

Drug classes and hallmark effects

Class	Watch for
Opioids	Respiratory depression, constipation, sedation
ACE inhibitors	Cough, hyperkalemia, angioedema
Beta blockers	Bradycardia, fatigue, bronchospasm
Anticholinergics	Dry mouth, constipation, urinary retention, blurred vision
Typical antipsychotics	EPS, sedation, tardive dyskinesia
Loop diuretics	Hypokalemia, ototoxicity, dehydration
Aminoglycosides	Nephrotoxicity, ototoxicity
NSAIDs	GI bleeding, renal impairment, hypertension
SSRIs	Sexual dysfunction, insomnia, GI upset, serotonin syndrome

- ✓ **Narrow therapeutic index** — warfarin, digoxin, lithium. These need lab monitoring
- ✓ **Side effect** predictable and usually mild • **adverse effect** harmful, needs intervention • **toxicity** from excessive exposure • **idiosyncratic** rare and unrelated to dose

Interactions and contraindications

- ✓ **Warfarin + antibiotics or NSAIDs** → bleeding • **ACE inhibitor + K-sparing diuretic** → hyperkalemia
- ✓ **Lithium + diuretics or NSAIDs** → lithium toxicity (sodium depletion makes the kidney reabsorb lithium)
- ✓ **Digoxin + loop diuretic** → hypokalemia raises digoxin toxicity risk
- ✓ **Opioids + benzodiazepines** → respiratory depression
- ✓ **MAOI + tyramine** (aged cheese) → hypertensive crisis • **grapefruit juice** → toxicity with CCBs and statins • **tetracycline + dairy** → reduced absorption
- ✓ **Absolute contraindications** — live vaccines in the immunocompromised or pregnant; ACE inhibitors and warfarin in pregnancy
- ✓ **Relative** — beta blockers in asthma (especially nonselective), NSAIDs in GI ulcer or kidney disease, metformin in severe renal/hepatic impairment or with iodinated contrast
- ✓ **Red flags** — rash + fever + mucosal involvement = **Stevens-Johnson**; wheezing + swelling = **anaphylaxis**; bruising + dark stools = **GI bleed**; confusion or tremor = possible toxicity

Dosage calculation

- ✓ **Desired ÷ Have × Quantity = dose to give**
- ✓ **mL/hr** = total volume ÷ hours. **gtt/min** = (volume × drop factor) ÷ minutes
- ✓ **1 g = 1000 mg • 1 mg = 1000 mcg • 1 L = 1000 mL • 1 tsp = 5 mL • 1 tbsp = 15 mL • 1 kg = 2.2 lb**
- ✓ **Always convert pounds to kilograms before weight-based dosing.** Check that the answer is reasonable before giving it