg/250 mL (6400 mcg/mL)
<b>Epinephrine (Adrenalin)</b> <i>* See Page 5 for anaphylaxis use</i>	4 mg/250 mL in NS (16 mcg/mL) (Mix using 4 mL of 1:1000 (1 mg/mL) vial)	D5W	N/A	0.05 mcg/kg/min	0.025-0.5 mcg/kg/min	16 mg/250 mL (64 mcg/mL)
<b>Isoproterenol (Isuprel)</b>	1 mg/250mL in NS (4 mcg/mL)	D5W	N/A	2 mcg/min	2-10 mcg/min	0.2 mg/50 mL (4 mcg/mL) EP Lab ONLY
<b>Milrinone (Primacor)</b>	<b>PREMIX in D5W</b> 20 mg/100 mL (200 mcg/mL)	NS	50 mcg/kg over 10 min	0.5 mcg/kg/min	0.375-0.75 mcg/kg/min	N/A
<b>Nesiritide (Natreacor)</b>	1.5 mg/250 mL in D5W (6 mcg/mL)	NS	2 mcg/kg	0.01 mcg/kg/min	0.01-0.03 mcg/kg/min	N/A
<b>Norepinephrine (Levophed)</b>	8 mg/250 mL in D5W (32 mcg/mL)	NS	N/A	0.05 mcg/kg/min	0.05-1 mcg/kg/min	16 mg/500 mL (32 mcg/mL) 16 mg/250 mL 32 mg/500 mL (64 mcg/mL)
<b>Phenylephrine (Neosynephrine)</b>	40 mg/250 mL in NS (160 mcg/mL)	D5W	N/A	0.5 mcg/kg/min	0.5-5 mcg/kg/min	160 mg/250 mL (640 mcg/mL) 320 mg/250 mL (1280 mcg/mL)
<b>Vasopressin (Pitressin)</b>	40 units/100 mL in NS (0.4 units/mL)	D5W	N/A	0.03 units/min	0.03 units/min	N/A

*Orlando Health: ADULT CONTINUOUS INFUSION STANDARD DILUTIONS AND DOSING GUIDELINES Cont. – Page 2 of 7*

**DISCLAIMER:** The following table is intended to serve as a general guideline for the continuous infusion of medications in adult patients. Variations in the diluent, maximum concentration, and/or dosing may be appropriate in select circumstances. These guidelines are not intended to replace clinical judgment. A physician order is required when a concentration or diluent that differs from the standard concentration is needed.

**DISCLAIMER:** The designation of "PREMIX" in this table does not guarantee that the medication will be dispensed as the premixed formulation. The use of the premixed product or standard volume may be site specific or may change based on availability.

**NOTE:** Physician must be notified prior to exceeding the upper limit of the usual dose range for vasoactive medications. For non-titrated weight-based medications if the daily weight changes by 10% as compared to the med-calc weight the physician should be contact to clarify the dose

DRUG	STANDARD CONCENTRATION/DILUENT	ALTERNATIVE DILUENT	LOADING DOSE	USUAL STARTING DOSE	USUAL DOSE RANGE	ALTERNATE CONCENTRATION(S)
<b>ANTIHYPERTENSIVE/ANTIARRHYTHMIC MEDICATIONS</b>						
<b>Amiodarone (Cordarone)</b>	450 mg/250 mL in D5W (1.8 mg/mL)	N/A	<b>V-Fib:</b> 300mg IV-push x1, may give additional 150mg IV-push x1  <b>A-Fib:</b> 150mg IV-bolus over 10min	1mg/min x 6 hours, then 0.5mg/min x 18 hours  <i>(An alternative dosing regimen that may be used in A-Fib is 20mg/kg infused over 24 hours)</i>		N/A
<b>Diltiazem (Cardizem)</b>	125 mg/125 mL in NS (1 mg/mL)	D5W	0.25 mg/kg; may repeat after 15 min with 0.35 mg/kg	5 mg/hr	5-15 mg/hr	N/A
<b>Esmolol (Brevibloc)</b>	<b>PREMIX in NS</b> 2.5 gm/250 mL NS (10 mg/mL)	D5W	500 mcg/kg over 1 minute	50 mcg/kg/min	50-300 mcg/kg/min	5 g/250mL D5W 20 mg/mL <i>*This concentration should be mixed only in D5W and given only via a central line</i>
<b>Fenoldopam (Corlopan)</b>	20 mg/250 mL in NS (80 mcg/mL)	D5W	N/A	0.1 mcg/kg/min	0.01-1.6 mcg/kg/min	N/A
<b>Labetalol (Normodyne, Trandate)</b>	200 mg/200 mL in NS (1 mg/mL)	D5W	N/A	2 mg/min	1-4 mg/min	1000 mg/500 mL (2 mg/mL)
<b>Lidocaine</b>	<b>PREMIX in D5W</b> 1 gm/250 mL (4 mg/mL)	NS	1-1.5 mg/kg; may repeat after 5-10 min with 0.5-0.75 mg/kg to a total of 3 mg/kg	1-2 mg/min	1-4 mg/min	N/A
<b>Nicardipine (Cardene)</b>	50 mg/ 250 mL in NS (0.2 mg/mL)	D5W	N/A	5 mg/hr	5-15 mg/hr	25 mg/250 mL (0.1 mg/mL) 40 mg/250 mL PREMIX (0.2 mg/mL)
<b>Nitroglycerin (Nitro-Bid IV)</b>	<b>PREMIX in D5W</b> 25 mg/250 mL (100 mcg/mL)	N/A	N/A	5 mcg/min	5-200 mcg/min	50 mg/500 mL (100 mcg/mL)
<b>Nitroprusside (Nipride)</b>	50 mg/250 mL in D5W (200 mcg/mL)	NS	N/A	0.5 mcg/kg/min	0.5-10 mcg/kg/min	100 mg/ 250 mL (400 mcg/mL)
<b>Procainamide (Pronestyl)</b>	1 gm/250 mL in D5W (4 mg/mL)	NS	17mg/kg (max 1 gm) over 30 min	2 mg/min	1-4 mg/min	N/A

