

Slide 1: Title Slide

Title: Medical Knowledge Overview

Subtitle: Key Concepts in Modern
Healthcare

Image: Stethoscope or medical
symbol

Slide 2: ECG Basics

- **Text:**
 - "Normal sinus rhythm: P wave → QRS → T wave."
 - Common abnormalities:
 - Atrial Fibrillation (irregularly irregular rhythm).
 - STEMI (ST elevation)."
- Image:** Normal ECG vs. abnormal

Slide 3: Stroke (CVA)

- **Text:**
- "Ischemic (80%) vs. Hemorrhagic (20%)."
- FAST mnemonic: Face drooping, Arm weakness, Speech difficulty, Time to call EMS.
- Acute treatment: tPA (if ischemic, within 4.5 hrs)."

Image: Brain CT scan

Slide 4: Hypertension

- Text:
 - "Hypertension (HTN) is defined as BP $\geq 130/80$ mmHg (ACC/AHA guidelines).
 - Primary risk factors: Obesity, high sodium intake, genetics.
 - Treatment: ACE inhibitors, diuretics, lifestyle modifications."
- Image: Blood pressure chart

Slide 5: Diabetes Mellitus

- **Text:**
- "Type 2 DM: Insulin resistance + relative insulin deficiency.
- Diagnostic criteria: Fasting glucose ≥ 126 mg/dL or HbA1c $\geq 6.5\%$.
- Management: Metformin, SGLT2 inhibitors, glycemic monitoring."

Image: Pancreas/glucose meter

Slide 6: Asthma

- "Chronic airway inflammation → wheezing, dyspnea.
- Triggers: Allergens, exercise, cold air.
- Rx: Inhaled corticosteroids + SABAs (e.g., albuterol)."

Image: Bronchoconstriction diagram

Slide 7: Myocardial Infarction

- **Text:**
 - "STEMI: ST elevation + troponin rise.
 - Symptoms: Chest pain radiating to left arm/jaw.
 - Intervention: PCI (stent) or thrombolytics."
- Image:** Coronary artery blockage

Slide 8: Pneumonia

- **Text:**
- "Community-acquired (CAP): Strep. pneumoniae common.
- Diagnosis: CXR infiltrate + fever/cough.
- Treatment: Amoxicillin, macrolides (outpatient)."

Image: Lung X-ray

Slide 9: Osteoporosis

- **Text:**
- "BMD T-score ≤ -2.5 (DXA scan).
- Risk factors: Postmenopausal, low vitamin D.
- Rx: Bisphosphonates, calcium/vitamin D supplementation."

Image: Bone density comparison

Slide 10: Alzheimer's Disease

- **Text:**
- "Progressive dementia: Memory loss, cognitive decline.
- Pathology: Amyloid plaques, neurofibrillary tangles.
- Management: Cholinesterase inhibitors (donepezil)."

Image: Brain MRI

Slide 11: COVID-19

- **Text:**
- "SARS-CoV-2 virus → ARDS in severe cases.
- Prevention: Vaccination, masking.
- Variants: Monitor for immune escape."

Image: Virus illustration

Slide 12: Antibiotic Classes

- **Text:**
 - "Beta-lactams (penicillins), macrolides (azithromycin), fluoroquinolones (ciprofloxacin).
 - Resistance: MRSA, ESBL-producing bacteria."
- Image:** Antibiotic mechanism

Slide 13: Thyroid Disorders

- **Text:**
- **Hypothyroidism:** High TSH, low T4 → levothyroxine.
- **Hyperthyroidism:** Low TSH, high T4 → methimazole."

Image: Thyroid gland

Slide 14: Medical Ethics

- **Text:**
 - "4 Principles:
 - Autonomy
 - Beneficence
 - Non-maleficence
 - Justice."
- Image:** Scales of justice

Slide 15: References

- **Text:**
- "Sources: UpToDate, WHO, CDC, Mayo Clinic."
- Image credits: Wikimedia Commons, NIH."