



SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES



Coimbatore -641035

COURSE NAME : PHARMACOLOGY(ER20-21 T)

YEAR : DPHARM-II YEAR

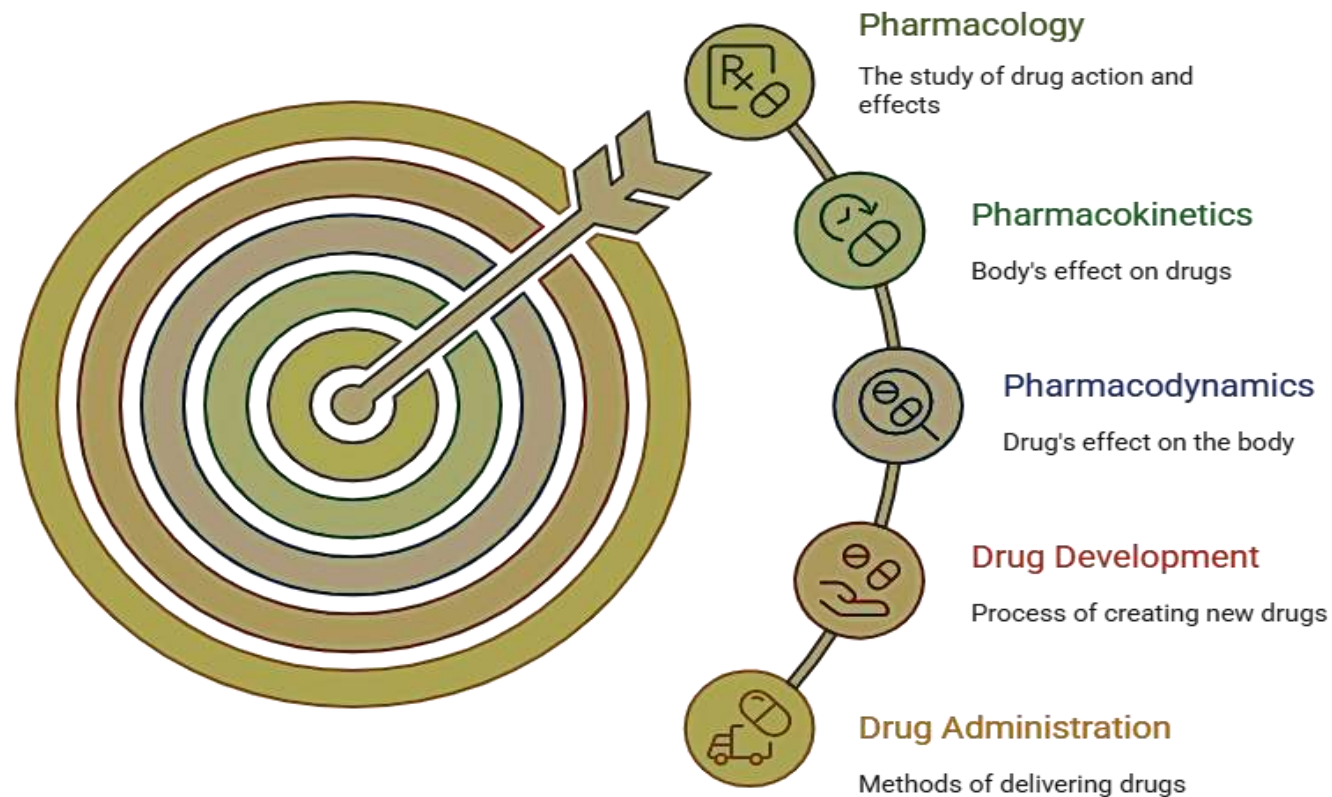
TOPIC 1 : INTRODUCTION TO PHARMACOLOGY

Design Thinking in Pharmacology

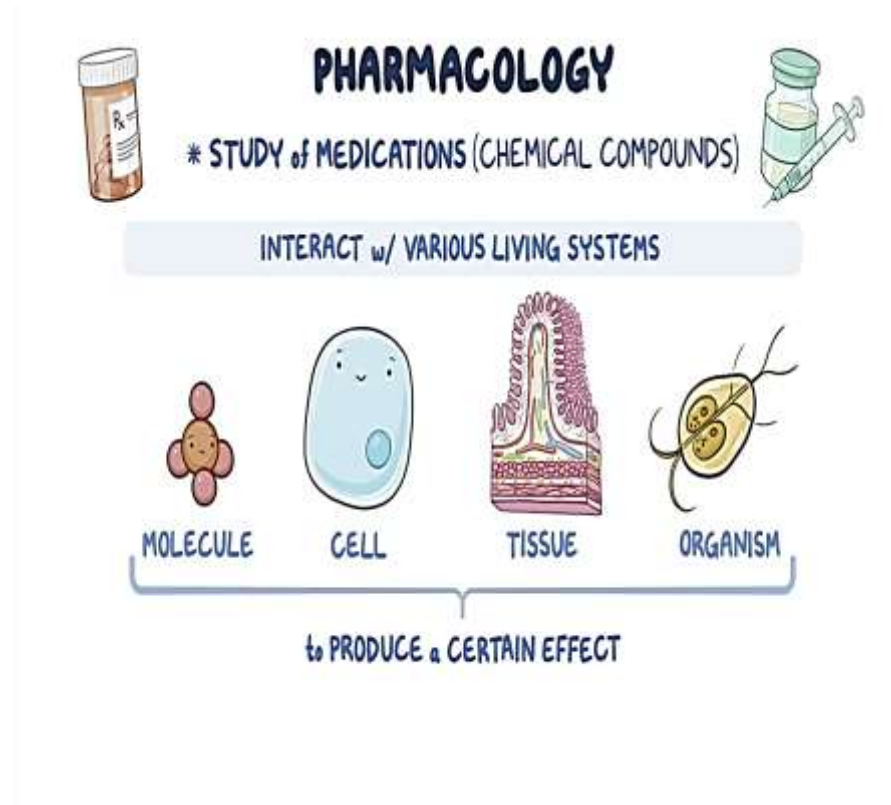
- **Empathize:** Deeply understand the user or patient's challenges, needs, and experiences with drug therapies.
- **Define:** Reframe the problem based on insights from the empathize phase and establish clear context.
- **Ideate:** Brainstorm and explore a wide range of ideas and potential solutions, including innovative drug molecules or therapeutic approaches.
- **Prototype:** Simulate and build drug prototypes or formulations to enhance patient outcomes and safety.