*Orlando Health: ADULT CONTINUOUS INFUSION STANDARD DILUTIONS AND DOSING GUIDELINES Cont. – Page 3 of 7*

**DISCLAIMER:** The following table is intended to serve as a general guideline for the continuous infusion of medications in adult patients. Variations in the diluent, maximum concentration, and/or dosing may be appropriate in select circumstances. These guidelines are not intended to replace clinical judgment. A physician order is required when a concentration or diluent that differs from the standard concentration is needed.

**DISCLAIMER:** The designation of "PREMIX" in this table does not guarantee that the medication will be dispensed as the premixed formulation. The use of the premixed product or standard volume may be site specific or may change based on availability.

**NOTE: Physician must be notified prior to exceeding the upper limit of the usual dose range for vasoactive medications. For non-titrated weight-based medications if the daily weight changes by 10% as compared to the med-calc weight the physician should be contact to clarify the dose**

DRUG	STANDARD CONCENTRATION/DILUENT	ALTERNATIVE DILUENT	LOADING DOSE	USUAL STARTING DOSE	USUAL DOSE RANGE	ALTERNATE CONCENTRATION(S)
<b>NEUROMUSCULAR BLOCKING AGENTS</b>						
<b>Cisatracurium (Nimbex)</b>	100 mg/100 mL in NS (1 mg/mL)	D5W	0.1 mg/kg	2 mcg/kg/min	2-10 mcg/kg/min	500 mg/100 mL (5 mg/mL)
<b>Atracurium (Tracrium)</b>	100 mg/100 mL in NS (1 mg/mL)	D5W	0.5 mg/kg	5 mcg/kg/min	5-15 mcg/kg/min	1000 mg/200 mL (5 mg/mL)
<b>Rocuronium (Zemuron)</b>	250 mg/125 mL in NS (2 mg/mL)	N/A	50mg (<50kg 1mg/kg)	8 mcg/kg/min	8-20 mcg/kg/min	500 mg/125 mL (4 mg/mL)
<b>Vecuronium (Norcuron)</b>	100 mg/100 mL in NS (1 mg/mL)	D5W	0.1 mg/kg	0.5 mcg/kg/min	0.5-2mcg/kg/min	N/A
<b>Pancuronium (Pavulon)</b>	100 mg/100 mL (1 mg/mL)	N/A	0.1 mg/kg	0.5 mcg/kg/min	0.5-2 mcg/kg/min	200 mg/100mL (2 mg/mL)
<b>SEDATIVES</b>						
<b>Lorazepam (Ativan)</b>	40 mg/40 mL (1 mg/mL)	syringe*	1-4 mg	1 mg/hr	0.5-8 mg/hr	N/A
<b>midazolam (Versed)</b>	<b>PREMIX</b> 55 mg/55 mL (1 mg/mL)	syringe*	2-6 mg	1 mg/hr	1-15 mg/hr	250 mg/50 mL (5 mg/mL)
<b>Propofol (Diprivan)</b>	<b>PREMIX</b> 1 gm/100 mL (10 mg/mL)	N/A	<b>DO NOT BOLUS</b>	10 mcg/kg/min	5-50 mcg/kg/min	N/A
<b>Dexmedetomidine (Precedex)</b>	400 mcg/100 mL in NS (4 mcg/mL)	N/A	1 mcg/kg over 10 minutes	0.2 mcg/kg/hr	0.2-1.5 mcg/kg/hr	200 mcg/100 mL (2 mcg/mL) 200 mcg/50 mL (4 mcg/mL)
<b>Ketamine (Ketalar) Pain Management</b>	250 mg/250 ml (1 mg/ml)	D5W	0.5 mg/kg	0.05 mg/kg/hr	0.05-0.5 mg/kg/hr	500 mg/250 ml (2 mg/ml)
<b>Ketamine (Ketalar) ICU Sedation</b>	1250 mg/250 ml (5 mg/ml)	D5W	0.5 mg/kg	0.5 mg/kg/hr	0.5 – 4 mg/kg/hr	2500 mg/250 ml (10 mg/ml)

*Orlando Health: ADULT CONTINUOUS INFUSION STANDARD DILUTIONS AND DOSING GUIDELINES Cont. – Page 4 of 7*

**DISCLAIMER:** The following table is intended to serve as a general guideline for the continuous infusion of medications in adult patients. Variations in the diluent, maximum concentration, and/or dosing may be appropriate in select circumstances. These guidelines are not intended to replace clinical judgment. A physician order is required when a concentration or diluent that differs from the standard concentration is needed.

