

# NCLEX Antibiotics Cheat Sheet

Updated companion to the video notes. Connect each drug class to a safety check.

**Before giving:** verify the order, patient, allergy/reaction, indication, dose, route and timing. Check renal function, interactions and pregnancy/breastfeeding status.

**Urgent red flags:** breathing difficulty, throat swelling, blistering rash or severe watery/bloody diarrhea. Assess and escalate promptly; activate emergency response for suspected anaphylaxis.

## 01 Core antibiotic classes

| CLASS / EXAMPLES                                                                | RISKS / MONITORING                                                                                                                            | TEACHING / NCLEX CLUE                                                                                                                                            |
|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Penicillins</b> [1]<br>Often -cillin<br>amoxicillin, ampicillin              | Allergy/anaphylaxis; GI upset; antibiotic-associated diarrhea. Clarify the allergy and reaction type.                                         | Report breathing difficulty, swelling or severe diarrhea. Amoxicillin may be taken with food; food instructions vary by drug.                                    |
| <b>Cephalosporins</b> [2]<br>Often cef- / ceph-<br>cephalexin, ceftriaxone      | Allergy and diarrhea, including C. difficile. Check kidney function and renal dosing for the specific agent.                                  | Cephalexin: with or without food. A penicillin allergy requires clarification and assessment of the specific cephalosporin.                                      |
| <b>Macrolides</b> [3]<br>azithromycin<br>clarithromycin<br>erythromycin         | GI upset; <b>QT prolongation</b> ; possible liver injury. Review interactions, QT risk and electrolytes when indicated.                       | Report fainting, palpitations or jaundice. Standard azithromycin tablets/liquid: with or without food. Check the formulation.                                    |
| <b>Tetracyclines</b> [4,18]<br>Often -cycline<br>doxycycline<br>tetracycline    | Photosensitivity; esophageal irritation; pregnancy and tooth-development precautions. Doxycycline has pediatric exceptions [13].              | Doxycycline: full glass of water; stay upright <b>at least 30 minutes</b> . Separate antacids/iron/calcium supplements as directed. Use sun protection.          |
| <b>Fluoroquinolones</b> [5]<br>Often -floxacin<br>ciprofloxacin<br>levofloxacin | Tendon injury; neuropathy; CNS effects; dysglycemia; QT risk. <b>Hold and promptly notify</b> the provider for new tendon pain or neuropathy. | Ciprofloxacin: take <b>2 hours before or 6 hours after</b> interacting mineral products/antacids. Avoid dairy alone; a meal containing dairy is allowed.         |
| <b>Aminoglycosides</b> [6]<br>gentamicin<br>tobramycin, amikacin                | <b>Kidneys + ears:</b> nephrotoxicity and ototoxicity. Monitor renal function, urine output, hearing/balance and ordered drug levels.         | Report tinnitus, hearing change, vertigo or reduced urine output. Coordinate exact drug-level sampling times with pharmacy.                                      |
| <b>Glycopeptide</b> [7,14]<br>vancomycin                                        | IV: nephrotoxicity; infusion reactions. Monitor renal function and exposure. AUC-guided monitoring is recommended for serious MRSA.           | IV: slow infusion; <b>never IV push</b> . Promptly assess infusion symptoms. Oral: C. difficile colitis. IV: systemic infection; routes are not interchangeable. |

**Recall anchors:** aminoglycosides = kidneys + ears; macrolides = QT; tetracyclines = sun + esophagus; fluoroquinolones = tendons + nerves; IV vancomycin = kidneys + infusion.

GI = gastrointestinal; CNS = central nervous system; QT = ECG interval; AUC = area under the concentration-time curve; MRSA = methicillin-resistant S. aureus.

