

Drug and Disease Classification

Drug and Disease Classification

Drug Classification

- Drug classification refers to the systematic organization of drugs based on various attributes.
- The main purposes of drug classification are to improve understanding, regulation, prescribing, dispensing, and research.

Drugs can be classified based on:

- **Mechanism of Action (MOA):** How the drug produces its effects (e.g., beta-blockers reduce heart rate).
- **Therapeutic Use:** The condition or disease the drug treats (e.g., antihypertensives treat high blood pressure).
- **Pharmacological Action:** The physiological effect of the drug (e.g., diuretics increase urine production).
- **Chemical Structure:** The molecular composition (e.g., penicillins, sulfonamides).
- **Legal Category:** Based on regulation (e.g., prescription-only, over-the-counter, controlled substances).

Disease Classification

- Disease classification provides a standardized framework for identifying and coding diseases.
- The most widely used system is the International Classification of Diseases (ICD) developed by the World Health Organization (WHO).

Diseases can be classified by:

- **Organ/System Affected:** e.g., respiratory diseases, cardiovascular diseases.
- **Cause:** e.g., infectious, autoimmune, genetic.
- **Duration:** e.g., acute or chronic.
- **Severity and Stage:** e.g., mild, moderate, severe, or stages of cancer.
- The ICD assigns each disease a specific alphanumeric code, facilitating statistical tracking, health planning, and insurance claims.

Anatomical, Therapeutic and Chemical Classification of Drugs (ATC Classification)

- The ATC classification system, developed and maintained by the WHO Collaborating Centre for Drug Statistics Methodology, categorizes drugs based on:

- The anatomical system or organ they act upon
- Their therapeutic purpose
- Their pharmacological or chemical properties

Purpose of the ATC System

- To standardize drug classification globally
- To support drug utilization research and policy development
- To aid in prescribing and pharmacovigilance

Structure of the ATC Code

Each drug is assigned a unique code with five hierarchical levels, consisting of seven alphanumeric characters.

A. Level 1: Anatomical Main Group (1 letter)

- Represents the primary body system or organ affected by the drug.
- **Examples:**
 - A = Alimentary tract and metabolism
 - C = Cardiovascular system
 - N = Nervous system
- There are 14 anatomical groups at this level.

B. Level 2: Therapeutic Main Group (2 digits)

- Indicates the main therapeutic use of the drug.
- **Examples:**
 - C03 = Diuretics
 - N02 = Analgesics

C. Level 3: Pharmacological Subgroup (1 letter)

- Specifies the pharmacological class of the drug.
- **Examples:**
 - C03C = High-ceiling diuretics

D. Level 4: Chemical Subgroup (1 letter)

- Details the chemical or pharmacological subgroup within the pharmacological class.
- **Examples:**
 - C03CA = Sulfonamide-based diuretics

E. Level 5: Chemical Substance (2 digits)

- Identifies the specific active ingredient.

➤ **Examples:**

- C03CA01 = Furosemide

Example of a Complete ATC Code

- **C03CA01 (Furosemide)**

Level	Description	Code
1	Cardiovascular system	C
2	Diuretics	C03
3	High-ceiling diuretics	C03C
4	Sulfonamide diuretics	C03CA
5	Furosemide (specific drug)	C03CA01

International Classification of Diseases (ICD)

What is ICD?

- The International Classification of Diseases (ICD) is a standardized system developed by the World Health Organization (WHO) for the classification and coding of diseases, health conditions, and related health problems.
- It is used worldwide by:
 - Doctors and hospitals (for diagnosis coding)
 - Researchers (to track disease prevalence)
 - Health insurance companies (for claims and billing)
 - Governments and public health agencies (for health statistics and planning)

Purpose of ICD

- Standardizes disease terminology across countries and languages
- Enables systematic recording, analysis, interpretation, and comparison of mortality and morbidity data
- Facilitates epidemiological surveillance, health policy, and resource allocation
- Used in clinical documentation, billing, insurance reimbursement

Structure of ICD

- Each condition or disease is assigned a unique alphanumeric code.
- **Example from ICD-10:**

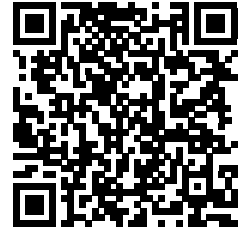


FREE PREVIEW

[Click here to visit our website](#)

PHARMACY PREMIUM NOTES

Complete subject
and semesters are
available on
FirstHope app only.



[Scan or click here](#)

Click here to get the app



Available on Google Play

JOIN THE FIRSTHOPE COMMUNITY

Join our Telegram channel

Click here to join Telegram



[Scan or click here](#)

@FirstHopeNotes

Instagram

@firsthope.official

[Click here to follow >](#)

YouTube channel

FirstHope-Pharmacy / Live streams

[Click here to watch >](#)

WhatsApp channel

Follow FirstHope on WhatsApp

[Click here to join >](#)

FirstHope website

firsthopenotes.com

[Click here to visit >](#)

B.Pharm / D.Pharm / M.Pharm / Pharm.D

Preview notes. Complete subjects and semesters in the FirstHope app.