MINDMAP

Pharmacology Concepts



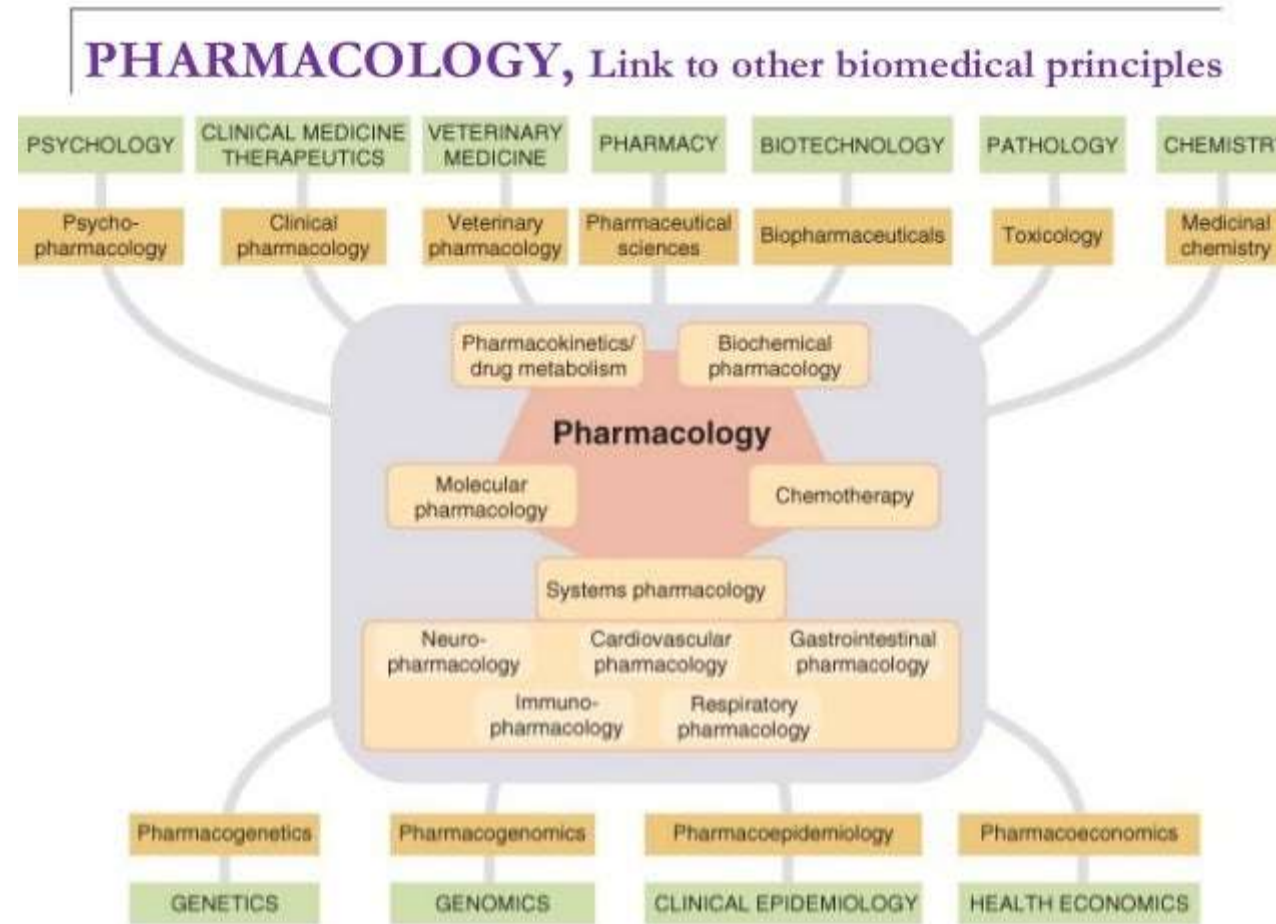
INTRODUCTION



ADVANTAGES OF PHARMACOLOGY



BRANCHES OF PHARMACOLOGY



HISTORY OF PHARMACOLOGY

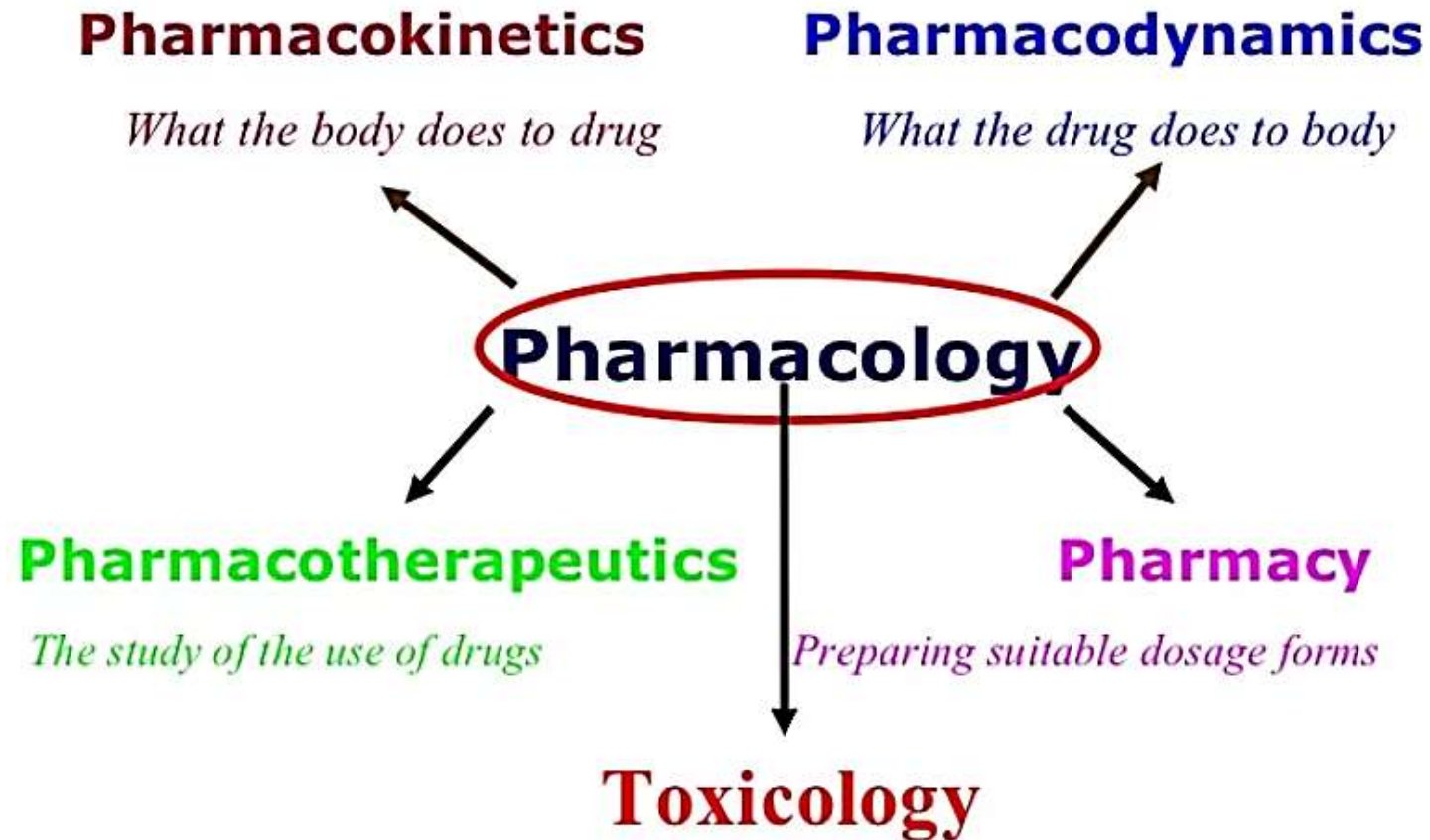
History of Pharmacology

Classical – First pharmacies

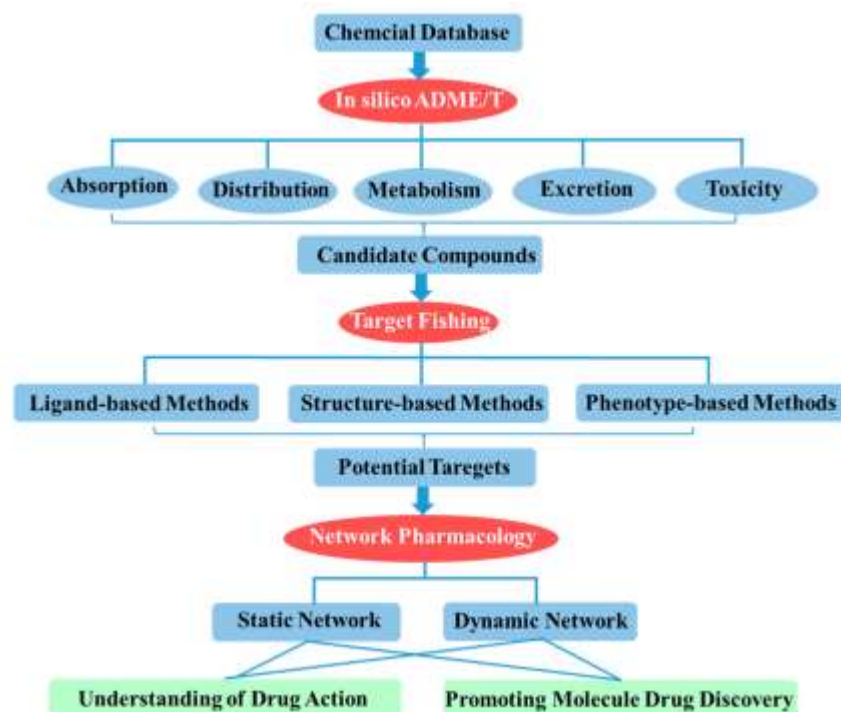
- Hippocrates (Father of Medicine) – Hippocratic Oath developed during this period
- Galen (incorrect anatomical descriptions unchallenged for 1500 years) – Introduced minerals to pharmacology and began to soak, boil, and mix the preparations creating syrups, tinctures, etc.