**DISCLAIMER:** The designation of "PREMIX" in this table does not guarantee that the medication will be dispensed as the premixed formulation. The use of the premixed product or standard volume may be site specific or may change based on availability.

**NOTE: Physician must be notified prior to exceeding the upper limit of the usual dose range for vasoactive medications. For non-titrated weight-based medications if the daily weight changes by 10% as compared to the med-calc weight the physician should be contact to clarify the dose**

**NARCOTIC ANALGESICS**

<b>DRUG</b>	<b>STANDARD CONCENTRATION/DILUENT</b>	<b>ALTERNATIVE DILUENT</b>	<b>LOADING DOSE</b>	<b>USUAL STARTING DOSE</b>	<b>USUAL DOSE RANGE</b>	<b>ALTERNATE CONCENTRATION(S)</b>
<b>Fentanyl (Sublimaze)</b>	<b>PREMIX</b> 1100 mcg/55 mL (20 mcg/mL)	syringe*	25-50 mcg	50 mcg/hr	25-300 mcg/hr	2750 mcg/55 mL (50 mcg/mL)
<b>Remifentanyl (Ultiva)</b>	5 mg/250 ml in NS (20 mcg/ml)	D5W	NA	0.1 mcg/kg/min	0.1-1 mcg/kg/min	5 mg/100 ml (50 mcg/ml)
<b>Hydromorphone (Dilaudid)</b>	<b>PREMIX</b> 10 mg/50 mL (0.2 mg/mL)	syringe*	0.3-1 mg	0.5 mg/hr	0.2-2 mg/hr	50 mg/50 mL (1 mg/mL)
<b>Morphine</b>	<b>PREMIX</b> 55 mg/55 mL (1 mg/mL)	syringe*	2-5 mg	1 mg/hr	1-10 mg/hr	275 mg/55 mL (5 mg/mL)

*Orlando Health: ADULT CONTINUOUS INFUSION STANDARD DILUTIONS AND DOSING GUIDELINES Cont. – Page 5 of 7*

**DISCLAIMER:** The following table is intended to serve as a general guideline for the continuous infusion of medications in adult patients. Variations in the diluent, maximum concentration, and/or dosing may be appropriate in select circumstances. These guidelines are not intended to replace clinical judgment. A physician order is required when a concentration or diluent that differs from the standard concentration is needed.

**DISCLAIMER:** The designation of "PREMIX" in this table does not guarantee that the medication will be dispensed as the premixed formulation. The use of the premixed product or standard volume may be site specific or may change based on availability.

**NOTE: Physician must be notified prior to exceeding the upper limit of the usual dose range for vasoactive medications. For non-titrated weight-based medications if the daily weight changes by 10% as compared to the med-calc weight the physician should be contact to clarify the dose**

**ANTICOAGULANTS/ANTIPLATELETS**

<b>Abciximab (Reopro)</b>	7.2 mg/250 mL in NS (0.029 mg/mL)	N/A	0.25 mg/kg	0.125 mcg/kg/min (maximum 10mcg/min)	N/A	N/A
<b>Alteplase tPA- (MI, PE, and Stroke)</b>	1 mg/mL in diluent provided in kit (1 mg/mL) *mg and volume based on total dose *For treatment of PE via the EKOS system 12.5mg/125mL of NS should be used	NA		<b>MI:</b> greater than 67kg- 100 mg over 1.5 hours (15 mg LD over 1-2 minutes, then 50 mg over 30 minutes with the remaining 35 mg over 60 minutes Less than or equal to 67kg- 15 mg LD over 1-2 minutes, then 0.75 mg/kg over 30 minutes (not to exceed 50 mg) then 0.5 mg/kg over 60 minutes (not to exceed 35 mg)  <b>PE:</b> 100 mg over 2 hours  <b>PE EKOS:</b> dosing varies-commonly 1mg/hr x 12h if bilateral PE; 1mg/hr X 24h if unilateral PE  <b>Stroke:</b> 0.9 mg/kg total dose (max dose 90 mg): LD- 10% of 0.9 mg/kg dose over 1 minute then 90% of dose over 60 minutes		NA
<b>Alteplase tPA- (vascular)</b>	12.5mg/125mL in NS (0.1 mg/mL) 12.5mg/250mL in NS (0.05mg/mL)	NA	Varies		0.5 mg – 2 mg/hr	50 mg/250mL in NS (0.05 mg/mL)
<b>Argatroban</b>	125 mg/125 mL in NS (1 mg/mL)	D5W	N/A	Per Order set	0.5-10 mcg/kg/min	250mg/250 mL
<b>Bivalirudin – Cath Lab (Angiomax)</b>	250 mg / 50 mL in NS	D5W	0.75mg/kg	Per Order set	Per Order set	N/A
<b>Bivalirudin – HIT (Angiomax)</b>	250 mg / 500 mL in NS (0.5 mg / mL)	D5W	NA	0.15 – 0.2 mg/kg/hr (varies based on organ dysfunction)	Per aPTT values	N/A
<b>Eptifibatid (Integrilin)</b>	<b>PREMIX</b> 75 mg/100 mL (750 mcg/mL)	N/A	180 mcg/kg (a second bolus of 180mcg/kg is frequently used)	<b>CrCl &gt; 50 mL/min:</b> 2 mcg/kg/min  <b>CrCl &lt; 50 mL/min:</b> 1 mcg/kg/min	N/A	N/A
<b>Tirofiban (Aggrastat)</b>	<b>PREMIX</b> 5 mg / 100 mL 12.5 mg/ 250 mL (0.05 mg / mL)	N/A	25 mcg/kg IV bolus given over 3 minutes (infused from the bag)	<b>CrCl &gt; 60 mL/min:</b> 0.15 mcg/kg/min  <b>CrCl &lt; 60 mL/min:</b> 0.075 mcg/kg/min	N/A	N/A
<b>MISCELLANEOUS AGENTS</b>						
<b>Acetylcysteine (Acetadote)</b>	150 mg/kg in 200 mL D5W 50 mg/kg in 500 mL D5W 100 mg/kg in 1000 mL D5W	D5W	150 mg/kg over 1 hr	50 mg/kg over 4 hours followed by 100 mg/kg over 16 hours	N/A	< 40 kg, see order set

