

Chapter 9: Pharmacology

Medicinal Drugs, Sources, Addictive Substances, and First Aid

Introduction to Pharmacology & Terminology



Pharmacology

Scientific study of drugs, their sources, chemical properties, and biological effects.



Medicinal Drug

A chemical substance used for diagnosing, curing, treating, or preventing disease.



Pharmacokinetics

Study of how drugs are absorbed, distributed, metabolized, and excreted by the body.

ORIGINS

Major Sources of Medicinal Drugs

SOURCE 01

Natural Plants

Active alkaloids and glycosides like morphine from poppies and quinine from cinchona.

SOURCE 02

Animals & Fungi

Antibiotics from Penicillium molds and hormone extractions like animal insulin.

SOURCE 03

Synthetic Labs

Chemically synthesized drugs like aspirin, sulfonamides, and modern synthetics.

CLASSIFICATIONS

Major Categories of Medicinal Drugs

01

Analgesics

Pain relievers like paracetamol and aspirin.

02

Antibiotics

Kill or inhibit bacterial growth (e.g., ampicillin).

03

Sedatives

Depress nervous system to calm anxiety and induce sleep.

04

Vaccines

Biological preparations conferring active immunity against pathogens.

Addictive Drugs & Substance Abuse

Drug Addiction

Compromised psychological and physical dependence leading to compulsive drug-seeking behavior.

Tolerance & Withdrawal

Tolerance requires higher doses for same effect; withdrawal brings severe physiological symptoms.

Major Addictive Agents

Includes sedatives, narcotics (opiates like heroin), stimulants, and hallucinogens.

First Aid & Emergency Medical Care

Definition

Immediate and temporary care given to an injured or suddenly ill person before professional help arrives.

Basic Principles

Preserve life, prevent further injury, and promote recovery through calm, structured action.

First Aid Box

Essential supplies: antiseptics, sterile gauze, bandages, scissors, and basic analgesics.

Managing Poisoning, Burns & Fractures

Poisoning

Identify toxin, avoid self-induced vomiting if corrosive acids/alkalis were swallowed, seek emergency care.

Burns

Cool burn area immediately with running cold water; never apply greasy ointments or rupture blisters.

Fractures

Immobilize injured limb using rigid splints to prevent bone displacement and further tissue damage.

Pharmacology & Safety Mastery

Promoting responsible drug use, addiction prevention, and prompt emergency response.

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