Pharmacology by Class and Suffix

Drug-name stems, prototypes, the check before each dose, key adverse effects, teaching, antidotes and look-alike traps

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HEART AND BLOOD PRESSURE

Exam study summary. The stem names the class; follow orders and your institution's parameters.

STEM: CLASS (PROTOTYPE)	CHECK FIRST	WATCH FOR, TEACH
-olol: β-blocker (metoprolol)	Apical pulse 1 min; hold if <60 unless ordered	Bradycardia, low BP; hides hypoglycemia tachycardia; never stop abruptly
-pril: ACE inhibitor (lisinopril)	BP, K^+, creatinine	Dry cough; angioedema (airway); no K^+ salt substitutes; not in pregnancy
-sartan: ARB (losartan)	BP, K^+, creatinine	Like -pril, much less cough; not in pregnancy
-dipine: calcium channel blocker (amlodipine)	BP	Ankle edema, flushing, headache
-statin (atorvastatin)	Muscle symptoms; liver tests at start	Muscle pain, weakness, dark urine: report
-azosin: α_1-blocker (doxazosin)	Lying and standing BP	First-dose fainting; rise slowly
-parin: heparins (heparin, enoxaparin)	Platelets, bleeding; aPTT for IV heparin	Falling platelets or new clot: HIT

STOMACH AND DIABETES

STEM: CLASS (PROTOTYPE)	CHECK FIRST	WATCH FOR, TEACH
-prazole: PPI (omeprazole)	Indication; Mg^{2+} if long-term	Before meals; long use: C. diff, fractures, low B12
-tidine: H_2 blocker (famotidine)	Kidney function	Confusion in older or renal clients
-glitazone (pioglitazone)	Weight, edema, lung sounds	Causes or worsens heart failure (boxed)
-gliptin: DPP-4 inhibitor (sitagliptin)	Kidney function	Severe belly pain (pancreatitis); joint pain
-gliflozin: SGLT2 inhibitor (empagliflozin)	Volume status, kidney function	Genital yeast, UTI; ketoacidosis at modest glucose; hold ≥3 days before surgery
-glutide: GLP-1 agonist (semaglutide)	Personal or family MTC or MEN 2	Nausea; pancreatitis; tell anesthesia before procedures

Lows come mainly from insulin and sulfonylureas (glipizide, glyburide); adding a newer class to either raises the risk.

ANTI-INFECTIVES

STEM: CLASS (PROTOTYPE)	CHECK FIRST	WATCH FOR, TEACH
-cillin: penicillin (amoxicillin)	Allergy: drug and reaction	Anaphylaxis: stay for first IV minutes; C. diff
cef-: cephalosporin (cefazolin)	Penicillin reaction type	Prior anaphylaxis: tell provider before the dose
-micin, -mycin: aminoglycoside (gentamicin)	Creatinine, urine output, hearing, levels	Kidney and ear damage; label avoids trough >2, peak >12 mcg/mL
-mycin: macrolide (azithromycin)	QT, K^+, Mg^{2+}	QT prolongation; GI upset; liver injury
-floxacin: fluoroquinolone (ciprofloxacin)	Age >60, steroids, myasthenia gravis	Tendon pain: stop, report; 2 h before or 6 h after antacids, Ca, Fe, Zn
-cycline: tetracycline (doxycycline)	Age under 8, pregnancy	Plenty of fluid, not right before bed; sun; apart from Ca, Mg, Fe
-conazole: antifungal (fluconazole)	Liver tests, QT, other drugs	Raises INR on warfarin; lows on sulfonylureas
-vir: antiviral (acyclovir, oseltamivir)	Kidney function, hydration	Acyclovir: fluids; oseltamivir within 48 h of symptoms

BRAIN, MOOD AND BIOLOGICS

STEM: CLASS (PROTOTYPE)	CHECK FIRST	WATCH FOR, TEACH
-triptan (sumatriptan)	Heart disease, uncontrolled BP	No ergot or other triptan within 24 h, no MAOI within 2 weeks
-azepam, -zolam: benzodiazepine (lorazepam)	RR, sedation, opioids on board	With opioids: apnea, death; falls; taper
-oxetine: antidepressant (fluoxetine, an SSRI)	Suicidal thoughts, MAOI use	Weeks to work; serotonin syndrome; taper
-mab: monoclonal antibody (adalimumab)	TB test, hepatitis B, active infection	Report fever; no live vaccines
-tinib: kinase inhibitor (imatinib)	CBC, liver tests, weight	Edema; take with a meal and water

Antibodies named since December 2021 end in -tug, -bart, -mig or -ment; existing -mab names stay.

ANTIDOTES AND REVERSAL

DRUG	REVERSAL
Heparin (-parin)	Protamine (partial for enoxaparin)
Warfarin	Vitamin K; bleeding: add 4F-PCC
Dabigatran (-gatran)	Idarucizumab
Apixaban, rivaroxaban (-xaban)	4F-PCC (andexanet off US market)
Opioids	Naloxone; may wear off first
Benzodiazepines	Flumazenil; can trigger seizures
β-blocker overdose	Glucagon
Digoxin	Digoxin immune fab
Acetaminophen	Acetylcysteine
Magnesium sulfate	Calcium gluconate

TRAPS AND LOOK-ALIKES

- -azole is not one class: -prazole (PPI), -conazole (antifungal), metronidazole (no alcohol until 3 days after).
- -mycin is not one class: aminoglycosides, macrolides, vancomycin, clindamycin.
- -tidine is an H_2 blocker; sertraline is an SSRI without -oxetine.
- -alol (labetalol) and carvedilol block α and β.
- FDA Tall Man pairs: niCARdipine / NIFEdipine, glipiZIDE / glyBURIDE, hydrALAZINE / hydrOXYzine, predniSONE / prednisoLONE, traZODone / traMADol.

EXAM TIP NCLEX favorites: -olol, apical pulse; -pril cough, switch to -sartan; -floxacin, tendon pain; -cycline, teeth under 8; -gliflozin, ketoacidosis; -statin, muscle pain.

SAFETY A stem gives the class, not the patient: read the whole name, confirm indication and allergy, and do the check first. High-alert drugs: see High-Alert Meds.

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