- Pharmacological Management of Respiratory tract infections

- Objectives
- List major respiratory disorders
- Describe strategies for management of infection
- List the major classes of drug used
- Explain the effects, side effects and toxicities of these drugs
- Describe pharmacology of anti-tubercular drugs
- Major respiratory disorders
- Strategies for management of infection

- Gram positive infections: penicillins
- Gram negative infections: aminoglycosides, third generation cephalosporins
- Anaerobic infections: metronidazole
- Viral infections: anti-virals
- Major classes of drugs used
- Inhibitors of cell wall synthesis
- Beta Lactum antibiotics
  - Penicillins:
    - Amoxycillin, piperacillin etc.
  - Cephalosporins
    - Cefixime, Ceftriaxone etc.
- Beta lactamase inhibitors

  - Clavulinic acid, sulbactam, tazobactum
- Protein synthesis inhibitors
- Inhibit 30 S ribosome
  - Aminoglycosides: Amikacin, gentamycin
  - Tetracyclines: doxycycline
- Inhibit 50 S Ribosome
  - Macrolides: Azithromycin , erythromycin
  - Chloramphenicol
- Inhibitors of folic acid metabolism
- Cotrimoxazole:
  - Combination of sulfamethoxazole and trimethoprim

- Common side effects and toxicities
- Penicillins and cephalosporins: Hypersensitivity
- Tetracyclines: Teratogenecity, nephrotoxicity
- Cotrimoxazole
  - Hypersensitivity, crystalluria
- Quinolones :Tendinitis, tendon rupture
- Aminoglycosides: ototoxicity, nephrotoxicity
- Inhibitors of nucleic acid function
- Quinolones
  - Ciprofloxacin , ofloxacin

  - Mechanism of action
    - Inhibit DNA gyrase in bacteria

- Antitubercular drugs

❑**First line drugs**(standard drugs/primary drugs)

❑**Second line drugs**(reserve/secondary drugs)

❑**Other drugs**

- DOTS
  Directly Observed Treatment Short course

- Intensive phase
- Continuation phase