

HESI Pharm: Top 100 Guide

Summary Brief

This comprehensive guide synthesizes the 100+ most frequently tested medications on the **HESI RN Exit Exam**.

Success requires moving beyond rote memorization to **pattern recognition** of drug classes.

Core content:

- mechanism of action
- critical assessments (when to hold), and
- safety parameters (antidotes and therapeutic levels)

Top 3 Priority Nursing Interventions:

 **Assess Before You Give:** Always check the specific vital sign or lab value tied to the drug's mechanism (e.g., AP Pulse for **Digoxin**, BP for Antihypertensives, RR for Opioids).

 **Safety First:** Know the Antidotes (e.g., **Naloxone**, **Protamine Sulfate**) Black Box Warnings (e.g., Suicidality with Antidepressants).

 **Patient Teaching:** Focus on safety at home, such as avoiding alcohol with sedatives or recognizing signs of bleeding with anticoagulants.

Overall Goal: Administer medications safely:

- Anticipate physiological responses
- Prevent adverse events through rigorous assessment
- Evaluate therapeutic effectiveness


Major Drug Classes

❤️ Cardiovascular Medications

1. Antihypertensives (ACEs, ARBs, Beta-Blockers, CCBs)

Lisinopril (ACE Inhibitor):


 Vasodilators. Block conversion of Angiotensin I to II. ↓ HR, ↓ heart workload.

 **Intervention:** Monitor BP (risk for first-dose hypotension) and Potassium (K+).

 **Complications & Risks:**

- **Angioedema** (swelling of face/airway) - **Medical Emergency.**
- Cough (Persistent, dry, non-productive) [🎯 Frequent test question!]
- Elevated Potassium - **Hyperkalemia**


Losartan (ARB):


 Vasodilators. Block Angiotensin II. ↓ HR, ↓ heart workload. Used if a patient cannot tolerate ACE cough.


 **Intervention:** Monitor BP and renal function.

 **Complications & Risks:** **Angioedema** (rare), **Hyperkalemia.**

Metoprolol, Atenolol (Beta-Blockers)

 Beta-1 blockers. ↓ HR, ↓ BP.

 **Intervention:** Hold if HR < 60 or SBP < 100.

 **Complications & Risks:** Bradycardia, Hypotension. **Masks signs of hypoglycemia.**


Propranolol (Beta-Blocker + Non-Selective)

 Beta-1 and Beta-2 blockers.

 **Intervention:** Monitor BP/Pulse.

 **Complications & Risks:** **!** **Bronchoconstriction;** **contraindicated in Asthma/COPD.**

Amlodipine, Diltiazem (Calcium Channel Blockers)

 Vasodilation.

 **Intervention:** Monitor BP/HR.

 **Complications & Risks:** **!** **Peripheral Edema, constipation, bradycardia (Diltiazem).**

Clonidine (Alpha-2 Agonist)

 Reduces sympathetic outflow. Reduces adrenaline release. ↓ BP. ↓ HTN.

 **Intervention** Monitor BP.

 **Complications & Risks** Drowsiness, dry mouth.

Do not stop abruptly (rebound HTN).

2. Diuretics & Heart Failure

Furosemide (Loop Diuretic)



Potent fluid removal. **Wastes Potassium.**



Intervention: Monitor I&O, weight, BP, K+.



Complications & Risks: Hypokalemia, Dehydration.



Push IV slowly (20mg/min) to prevent Ototoxicity.

Hydrochlorothiazide (Thiazide Diuretic)



Action Moderate fluid removal. **Wastes Potassium.**



Intervention: Monitor BP, K+.



Give in AM to prevent nocturia.

Spirolactone (K+-Sparing Diuretic)



Action Blocks aldosterone. **Retains Potassium.**



Intervention



Monitor K+ levels. (Risk for Hyperkalemia).

Digoxin (Cardiac Glycoside)

Indication Heart Failure, Atrial Fibrillation.



Intervention



Check Apical Pulse for 1 full minute; hold if < 60 bpm.




Critical Levels  Therapeutic Range: **0.5 - 2.0 ng/mL.** **Toxicity Signs** **!** **Yellow/Green halos** in vision, anorexia, nausea/vomiting. **Antidote Digoxin Immune Fab (Digibind).** 

Hypokalemia increases the risk of Digoxin toxicity.


Nitroglycerin / Isosorbide (Nitrates) **Indication** Angina.  **Intervention** Monitor BP. Headache is common.  **Complications & Risks** **!** **Contraindicated with Sildenafil (Viagra)** due to fatal hypotension.




Hematology: Anticoagulants & Antiplatelets

Warfarin (Coumadin) **Route** PO (Long-term). **Monitoring**  **PT/INR.** Therapeutic INR: **2.0 - 3.0** (up to 3.5 for mechanical valves). **Antidote**  **Vitamin K** (Phytonadione). **Teaching**  Maintain consistent intake of green leafy vegetables.

