### AMINGLYCOSIDES – the little “MYCINs”

Used for gram neg bacteria – esp. nosocomial infections. 

- Streptomycin
- Tobramycin
- Gentamicin
- Karamycin
- Neomycin

SE: all typical – but watch esp. for OTOTOXICITY and KIDNEY damage.

**DO NOT MIX GENTAMICIN AND HEPARIN!** Or mix with penicillins.

### CARBAPENEMS – the “PENEMs”

Broad spectrum antibiotics.

- Ertapenem
- Imipenem
- Meropenem

SE: esp. diarrhea

Does not mix well with other antibiotics and drugs.

### PENICILLINS – the “CILLINs”

1st antibiotics created – variety of uses – ear infections, pneumonia, UTI, STD, prophylactic – but some microbes have become resistant to penicillin.

- Penicillin
- Amoxicillin
- Ampicillin
- Nafcillin
- Ticarcillin

SE – Watch for all typical SE – N/V/Diarrhea, allergic, sore mouth, furry tongue, superinfections

Do not mix with other drugs

May interfere with oral contraceptives!!

### CEPHALOSPORINS – the “CEFs”

Treat Gram + or - depends on the “generation” of the bacteria - are similar to the penicillins.

- Cefaclor
- Cefaroxil
- Cefoxin
- Cefazidine
- Ceftriaxone
- Cephalaxin
- Loracabef (Lorabid)

Watch for allergies to penicillins – are very close and may have cross sensitivity – and KIDNEY damage.

All typical SE – N/V/Diarrhea, Allergic/Superinfections.

Do not take with antacids.

### MACROLIDES – the 4 BIG “MYCINs”

- Azithromycin (Zithromax) (take for 3-5 days)
- Clarithromycin (Biaxin)
- Erthromycin (E-mycin)
- Dirithromycin (Dynabac)

Watch for all typical SE – may interfere with numerous drugs and excretion – watch for drug toxicity. May interfere with oral contraceptives.

### KETOLIDES – NEW

Similar to Macrolides – (used only when resistant).

Used for 2nd line of defense for resistant bacteria – esp. Gram + resp infections.

- Ketex

Watch for all typical SE

May interfere with oral contraceptives.

### QUINOLONES / FLUOROQUINOLONES – the “FLOs”

- Ciprofloxin (Cipro)
- Levofloxacine (Levaquin)
- Ofloxacin (Floxin)
- Norfloxacin (Noroxin)

Affects Gram + and broad spectrum

Watch for all typical SE and Headache, dizziness, photosensitivity, rash

Extreme caution using w. NSAIDS may cause seizures

### SULFONOMIDES – the “SULFAs”

- Sulfamethoxazole
- Trimethoprim/Sulfamethoxazole (TMP/SMZ, Bactrim, Septra)

Watch for all SE – esp kidney and liver toxicity, photosensitivity. Headache, dizziness, seizures.

Encourage water intake

### MISCELLANEOUS

- **VANCOMYCIN**
  - Very potent – reserved for resistant gram + bacteria
  - SE: All- esp watch for kidney damage and ototoxicity

- **Flagyl** – kills bacteria as well as trich. & protozoans – used for intestinal superinfection w. protozoan from antibiotic therapy

- **SYNERCID**
  - Watch for all typical SE and toxicities!
Common SIDE EFFECTS of all Anti-Microbials

THE BIG 3 most common
Nausea  Vomiting  Diarrhea
Also GI upset, abdom. cramping

TOXICITY
Hepatotoxicity - LIVER – monitor Liver Function Tests (LFTs) and Bilirubin levels/jaundice
Nephrotocicity - KIDNEYS – watch for increased BUN & Creatinine, decreased urine output, protein in urine
OTOXICITY – ear damage due to damage of the 8th cranial nerve – esp aminoglycosides and vancomycin – ringing in ears, difficulty hearing

ALLERGIC REACTIONS
Can be mild to severe!
Redness, swelling, rash, difficulty breathing. Can cause anaphylactic shock and death.
Assess all patients for allergy to meds prior to giving and monitor closely for a period after first dose for any negative effects.

If you suspect an allergic reaction:
STOP the antibiotic immediately
Airway, airway, airway – may need to be intubated or a trach if can’t breathe
Oxygen
Notify physician!
HOB up 45 degrees
Prepare to administer epinephrine (or Isuprel) (sympathomimetics)
Prepare to administer antihistamines, steroids, and bronchodilators

Miscellaneous:
Photosensitivity – may get sunburned easily if in sun for any prolonged period while on the medication
Secondary infections – medication kills the normal flora that keeps opportunistic microbes at bay – allowing them to cause an infection – yeast infections (candida) – thrush, etc. Often occur at “openings” such as the mouth, vagina and anal areas
Inflammation/irritation at the site – especially IV’s – may cause thrombophlebitis. Some po irritate the mouth
Be aware – Probenecid interacts with many antimicrobials and keeps them from being excreted which can lead to toxicity. Check interactions before giving any antimicrobial with Probenecid