Medications That Raise Blood Pressure

Drug / Drug Class	Mechanism of Action	Additional Information
Corticosteroids	Increases sodium reabsorption in kidneys; results in volume retention	- Effects on BP are dose-dependent - More common in antihypertensive naïve patients - More likely with short-course treatment; no evidence of increase with prolonged use
NSAIDs	Reduces prostaglandin levels resulting in vasoconstriction and reduced sodium excretion	- Greatest increase in BP: naproxen, ibuprofen, indomethacin, piroxicam - Smallest increase in BP: aspirin, diclofenac and sulindac
Estrogen	Increases angiotensin II production, increases aldosterone secretion and sodium and volume retention	- Effects on BP are dose-dependent - Occurs in 5% of women taking O.C. - Conditions that increase chances of elevations in BP: > 35 years old, family history, smoking, renal disease, duration of O.C. use
Antidepressants	Varies depending on class	- SSRIs unlikely to increase BP - MAOIs + tyramine containing foods can increase BP by 30 mmHg - Greatest increase in BP: venlafaxine may increase BP by 10 mmHg and common with doses >225mg/day
Caffeine	Increases sympathetic activation and catecholamine release; blocks adenosine	- 200-300 mg/day (1-2 cups of coffee) may increase BP by 8 mmHg - Effects are most evident 2-3 hours after consumption
Decongestants	Stimulates α-adrenergic receptors to constrict dilated arteries	- Effects on BP and HR are dose-dependent - Phenylephrine: unlikely to increase BP at recommended dosages - Pseudoephedrine: Short-term use is unlikely to affect BP in patients with well-controlled hypertension
Stimulants	Affects dopamine and noradrenaline signaling pathways	- ADHD medications: BP monitoring is recommended in all patients - Methylphenidate: may increase BP by 4 mm Hg in kids – less in adults - Weight loss medications: Most are CI in patients with severe or uncontrolled hypertension
Calcineurin Inhibitors	Reduces nitric oxide production resulting in vasoconstriction	- Elevations in BP more common with cyclosporine than tacrolimus - Tacrolimus: BP increase only seen in systemic therapy, not topical

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		- Cyclosporine: Affects BP with both short-term and long-term use
Vascular endothelial growth factor inhibitors	Inhibits the activity of VEGF and VEGFR whose signaling modulates angiogenesis	- HTN seen in 20% of patients (6% have severe HTN) - ACEI or CCB is best to counteract effects on BP - Bevacizumab: Takes up to 3 months after d/c for BP to return to baseline - Sorafenib: Increases of 11 mmHg seen within 24 hrs of administration
Alcohol	Stimulation of sympathetic nervous system, activation of RAAS	- Effects on BP are more common with excessive alcohol consumption - Patients with HTN may see decrease in BP initially, with an increase in BP 10-15 hours later
Erythropoietin	Stimulation of RAAS, decreased nitric oxide production, increased blood viscosity and calcium-mediated vasoconstriction	- HTN occurs in 20-30% of patients taking erythropoietin - Can take up to several months for BP to return to baseline - Increasing current anti-HTN medications or adding a diuretic are the best methods to counteract effects on BP - Increase of ultrafiltration in dialysis patients can counteract erythropoietin-induced HTN

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