Heparin **Route** IV/SubQ (Acute). **Monitoring**  **aPTT.** **Antidote**  **Protamine Sulfate.**
Complications  **HIT** (Heparin-Induced Thrombocytopenia).

Enoxaparin (Lovenox) **Route** SubQ (Low-Molecular Weight Heparin).  **Intervention** Administer in "love handles" (abdomen). **Do not expel the air bubble.**

Clopidogrel (Plavix) & Aspirin **Indication** Prevent MI/Stroke.  **Intervention** Monitor for bleeding (tarry stools). **Discontinue 5-7 days before surgery.**

Apixaban / Rivaroxaban (DOACs) **Indication** Stroke prevention in Afib, DVT/PE.  **Intervention** No routine monitoring. Monitor for bleeding. **Antidote**  **Andexanet Alfa.**

CNS & Psych Medications

1. Antidepressants

SSRIs (Fluoxetine, Sertraline, Citalopram) Risks ⚠️ **Suicide Risk** (Black Box, esp. in youth). **Serotonin Syndrome** (agitation, fever, hyperreflexia). **Teaching** 🩺 Takes **4-6 weeks** for effect. Do not stop abruptly.

TCAs (Amitriptyline) Risks ⚠️ **Cardiotoxicity** (fatal overdose risk). Anticholinergic effects.

MAOIs (Phenelzine) Diet 🍀 **! NO Tyramine** (aged cheese, wine, cured meats) → Hypertensive Crisis.

Bupropion (Atypical) Indication Depression, smoking cessation. **Risks** ⚠️ **Seizure risk** (contraindicated in seizure disorders/eating disorders).

2. Anxiolytics & Mood Stabilizers

Benzodiazepines (Lorazepam, Alprazolam) Indication Anxiety, seizures, alcohol withdrawal. **Risks** ⚠️ Sedation, respiratory depression, dependence. **Antidote** 🟠 **Flumazenil**.

Lithium Carbonate Indication Bipolar Disorder. **Critical Levels** 📊 **0.6 - 1.2 mEq/L**. Toxicity begins > 1.5. **Toxicity Signs** Coarse tremors, confusion, diarrhea/vomiting. 🟡 **Sodium relationship:** Low Na⁺ = High Lithium (Toxic). Maintain consistent salt/fluid.

Buspirone Indication Anxiety. 🩺 **Intervention** Non-sedating, no dependence. Takes weeks to work.

3. Anticonvulsants

Phenytoin (Dilantin) Critical Levels 📊 **10 - 20 mcg/mL**. **Side Effects** **! Gingival Hyperplasia** (overgrowth of gums). **Administration** IV only with **Normal Saline**.

Valproic Acid Risks ⚠️ Hepatotoxicity. Teratogenic.

Lamotrigine Risks ⚠️ **! Stevens-Johnson Syndrome** (Life-threatening rash). Report rash immediately.

Endocrine Medications



1. Insulins

Rapid-Acting (Lispro, Aspart) Timing Onset 15 min. Peak 1-2 hrs. **Nursing Action** 🩺 🎯 **Patient MUST eat within 15 min.**

Short-Acting (Regular) Timing Peak 2-4 hrs. **Nursing Action** 🩺 Only insulin allowed IV.

Long-Acting (Glargine) Timing No peak. Duration 24 hrs. **Nursing Action** 🩺 **DO NOT MIX.**

2. Oral Antidiabetics & Thyroid



Metformin **Action** Decreases hepatic glucose production.  **Intervention**  **Hold 48 hours before/after IV Contrast Dye** to prevent Lactic Acidosis/Renal Failure.


Glipizide (Sulfonylurea) **Action** Stimulates insulin release. **Risks**  **Hypoglycemia.**

Levothyroxine **Indication** Hypothyroidism. **Administration**  Take on an **empty stomach** in the AM. Lifelong therapy. Monitor TSH.

Antimicrobials

Vancomycin **Indication** MRSA, C. Diff. **Monitoring**  **Trough Levels** (10-20 mcg/mL). BUN/Creatinine. **Risks**  **Red Man Syndrome** (flushing/hypotension) if infused too fast. **Ototoxicity/Nephrotoxicity.**

Tetracyclines (Doxycycline) **Risks**  **Tooth Discoloration** (don't give to children <8 or pregnant women). **Photosensitivity.** **Teaching**  Do not take with milk/antacids. Sit upright for 30 min.


Fluoroquinolones (Ciprofloxacin, Levofloxacin) **Risks**   **Tendon Rupture** (Black Box Warning).




Metronidazole (Flagyl) **Teaching**   **NO ALCOHOL** (Disulfiram-like reaction: severe vomiting).