*Orlando Health: ADULT CONTINUOUS INFUSION STANDARD DILUTIONS AND DOSING GUIDELINES Cont. – Page 6 of 7*

**DISCLAIMER:** The following table is intended to serve as a general guideline for the continuous infusion of medications in adult patients. Variations in the diluent, maximum concentration, and/or dosing may be appropriate in select circumstances. These guidelines are not intended to replace clinical judgment. A physician order is required when a concentration or diluent that differs from the standard concentration is needed.

**DISCLAIMER:** The designation of "PREMIX" in this table does not guarantee that the medication will be dispensed as the premixed formulation. The use of the premixed product or standard volume may be site specific or may change based on availability.

**NOTE: Physician must be notified prior to exceeding the upper limit of the usual dose range for vasoactive medications. For non-titrated weight-based medications if the daily weight changes by 10% as compared to the med-calc weight the physician should be contact to clarify the dose**

DRUG	STANDARD CONCENTRATION/DILUENT	ALTERNATIVE DILUENT	LOADING DOSE	USUAL STARTING DOSE	USUAL DOSE RANGE	ALTERNATE CONCENTRATION(S)
<b>MISCELLANEOUS AGENTS (continued)</b>						
<b>Aminophylline</b>	500 mg/500 mL in NS (1 mg/mL)	D5W	5 mg/kg IV over 30 minutes	0.5 mg/kg/hr	0.3-0.7 mg/kg/hr	1000 mg/500 mL (2 mg/mL)
<b>Bumetanide (Bumex)</b>	10 mg/100 mL in NS (0.1 mg/mL)	D5W	1 mg	0.5 mg/hr	0.5-2 mg/hr	N/A
<b>Epinephrine (Adrenalin)</b> <b>**Anaphylaxis**</b>	1mg/250mL in NS (4 mcg/mL)  (Mix using 1 mL of 1:1000 [1 mg/mL] vial)	D5W	N/A	1 mcg/min	1-10 mcg/min	N/A
<b>Epoprostenol (Flolan)</b>	0.3mg/100mL in provided sterile diluent (3,000 ng/mL)	N/A	Do NOT bolus	1 ng/kg/min	1-40 ng/kg/min	750 ng/mL ( <i>cath lab only</i> ) 1,500 ng/mL ( <i>cath lab only</i> ) 5,000 ng/mL 10,000 ng/mL 15,000 ng/mL 20,000 ng/mL *refer to pharmacy procedure: Procedure for the use of agents used in Pulmonary Hypertension
<b>Furosemide (Lasix)</b>	100 mg/100 mL in NS (1 mg/mL)	D5W	40 mg	10 mg/hr	5-20 mg/hr	200 mg/100 mL (2 mg/mL)
<b>Glucagon (GlucaGen)</b>	10 mg/100 mL in NS (0.1 mg/mL)	N/A	2-10 mg IV over 1 minute	1 mg/hr	1-5 mg/hr	N/A
<b>Insulin, Regular (Humulin R, Novolin R)</b>	100 units/100 mL in NS (1 unit/mL)	N/A	0.1 unit/kg	0.1 unit/kg/hr	1-30 units/hr	N/A
<b>Naloxone (Narcan)</b>	2 mg/500 mL in NS (4 mcg/mL)	D5W	0.2-2mg; may repeat at 2- 3 min intervals up to 10mg	0.4 mg/hr	0.4-4 mg/hr	An alternate concentration may be used as appropriate based on the clinical situation
<b>Ocreotide (Sandostatin)</b>	500 mcg/100 mL in NS (5 mcg/mL)	D5W	50 mcg	50 mcg/hr	25-50 mcg/hr	N/A

*Orlando Health: ADULT CONTINUOUS INFUSION STANDARD DILUTIONS AND DOSING GUIDELINES Cont. – Page 7 of 7*

**DISCLAIMER:** The following table is intended to serve as a general guideline for the continuous infusion of medications in adult patients. Variations in the diluent, maximum concentration, and/or dosing may be appropriate in select circumstances. These guidelines are not intended to replace clinical judgment. A physician order is required when a concentration or diluent that differs from the standard concentration is needed.

