

Introduction to Common Diseases

Introduction to Common Diseases

Designed as a quick-reference guide for students, health-care trainees, and anyone looking for a clear overview.

1. What Is a “Disease”?

Aspect	Definition
Disease	A disruption of normal physiological function caused by internal (genetic, metabolic) or external (infectious agents, environmental) factors.
Signs	Objective evidence observed by a clinician (e.g., fever, rash).
Symptoms	Subjective experiences reported by the patient (e.g., pain, fatigue).
Etiology	The cause(s) of a disease – can be <i>infectious</i> , <i>genetic</i> , <i>autoimmune</i> , <i>nutritional</i> , <i>toxic</i> , or <i>multifactorial</i> .
Pathogenesis	The biological mechanisms that lead from the cause to the disease manifestation.
Epidemiology	Study of disease distribution (incidence, prevalence) and determinants in populations.

2. Classification of Common Diseases

Category	Typical Examples	Key Features
Infectious diseases	Influenza, tuberculosis, COVID-19, malaria	Caused by pathogens (virus, bacteria, protozoa, fungi). Transmissible; often preventable by vaccination or hygiene.
Chronic non-communicable diseases (NCDs)	Hypertension, type 2 diabetes, coronary artery disease, chronic obstructive pulmonary disease (COPD)	Long-lasting, progressive, often linked to lifestyle, genetics, or environmental exposures.
Genetic / congenital disorders	Cystic fibrosis, sickle-cell disease, Down syndrome	Result from inherited DNA mutations or chromosomal abnormalities.

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Category	Typical Examples	Key Features
Autoimmune diseases	Rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis	Immune system mistakenly attacks self-tissues.
Nutritional deficiencies / excesses	Iron deficiency anemia, scurvy (vitamin C deficiency), obesity	Imbalance of essential nutrients; can be prevented/treated with diet modification.
Neoplastic diseases	Breast cancer, leukemia, melanoma	Uncontrolled cell growth; may be benign or malignant.
Environmental / occupational diseases	Asbestosis, lead poisoning, silicosis	Result from exposure to toxic substances or physical agents.

3. Core Concepts Across Diseases

3.1. Transmission & Prevention (Infectious)

Mode of transmission	Examples	Primary preventive measures
Respiratory droplets	Influenza, COVID-19	Masks, ventilation, vaccination
Airborne	Tuberculosis, measles	Negative-pressure rooms, N95 respirators, immunization
Vector-borne	Malaria (mosquito), Lyme disease (tick)	Vector control, repellents, prophylactic meds
Fecal-oral	Hepatitis A, cholera	Hand hygiene, safe water, sanitation
Direct contact	Herpes simplex, MRSA	Barrier protection, wound care

3.2. Risk Factors (Chronic NCDs)

Modifiable	Non-modifiable
Tobacco use, unhealthy diet, physical inactivity, excessive alcohol, obesity	Age, sex, family history, genetics, ethnicity

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3.3. Diagnostic Approach (Universal)

1. **History** – chief complaint, timeline, exposures, family history.
2. **Physical examination** – systematic organ?system review.
3. **Laboratory tests** – CBC,