Common vasopressors and inotropes

The table outlines clinical indications, associated receptors, physiology, dosing, titration rates, and adverse effects of various vasopressors and inotropes.*

Vasopressor	Clinical indications	Receptor	Physiologic effects	Dosing	Starting dose	Dose titration increment	Rate of titration	Adverse effects
Norepinephrine	• Acute hypotension • Cardiogenic shock • Septic shock (after initial fluid bolus)	• α1 • β1	• Vasoconstriction • Increased CO	• 0.1-3.3 mcg/kg/min • Titrate to effect • Weight-based dosing	0.01 mcg/kg/min	0.1-0.15 mcg/kg/min	1-15 min	• Arrhythmias • Tissue necrosis • Ischemia • Reflex bradycardia
Epinephrine	• Septic shock • Anaphylactic shock • Cardiac arrest	• α1 • β1 • β2	• Vasoconstriction • Vasodilation (β2) • Increased CO • Decreased SVR	• 0.1-0.5 mcg/kg/min • Titrate to effect • Weight-based dosing	0.1 mcg/kg/min	0.1-0.5 mcg/kg/min	1-15 min	• Arrhythmias • Cardiac ischemia • Tissue necrosis • Insulin secretion inhibition
Phenylephrine	• Septic shock • Cardiogenic shock • Vasodilatory shock	• α1	• Vasoconstriction	• 40-200 mcg/min (0.5-2 mcg/kg/min) • Titrate to effect	40 mcg/min	0.01-0.05 mcg/kg/min	1-15 min	• Reflex bradycardia • Tissue necrosis • Ischemia
Vasopressin	• Diabetes insipidus • Esophageal variceal bleeding • Vasodilatory shock • Septic shock • Anaphylactic shock • Used as adjunct with other pressors to decrease high-dose side effects	• Vasopressin (V1)	• Increased SVR	• 0.01-0.07 units/min	Initial: ≤0.03 units/min	Usually not titrated	30-60 min	• Arrhythmias • Cardiac ischemia • Mesentery ischemia

Inotrope	Clinical indications	Receptor	Physiologic effects	Dosing	Starting dose	Dose titration increment	Rate of titration	Adverse effects
Dobutamine	First drug of choice for • Cardiogenic shock • Sepsis-induced myocardial dysfunction	• β1 • β2	• Increased CO • Vasodilation • Hypotension	2-20 mcg/kg/min	2 mcg/kg/min 2.5 mcg/kg/min in more severe cardiac decompensation	2.5 mcg/kg/min	5-15 min	• Hypotension • Arrhythmias • Hypokalemia
Dopamine	• Cardiogenic shock • Septic shock	• Dopamine receptors • β1 • α1	Effects vary by dosage: 1-2 mcg/kg/min • Selective renal vasodilation 5-10 mcg/kg/min • Increased CO • Increased SV > 10 mcg/kg/min • Vasoconstriction • Increased SVR	2-20 mcg/kg/min	2-5 mcg/kg/min	1-5 mcg/kg/min	1-15 min	• Arrhythmias • Cardiac ischemia • Extravasation and tissue necrosis
Milrinone	• Inodilator • Improve perfusion • Bridge to transplant	• PDE-I (Type 3) • Nonadrenergic mechanism	• Increased SvO_2 • Increased CVP • Increased SVR	0.125-0.5 mcg/kg/min	0.375 mcg/kg/min	0.125 mcg/kg/min	15-30 minutes	• Hypotension • Arrhythmias • Nausea • Vomiting

CO = cardiac output, CVP = central venous pressure, SVO_2 = mixed venous oxygen saturation, SVR = systemic vascular resistance

*Refer to full prescribing information before administration.