**DISCLAIMER:** The designation of "PREMIX" in this table does not guarantee that the medication will be dispensed as the premixed formulation. The use of the premixed product or standard volume may be site specific or may change based on availability.

**NOTE: Physician must be notified prior to exceeding the upper limit of the usual dose range for vasoactive medications. For non-titrated weight-based medications if the daily weight changes by 10% as compared to the med-calc weight the physician should be contact to clarify the dose**

**MISCELLANEOUS AGENTS (continued)**

<b>DRUG</b>	<b>STANDARD CONCENTRATION/DILUENT</b>	<b>ALTERNATIVE DILUENT</b>	<b>LOADING DOSE</b>	<b>USUAL STARTING DOSE</b>	<b>USUAL DOSE RANGE</b>	<b>ALTERNATE CONCENTRATION(S)</b>
<b>Oxytocin (Pitocin)</b>	30 units / 500 mL in NS (60 milliunits/mL)	N/A	NA	Antepartum: 0.5 – 1 milliunit/min  Post Partum: 20 milliunit/min	Antepartum: 5-10 milliunit/min Post Partum: 20-40 milliunit/min to a total of 10 units Induced Abortion: 10-100 milliunits/min	20 units/1000 mL (20 milliunits/mL)  40 units/1000 mL (40 milliunits/mL)
<b>Pentobarbital (Nembutal)</b>	1 gm/250 mL in NS (4 mg/mL)	D5W	10 mg/kg x 1 over 30min, then 5mg/kg/hr x 3 hr	1 mg/kg/hr	1-5 mg/kg/hr	2 gm/250 mL (8 mg/mL)



Orlando Health  
**Critical Care Titration *Guidelines* - Adults**



Approved by Pharmacotherapy Committee: *January 20, 2017*

- The titration guidelines outlined below are designed to serve as default parameters in the absence of patient-specific orders for titration.
- When outlined by the prescriber, patient-specific titration parameters override these guidelines.
- Titration intervals and dosing increments should be adjusted based on clinical status/acuity. Shorter titration intervals and/or larger dosing increments are most appropriate in acutely unstable patients. Longer titration intervals and/or smaller dosing increments are most appropriate in patients that are not acutely unstable.
- If the titration order is unclear, the prescriber will be contacted to clarify the orders. If multiple infusions are being titrated and there are questions regarding which agent should be titrated first, the prescriber will be contacted.

**Notes:**

1. The starting dose is a required field in Sunrise XA. The dose noted in the table is the default starting dose in XA.
2. Titration parameters are a required field for adults.
3. The rate above which a new/modified prescriber's order is required is noted below. A drop down list of options with a nursing order to "Call prescriber for approval to increase rate beyond this maximum"\* is included in Sunrise XA orderables for these agents
  - a. The rate limit without a new/modified order is noted below
  - b. Maximum Rate - Type in: \_\_\_\_\_ is also available for use

Exceptions to this standard message are noted in the next-to-last column of this table

<b>Antihypertensives</b>					
<b>Medication/ Default Starting Dose</b>	<b>Titration Parameters (Desired Effect)</b>	<b>Rate Above Which a New/Modified Prescriber Order is Required (Maximum Dose)</b>	<b>Minimum Dose</b>	<b>Titration Guidelines / Increments</b> <i>Smaller/larger increments may be necessary depending on patient response or lack of response. Prescribers will provide specific parameters</i>	<b>Frequency of Titration</b>
Diltiazem (5 mg/hr)	- HR < ____ (Default) - Type in	15 mg/hr	0.5 mg/hr	Titrate by <b>2.5-5 mg/hour</b> increments	15-30 min
Esmolol (50 mcg/kg/min)	- SBP < ____ (Default) - HR between ____ - Keep SBP between ____ - Type In	200 mcg/kg/min	5 mcg/kg/min	Titrate by <b>25-50 mcg/kg/min</b> increments	5-20 min