# Other Agents & Safety Notes

Additional medicines, key clarifications and clickable references.

| CLASS / EXAMPLES                                                                  | RISKS / MONITORING                                                                                                                         | TEACHING / NCLEX CLUE                                                                                                                                 |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Nitroimidazole</b> [8]<br>metronidazole<br>(Flagyl)                            | Treats anaerobic and selected protozoal infections, including trichomoniasis. GI upset/metallic taste; report new numbness or tingling.    | Label-based teaching: avoid alcohol and products with propylene glycol during treatment and for <b>at least 3 days</b> after the final dose.          |
| <b>Folate antagonists</b><br>TMP-SMX [9,16]<br>trimethoprim +<br>sulfamethoxazole | Selected UTIs and other susceptible infections. Severe rash, <b>hyperkalemia</b> and blood-cell abnormalities are important risks.         | Check allergy, kidney function, interactions and potassium as indicated. Follow the prescribed fluid plan. Report peeling/blistering rash.            |
| <b>Urinary antibiotic</b><br>nitrofurantoin [10,17]                               | Lower UTI/cystitis; <b>not pyelonephritis</b> . Check kidney function. Rare lung, liver or nerve toxicity; G6PD-related hemolysis risk.    | Take with food. Report persistent cough, dyspnea, jaundice or neuropathy. Verify pregnancy precautions, especially near delivery.                     |
| <b>Antifungal</b> [11]<br>fluconazole<br>(Diflucan)                               | <b>Not an antibacterial</b> . Treats susceptible fungal infections. Consider liver injury, QT risk, interactions and pregnancy concerns.   | Review interactions and ordered renal/hepatic monitoring. Report jaundice, dark urine or severe rash. Verify pregnancy-specific advice.               |
| <b>Urinary analgesic</b><br>phenazopyridine<br>(Pyridium) [12,19]                 | Relieves urinary discomfort; <b>does not cure infection</b> . Avoid in renal insufficiency [19]. G6PD deficiency increases hemolysis risk. | Red-orange urine is expected and can stain. With an antibacterial for UTI, use <b>must not exceed 2 days</b> . Report blue skin, dyspnea or jaundice. |

## 02 Replace blanket rules with these facts

**Contraception:** CDC guidance: most broad-spectrum antibiotics do not reduce combined pill/patch/ring effectiveness. Rifampin/rifabutin are important exceptions [15].

**Food and suffixes:** follow the exact drug/formulation instructions. The ending -mycin does not identify one class or one toxicity pattern [3,6,7].

**Pregnancy and children:** avoid class-wide safety claims. Short-course doxycycline is recommended for suspected Rocky Mountain spotted fever in children of all ages [13].

**Sulfasalazine:** do not memorize it as a routine UTI antibiotic; its labeled uses include ulcerative colitis [20].

**Adherence:** take antibiotics as prescribed. Do not share, save leftovers or change the course without clinician advice.

## 03 Sources & further study

1. Amoxicillin - MedlinePlus
2. Cephalexin - MedlinePlus
3. Azithromycin - MedlinePlus
4. Doxycycline - MedlinePlus
5. Ciprofloxacin - MedlinePlus
6. Gentamicin injection - MedlinePlus
7. Vancomycin IV - MedlinePlus / oral
8. Metronidazole - MedlinePlus
9. Co-trimoxazole - MedlinePlus
10. Nitrofurantoin - MedlinePlus
11. Fluconazole - MedlinePlus
12. Phenazopyridine - MedlinePlus
13. Pediatric doxycycline / RMSF - CDC
14. Vancomycin monitoring - IDSA et al.
15. Contraceptive interactions - CDC U.S. MEC
16. Bactrim label - DailyMed
17. Nitrofurantoin label - DailyMed
18. Doxycycline administration - NHS
19. Pyridium label - DailyMed
20. Sulfasalazine label - DailyMed

**Study further:** Pharmacology guide | 50 drug-class flashcards

UTI = urinary tract infection; G6PD = glucose-6-phosphate dehydrogenase. Educational study aid, not prescribing guidance. Verify current drug labeling, orders, pharmacy advice and facility policy.