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**Lecture title: Antibacterial Drugs**

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**1. Inhibitors of bacterial cell wall synthesis**

**Penicillins**

They are bactericidal, broad spectrum and safe drugs. It may cause hypersensitivity reactions in some individuals.

**Classification**

1. Natural penicillins like penicillin G.
2. Synthetic penicillins which are divided into:
  - a. Acid resistant penicillin like penicillin V.
  - b.  $\beta$ -lactamase resistant penicillin like methicillin.
  - c. Broad spectrum penicillin like ampicillin and amoxicillin.

**Mechanism of action**

Inhibits bacterial cell wall synthesis.



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## **Clinical uses**

Treatment of pneumonia, mastitis and urinary tract infection.

## **Cephalosporines**

### **Types**

Cephalexin and cephaloridine.

These are broad spectrum, bactericidal drugs and chemically related to penicillins. They are given by injection, poorly absorbed orally, distributes to different body organs and excreted by the kidney. It may cause some allergic reactions.

### **Mechanism of action**

Inhibits bacterial cell wall synthesis.

## **2. Inhibitors of bacterial cell membrane function**

### **Polymyxin B**

#### **Mechanism of action**

Inhibition of bacterial cell membrane functions by binding to the plasma membrane and disrupts its structure and permeability