<b>Antihypertensives cont.</b>					
<b>Medication/ Default Starting Dose</b>	<b>Titration Parameters (Desired Effect)</b>	<b>Rate Above Which a New/Modified Prescriber Order is Required (Maximum Dose)</b>	<b>Minimum Dose</b>	<b>Titration Guidelines / Increments</b> <i>Smaller/larger increments may be necessary depending on patient response or lack of response. Prescribers will provide specific parameters</i>	<b>Frequency of Titration</b>
Fenoldopam (Corlopam) 0.1 mcg/kg/min	(No Default) - SBP < ____ - Keep SBP between ____ - Type In	1.6 mcg/kg/min	0.01 mcg/kg/min	Per orders.	15-30 min
Labetalol (2 mg/min)	- SBP < __ - MAP < __ - Keep SBP between ____ - Type In	4 mg/min	1 mg/min	Titrate by <b>0.5 – 1 mg/min</b> increments	10-30 min
Nicardipine (5 mg/hr)	- SBP < __ - MAP < __ - Keep SBP between ____ - Type In	15 mg/hr	0.5 mg/hr	Titrate by <b>2.5 mg/hour</b> increments	5-15 min
Nitroglycerin 5 mcg/min)	- SBP < _ (Default) - MAP < __ - Keep SBP between ____ - Type In	200 mcg/min	5 mcg/min	Titrate by <b>5 mcg/min up to rate of 20 mcg/min, then titrate by 10-20 mcg/min</b>	3-5 min
Nitroprusside (0.5 mcg/kg/min)	- SBP < _ (Default) - MAP < __ - Keep SBP between ____ - Type In	5 mcg/kg/min	0.5 mcg/kg/min	Titrate by <b>0.5 mcg/kg/min</b> increments	1-15 min
<b>Inotropes</b>					
<b>Medication/ Default Starting Dose</b>	<b>Titration Parameters (Desired Effect)</b>	<b>Rate Above Which a New/Modified Prescriber Order is Required (Maximum Dose)</b>	<b>Minimum Dose</b>	<b>Titration Guidelines / Increments</b> <i>Smaller/larger increments may be necessary depending on patient response or lack of response. Prescribers will provide specific parameters</i>	<b>Frequency of Titration</b>
Dobutamine (5 mcg/kg/min)	(No Default) - SVO2 > ____ - CI > ____ - Do not titrate - HR > ____ - Type In	20 mcg/kg/min	0.5 mcg/kg/min	Titrate by increments of <b>2.5 mcg/kg/min</b>	1-15 min
Milrinone (0.5 mcg/kg/min)	(No Default) - CI > ____ - Do not titrate - Type In	0.75 mcg/kg/min	0.2 mcg/kg/min	Titrate by increments of <b>0.1 mcg/kg/min</b>	15-30 min

<b>Vasopressors</b>					
<b>Medication/ Default Starting Dose</b>	<b>Titration Parameters (Desired Effect)</b>	<b>Rate Above Which a New/Modified Prescriber Order is Required (Maximum Dose)</b>	<b>Minimum Dose</b>	<b>Titration Guidelines / Increments</b> <i>Smaller/larger increments may be necessary depending on patient response or lack of response. Prescribers will provide specific parameters</i>	<b>Frequency of Titration</b>
Dopamine (5 mcg/kg/min)	<ul style="list-style-type: none"> <li>- MAP &gt; 65 (Default)</li> <li>- SBP &gt; _____</li> <li>- HR &gt; _____</li> <li>- Do not titrate</li> <li>- Type In</li> </ul>	20 mcg/kg/min	0.1 or 0.5 mcg/kg/min	Titrate by increments of <b>2.5 mcg/kg/min</b>	1-15 min
Epinephrine (0.05 mcg/kg/min)	<ul style="list-style-type: none"> <li>- MAP &gt; 65 (Default)</li> <li>- SBP &gt; _____</li> <li>- CPP &gt; 60</li> <li>- Abdominal perfusion pressure &gt; 60</li> <li>- Do not titrate</li> <li>- Keep MAP between _____</li> <li>- Type In</li> </ul>	0.5 mcg/kg/min	0.025 mcg/kg/min	Titrate by <b>0.05 mcg/kg/min</b> increments	1-15 min
Isoproterenol (2 mcg/min)	<ul style="list-style-type: none"> <li>- MAP &gt; 65 (Default)</li> <li>- SBP &gt; _____</li> <li>- HR &gt; _____</li> <li>- Do not titrate</li> <li>- Type In</li> </ul>	10 mcg/min	1 mcg/min	Titrate by <b>0.5-1 mcg/min</b> increments	1-15 min
Norepinephrine 0.05 mcg/kg/min)	<ul style="list-style-type: none"> <li>- MAP &gt; 65 (Default)</li> <li>- SBP &gt; _____</li> <li>- Abdominal perfusion pressure &gt; 60</li> <li>- CPP &gt; 60</li> <li>- Do not titrate</li> <li>- Keep MAP between _____</li> <li>- Type In</li> </ul>	1 mcg/kg/min	0.01 mcg/kg/min	Titrate by <b>0.05 mcg/kg/min</b> increments	1-15 min
Phenylephrine (0.5 mcg/kg/min)	<ul style="list-style-type: none"> <li>- MAP &gt; 65 (Default)</li> <li>- SBP &gt; _____</li> <li>- CPP &gt; 60</li> <li>- Do not titrate</li> <li>- Type In</li> </ul>	5 mcg/kg/min	0.5 mcg/kg/min	Titrate by <b>0.25 – 0.5 mcg/kg/min</b> increments	1-15 min
Vasopressin (0.03 units/ min)	<ul style="list-style-type: none"> <li>- DO NOT TITRATE (Default)</li> <li>- TRANSLIFE- Titrate to SBP &gt; _____</li> <li>- Type In</li> </ul>	Do not titrate (exception Translife)	0.01 unit/min	Translife: Titrate per orders.	Do not titrate (exception Translife orders)