Sulfamethoxazole/Trimethoprim (Bactrim) **Risks**  Sulfa allergy, crystalluria (drink water!), Photosensitivity.

Respiratory Medications

Albuterol (SABA) **Indication** Acute asthma attack ("Rescue Inhaler"). **Side Effects** Tachycardia, tremors.

Fluticasone/Salmeterol (Advair) **Indication** Maintenance ("Controller"). **Teaching**  Rinse mouth after use to prevent **Thrush** (Candidiasis).

Montelukast **Indication** Asthma/Allergy prevention. **Risks**  Neuropsychiatric events (mood changes).   Gastrointestinal & Miscellaneous

Proton Pump Inhibitors (Omeprazole, Pantoprazole) **Indication** GERD, Ulcers. **Teaching**  Take 30-60 min before meals. Long term risk: C. Diff, Osteoporosis.

Ondansetron (Zofran) **Indication** Nausea/Vomiting. **Risks**  **QT Prolongation.**

Alendronate (Bisphosphonate) **Indication** Osteoporosis. **Administration**  Take on empty stomach with full glass of water.  **Sit upright for 30 mins** to prevent esophagitis.

Allopurinol **Indication** Gout (Prevention). **Teaching**  Increase fluids. Does not treat acute attacks.

Statins (Atorvastatin, Simvastatin) Indication High Cholesterol. **Risks** ⚠️ Hepatotoxicity, **Rhabdomyolysis** (muscle pain). **Administration** 🩺 Take in evening.

Acetaminophen **Risks** ⚠️ Hepatotoxicity. Max dose **4g/day**. **Antidote** 🟡 **Acetylcysteine (Mucomyst)**.

NSAIDs (Ibuprofen, Naproxen) **Risks** ⚠️ GI Bleeding, Renal impairment. Take with food.







🟣 Common Comparative Pathology Examples

Feature	Hypoglycemia (Cold & Clammy)	Hyperglycemia (Hot & Dry)
Signs	Shaky, sweaty, confused, tachycardia.	Polyuria, Polydipsia, Polyphagia, fruity breath.
Priority	🎯 Check BG. Give 15g Fast Carb (juice) .	🎯 Check BG. Administer Insulin/Fluids .
Risk	Brain Damage / Coma.	DKA / HHNS.

Feature	Hyperthyroidism (Graves)	Hypothyroidism (Hashimoto's)
Metabolism	⬆️ HIGH (Fast) .	⬇️ LOW (Slow) .
S/S	Weight loss, heat intolerance, exophthalmos .	Weight gain, cold intolerance, lethargy.
Tx	PTU, Methimazole , Thyroidectomy.	Levothyroxine .

ADPIE: Case Study

Scenario: Mrs. J, 65, is admitted with **A-Fib** and started on **Warfarin**. She loves gardening and salads.

-  **Assessment:** **Monitor INR**. Assess bruising, bleeding gums, and diet.
-  **Diagnosis:** ⚠ **Risk for Bleeding** related to anticoagulant therapy.
-  **Planning:** Patient will **maintain INR between 2.0-3.0** and know diet restrictions.
-  **Implementation:** Administer **Warfarin** at same time daily.
-  **Teach:** Use soft toothbrush, electric razor.
Green leafy vegetables are OK (**Vitamin K**), but **keep intake consistent**.
-  **Evaluation:** **INR stabilizes at 2.5**. No signs of hematuria or epistaxis.

Must Know Test Alerts

- 🎯 **Magnesium Sulfate**: Used for **Pre-eclampsia**. Antidote is **Calcium Gluconate**. Watch for **decreased DTRs** (toxicity).
- 🎯 **Oxytocin (Pitocin)**: High alert med for labor induction. Stop if contractions are **< 2 min apart** or **fetal distress** occurs.
- 🎯 **Potassium (K+)**: **NEVER** push IV. Must be diluted and infused slowly.
- 🎯 **Kayexalate**: Used to lower high **Potassium** (binds K⁺ in gut).
- 🎯 **Metronidazole (Flagyl)**: **No Alcohol** (**Disulfiram** reaction).
- 🎯 **Alendronate**: **Sit upright for 30 mins** after taking to prevent esophagitis.
- 🎯 **Sildenafil (Viagra)**: **NEVER** with **Nitroglycerin** (**Fatal Hypotension**).
- 🎯 **Allopurinol**: **Increase fluid intake** to prevent **kidney stones** (excretes uric acid).
- 🎯 **Sucralfate**: Acts as a "**mucosal barrier**" (band-aid) for ulcers. **Take 1 hour before meals**.
- 🎯 **Lithium**: **Toxicity (>1.5)** looks like drunk behavior (ataxia, slurred speech). **Hydrate!**