

**Table 2.1** Relative effects of dopamine and dobutamine on the various adrenergic receptors at different dose rates[187, 189, 191].

<b>Receptor Type:</b>	$\alpha_1$	$\alpha_2$	B <sub>1</sub>	B <sub>2</sub>	<b>Dopaminergic</b>	<b>Comments</b>
<b>Dopamine</b>	+++	+	++	+	++++	<2ug/kg/min Dopaminergic effects predominate 2-10 ug/kg/min B <sub>1</sub> effects predominate 10-20 ug/kg/min $\alpha_1$ effects ‡ vasoconstriction
<b>Dobutamine</b>	+++	little	++++	++	0	

**Table 2.2** Locations and primary effects of various adrenergic receptors[189].

<b>Receptor Type</b>	<b>Primary Location(s)</b>	<b>Primary Effect(s)</b>
$\alpha_1$	Post-synaptic, vascular smooth muscle  Post-synaptic, myocardium	Vasoconstriction  Weak + Inotropic - Chronotropic  -
$\alpha_2$	Pre-synaptic	Decreased norepinephrine release from peripheral nerve endings, decreased sympathetic outflow from CNS
$B_1$	Myocardium	+ Inotropic + Chronotropic
$B_2$	Vascular smooth muscle SA Node	Vasodilation + Chronotropic
<b>Dopaminergic</b>	Kidneys, Mesentery	Vasodilation

**Table 2.3** Relative changes from baseline in hemodynamic parameters in response to various dose rates of dopamine and dobutamine, as reported by Swanson et al[188].

<b>Drug/Dose Rate</b>	<b>CO</b>	<b>HR</b>	<b>SV</b>	<b>LV dp/dt</b>	<b>PVR</b>	<b>MAP</b>	<b>SAP</b>	<b>DAP</b>	<b>PAP</b>	<b>RAP</b>
<b>Dopamine, 3 ug/kg/min</b>	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
<b>Dopamine, 5 ug/kg/min</b>	+	NC*	+	+	-	NC	NC	NC	NC	NC
<b>Dopamine, 10 ug/kg/min</b>	+	NC	+	+	NC	+	+	+	NC	NC
<b>Dobutamine, 3 ug/kg/min</b>	+	-	+	+	NC	+*	+*	+*	NC	NC
<b>Dobutamine, 5 ug/kg/min</b>	+*	-	+	+*	NC	+*	+*	+*	+*	NC
<b>Dobutamine, 10 ug/kg/min</b>	+*	NC	+	+*	NC	+*	+*	+*	+*	+*

\* Significantly greater than the other drug. NC = no change. CO = cardiac output, HR = heart rate, SV = stroke volume, LV dp/dt = rate of change of left ventricular pressure, PVR=peripheral vascular resistance, MAP=mean arterial pressure, SAP= systolic arterial pressure, DAP= diastolic arterial pressure, PAP= pulmonary artery pressure, RAP= right atrial pressure.