<b>Neuromuscular Blocking Agents</b>					
<b>Medication/ Default Starting Dose</b>	<b>Titration Parameters (Desired Effect)</b>	<b>Rate Above Which a New/Modified Prescriber Order is Required (Maximum Dose)</b>	<b>Minimum Dose</b>	<b>Titration Guidelines / Increments</b> <i>Smaller/larger increments may be necessary depending on patient response or lack of response. Prescribers will provide specific parameters</i>	<b>Frequency of Titration</b>
Cisatracurium (2 mcg/kg/min)	(No Default) - Intraabdominal pressure < 20 - No spontaneous breathing - Prevent muscle spasms - TOF - Prevent shivering - Type In	10 mcg/kg/min	0.5 mcg/kg/min	Titrate by <b>0.5-1 mcg/kg/min</b> increments	5-30 min
Atracurium (5 mcg/kg/min)	(No Default) - Intraabdominal pressure < 20 - No spontaneous breathing - Prevent muscle spasms - TOF - Prevent shivering - Type In	15 mcg/kg/min	5 mcg/kg/min	Titrate by 1 mcg/kg/min increments	5-30 min
Pancuronium (0.5 mcg/kg/min)	(No Default) - Intraabdominal pressure < 20 - No spontaneous breathing - Prevent muscle spasms - TOF - Prevent shivering - Type In	2 mcg/kg/min	0.8 mcg/kg/min	Titrate by <b>0.5 mcg/kg/min</b> increments	5-30 min
Rocuronium (8 mcg/kg/min)	(No Default) - Intraabdominal pressure < 20 - No spontaneous breathing - Prevent muscle spasms - TOF - Prevent shivering - Type In	20 mcg/kg/min	8 mcg/kg/min	Titrate by <b>0.5-1 mcg/kg/min</b> increments	5-30 min
Vecuronium (0.5 mcg/kg/min)	(No Default) - Intraabdominal pressure < 20 - No spontaneous breathing - Prevent muscle spasms - TOF - Prevent shivering - Type In	2 mcg/kg/min	0.8 mcg/kg/min	Titrate by <b>0.5 mcg/kg/min</b> increments	5-30 min

<b>Sedation/ Analgesia</b>					
<b>Medication/ Default Starting Dose</b>	<b>Titration Parameters (Desired Effect)</b>	<b>Rate Above Which a New/Modified Prescriber Order is Required (Maximum Dose)</b>	<b>Minimum Dose</b>	<b>Titration Guidelines / Increments</b> <i>Smaller/larger increments may be necessary depending on patient response or lack of response. Prescribers will provide specific parameters</i>	<b>Frequency of Titration</b>
Dexmedetomidine (0.2 mcg/kg/hour)	<ul style="list-style-type: none"> <li>- RASS (-2) to (0)</li> <li>- RASS (-3) to (-4)</li> <li>- RASS (-5) [Prior to starting NMBAs, then DO NOT TITRATE]</li> <li>- BIS &lt; 60</li> <li>- ICP &lt; 22</li> <li>- Do not titrate</li> <li>- Type In</li> </ul>	1.5 mcg/kg/hr	0.1 mcg/kg/hr	Titrate by <b>0.1 mcg/kg/hour</b> increments	10-30 min
Ketamine Pain Management: 0.05 mg/kg/hr  ICU Sedation: 0.5 mg/kg/hr	<ul style="list-style-type: none"> <li>- RASS (-2) to (0)</li> <li>- RASS (-3) to (-4)</li> <li>- RASS (-5) [Prior to starting NMBAs, then DO NOT TITRATE]</li> <li>- BIS &lt; 60</li> <li>- Do not titrate</li> <li>- CPOT &lt; 2</li> <li>- Type In</li> </ul>	Pain Management: 1mg/kg/hr  ICU Sedation: 5 mg/kg/hr	0.05 mg/kg/hr  0.5 mg/kg/hr	Pain Management: Titrate by <b>0.05-0.1 mg/kg/hour</b> increments  ICU Sedation: Titrate by <b>0.25-0.5 mg/kg/hour</b> increments	5-15 min
Lorazepam (1mg/h)	<ul style="list-style-type: none"> <li>- BIS &lt; 60</li> <li>- RASS (-2) to (0)</li> <li>- RASS (-3) to (-4)</li> <li>- RASS -5 [Prior to starting NMBAs, then DO NOT TITRATE]</li> <li>- ICP &lt; 22 - Do not titrate</li> <li>- Type In</li> </ul>	8 mg/hr	0.5 mg/hr	Note to RN: Call MD for alternative therapy when maximum dose is reached Titrate by <b>1 mg/hour</b> increments	5-30 min
Midazolam (1 mg/ hour)	<ul style="list-style-type: none"> <li>- BIS &lt; 60</li> <li>- RASS (-2) to (0)</li> <li>- RASS (-3) to (-4)</li> <li>- RASS -5 [Prior to starting NMBAs, then DO NOT TITRATE]</li> <li>- ICP &lt; 22</li> <li>- Do not titrate</li> <li>- Type In</li> </ul>	10mg/h	1 mg/hr	Titrate by <b>1 mg/hour</b> increments	5-30 min

