

	Alpha 1	Beta 1	Beta 2
Clinical Consequences	<ul style="list-style-type: none"> • Vasoconstriction • mydriasis • Hemostasis (stop bleeding) • Elevation of B.P • Adjunct to local anesthesia delay anesthetic absorption 	<ul style="list-style-type: none"> • treatment of : <ol style="list-style-type: none"> 1) Cardiac arrest 2) Heart failure 3) Shock • Atrioventricular heart block 	<ul style="list-style-type: none"> • Asthma • Delay of preterm labor
Adverse effect	<ul style="list-style-type: none"> • Hypertension • bradycardia • Necrosis 	<ul style="list-style-type: none"> • tachycardia • Angina pectoris • dysrhythmias 	<ul style="list-style-type: none"> • Tremor (muscle) • Hyperglycemia in patients with diabetes

	Isoproterenol	Terbutaline	Ephedrine
Therapeutic uses	<ul style="list-style-type: none"> • help overcome AV heart block • restart the heart following cardiac arrest • increase cardiac output during shock • treatment of bronchospasm during anesthesia 	<ul style="list-style-type: none"> • Asthma • Delay of preterm labor 	<ul style="list-style-type: none"> • Nasal congestion • Narcolepsy
Adverse effect	<ul style="list-style-type: none"> • dysrhythmias and angina pectoris • hyperglycemia • Drug interaction 	<ul style="list-style-type: none"> • tremor • tachycardia in excessive dosage 	<ul style="list-style-type: none"> • insomnia • (Hypertensive crisis) • (Dysrhythmias, Necrosis) • (Hyperglycemia, angina pectoris)

	Epinephrine	Dopamine
Therapeutic uses	<ul style="list-style-type: none"> → Alpha 1 ----- • Mydriasis during ophthalmic procedures • overcome AV heart block • Restore cardiac function • Bronchodilation in asthma • Treatment for anaphylactic shock • manifestation of severe allergy • hypotension, bronchoconstriction, edema • bee venom, certain drugs (penicillin) 	<ul style="list-style-type: none"> • heart failure • shock: 1) beta1 in heart: increase cardiac output → improve tissue perfusion 2) dopamine in kidney: dilate renal blood vessels → improve renal perfusion
Adverse effect	<ul style="list-style-type: none"> • Hypertensive crisis • Dysrhythmias, necrosis • Angina pectoris (coronary atherosclerosis) • Hyperglycemia 	<ul style="list-style-type: none"> • tachycardia, dysrhythmias, anginal pain • high concentration → activate alpha 1 → extravasation → Necrosis
Drug interaction	<ul style="list-style-type: none"> • MAO inhibitors: treatment depression • Tricyclic antidepressants: block uptake • General anesthetics • Alpha adrenergic blocking agents: phentolamine • Beta 1 2 3 : propranolol 	<ul style="list-style-type: none"> • MAO inhibitors
pharmacokinetic Administration	<p>topically by injection (SC), by inhalation</p> <p>→ No Oral</p>	<p>Continuous IV infusion</p>

→ phenylephrine :- alpha 1, non catecholamine, locally to reduce nasal congestion, parenterally to elevate BP, eye drops to dilate the pupil, Co-administered with local anesthetics to retard absorption of anesthetic