Inotropes and Vasoactive Drugs in the PICU

Drug	Indication	Dosing	Effects	Action	Comments
Dopamine *There is no Renal sparing dose!*	***Septic Shock**** Cardiogenic Shock ****Indications in **bold** are drugs of choice*	2-20 μg/kg/min	δ 2-5μg/kg/min β 5-10μg/kg/min α >15μg/kg/min	Indirect via NE release, inotrope, chronotrope, vasopressor	Give centrally (burns), not as effective in neonates who have limited NE stores
Dobutamine	***Cardiogenic Shock***	2-20 μg/kg/min	β	Direct acting pure inotrope, Lusitrope (diastolic relaxation)	May result in peripheral vasorelaxation and tachycardia
Epinephrine	***Post-arrest Shock*** Cold "Septic" Shock	.05 to ? μg/kg/min	β at low doses α at higher doses	Direct acting inotrope, chronotrope, and potent vasopressor	Give centrally if possible (burns), may cause organ ischemia at high dose
Norepinephrine	**Warm Septic shock refractory to dopamine**	.05 to ? μg/kg/min	α : β 3 : 1	Direct acting potent vasopressor	Give centrally (burns), may cause organ ischemia
Phenylephrine	***Spinal Shock*** Septic shock	.05 to ? μg/kg/min	Pure α	Direct acting potent vasopressor	Give centrally (burns)
Milrinone	⇑ PVR or SVR with Cardiac dysfunction	.2-1 μg/kg/min load 50μg/kg	Phospho-diesterase inhibition (⇑ cAMP)	Inotrope and vasodilator Lusitrope (diastolic relaxation)	Thrombo-cytopenia, T ½ hours vs. minutes
Nitroprusside	HTN or ⇑ SVR states	.5-5 μg/kg/min	Exogenous NO donor	Potent arteriolar vasodilator	Need A-line to watch BP, Cyanide toxicity