<i>Sedation/ Analgesia Continued</i>					
<b>Medication/ Default Starting Dose</b>	<b>Titration Parameters (Desired Effect)</b>	<b>Rate Above Which a New/Modified Prescriber Order is Required (Maximum Dose)</b>	<b>Minimum Dose</b>	<b>Titration Guidelines / Increments</b> <i>Smaller/larger increments may be necessary depending on patient response or lack of response. Prescribers will provide specific parameters</i>	<b>Frequency of Titration</b>
Pentobarbital (1 mg/kg/hour)	<ul style="list-style-type: none"> <li>- Do NOT Titrate (Default)</li> <li>- Type in</li> </ul>	5 mg/kg/hr	1 mg/kg/hr	<p>Call MD when maximum dose is reached. Patient may need to be re-bolused.</p> <p>Titrate by <b>0.5-1 mg/kg/hour</b> increments</p>	10-30min
Propofol (10 mcg/kg/min)	<ul style="list-style-type: none"> <li>- BIS &lt; 60</li> <li>- RASS (-2) to (0)-</li> <li>- RASS (-3) to (-4)</li> <li>- RASS -5 [Prior to starting NMBAs, then DO NOT TITRATE]</li> <li>- ICP &lt; 22 - Do not titrate</li> <li>- Type In</li> </ul>	50 mcg/kg/min	1 mcg/kg/min	<p>"Propofol infusions cannot be titrated above 50 mcg/kg/min without a prescriber order denoting a higher maximum dose."</p> <p>Titrate by <b>5 mcg/kg/min</b> increments</p>	1-10 min
<b>Opioids</b>					
Fentanyl (50 mcg/hour*)	<ul style="list-style-type: none"> <li>- BIS &lt; 60</li> <li>- RASS (-2) to (0)</li> <li>- RASS (-3) to (-4)</li> <li>- RASS -5 [Prior to starting NMBAs, then DO NOT TITRATE]</li> <li>- ICP &lt; 22 - Do not titrate</li> <li>- CPOT &lt; 2</li> <li>- Type In</li> </ul>	<p>20 mcg/mL: 249 mcg/hr</p> <p>50 mcg/mL: 500 mcg/hr</p>	<p>10 mcg/hr</p> <p>20mcg/hr</p>	<p>Do not titrate above stated maximum without a prescriber order for a higher maximum dose.</p> <p>Titrate by <b>25-50 mcg/hour</b> increments</p> <p>*The default starting dose is not defined for the higher concentraion (50 mcg/mL) but starting dose is a required field in Sunrise XA</p>	1-15 min
Remifentanil (0.1 mcg/kg/min)	<ul style="list-style-type: none"> <li>- BIS &lt; 60</li> <li>- RASS (-2) to (0)</li> <li>- RASS (-3) to (-4)</li> <li>- RASS -5 [Prior to starting NMBAs, then DO NOT TITRATE]</li> <li>- ICP &lt; 22</li> <li>- Do not titrate</li> <li>- CPOT &lt; 2</li> <li>- Type In</li> </ul>	1 mcg/kg/min	0.1 mcg/kg/min	Titrate by <b>0.05 mcg/kg/min</b> increments	1-10 min

<i>Opiates Continued</i>					
<b>Medication/ Default Starting Dose</b>	<b>Titration Parameters (Desired Effect)</b>	<b>Rate Above Which a New/Modified Prescriber Order is Required (Maximum Dose)</b>	<b>Minimum Dose</b>	<b>Titration Guidelines / Increments</b> <i>Smaller/larger increments may be necessary depending on patient response or lack of response. Prescribers will provide specific parameters</i>	<b>Frequency of Titration</b>
Hydromorphone (0.5 mg/hr)	<ul style="list-style-type: none"> <li>- BIS &lt; 60</li> <li>- RASS (-2) to (0)</li> <li>- RASS (-3) to (-4)</li> <li>- RASS -5 [Prior to starting NMBAs, then DO NOT TITRATE]</li> <li>- ICP &lt; 22 Do not titrate</li> <li>- CPOT &lt; 2</li> <li>- Type In</li> </ul>	3.5 mg/hr	0.1 mg/hr	Titrate by <b>0.1-0.2 mg/hour</b> increments	5-20 min
Morphine (1 mg/hr)	<ul style="list-style-type: none"> <li>- BIS &lt; 60</li> <li>- RASS (-2) to (0)</li> <li>- RASS (-3) to (-4)</li> <li>- RASS -5 [Prior to starting NMBAs, then DO NOT TITRATE]</li> <li>- ICP &lt; 22</li> <li>- Do not titrate</li> <li>- CPOT &lt; 2</li> <li>- Type In</li> </ul>	9.9 mg/hr	0.5 mg/hr	Titrate by <b>1-2 mg/hour</b> increments	5-30 min
<b>Obstetrics and Gynecology</b>					
<b>Medication/ Default Starting Dose</b>	<b>Titration Parameters (Desired Effect)</b>	<b>Rate Above Which a New/Modified Prescriber Order is Required (Maximum Dose)</b>	<b>Minimum Dose</b>	<b>Titration Guidelines / Increments</b> <i>Smaller/larger increments may be necessary depending on patient response or lack of response. Prescribers will provide specific parameters</i>	<b>Frequency of Titration</b>
Oxytocin	Per order set	20 milliunits/min	0.5 milliunits/min	Per unit standards/guidelines: 1-2 milliunit/min every 15 min, 1-2 milliunit/min every 30 min, or 6 milliunit/min every 15 min,	Per orders: 15-30 min