TERMINOLOGY USED IN PHARMACOLOGY

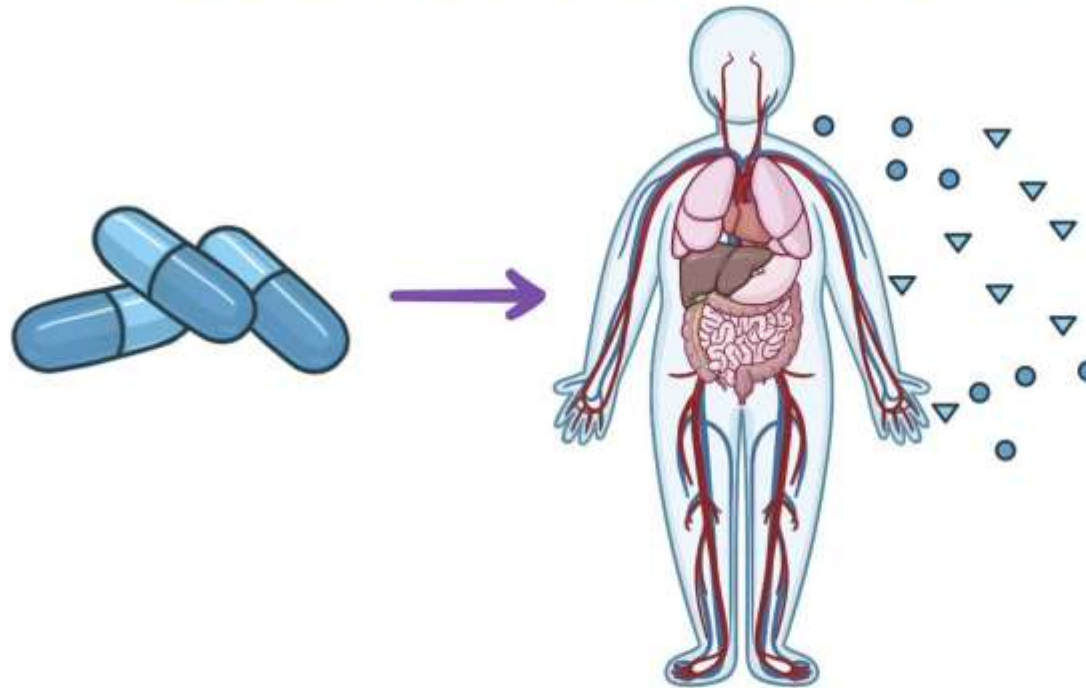


APPROACHES TO PHARMACOLOGY

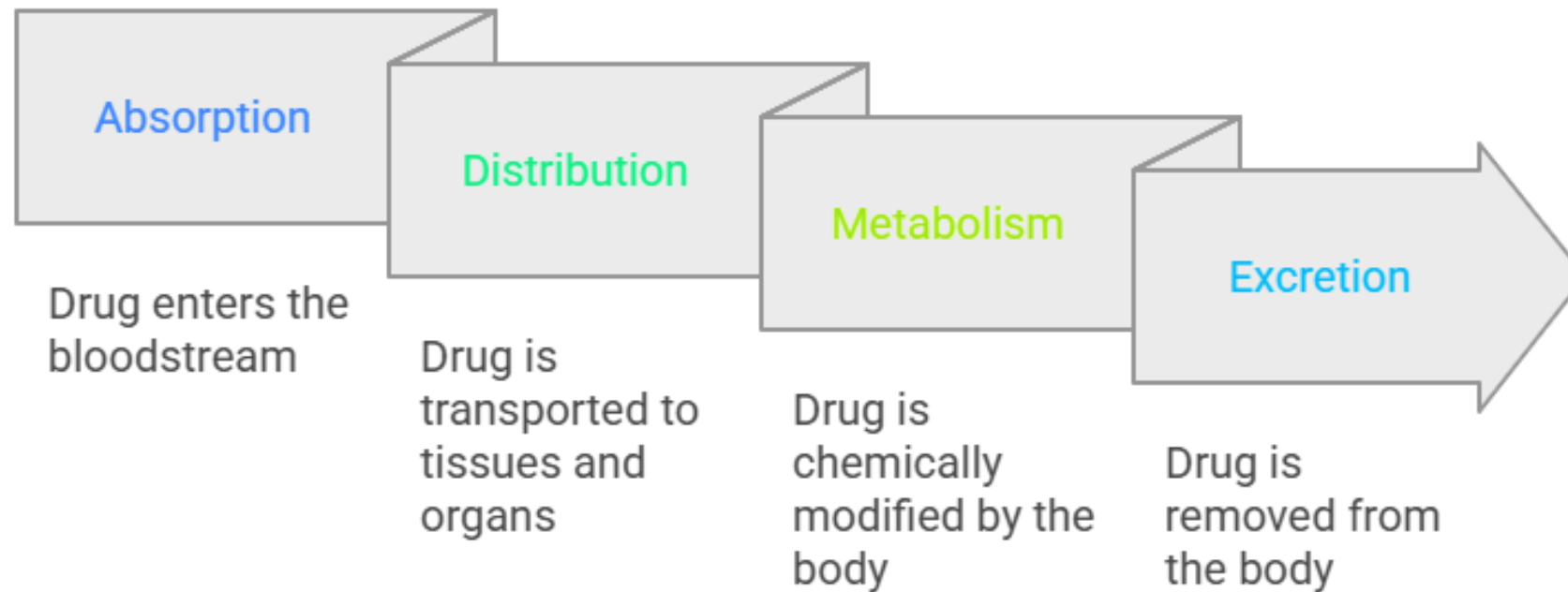


PHARMACOKINETICS

PHARMACOKINETICS MOVEMENT & MODIFICATION of MEDICATION in BODY



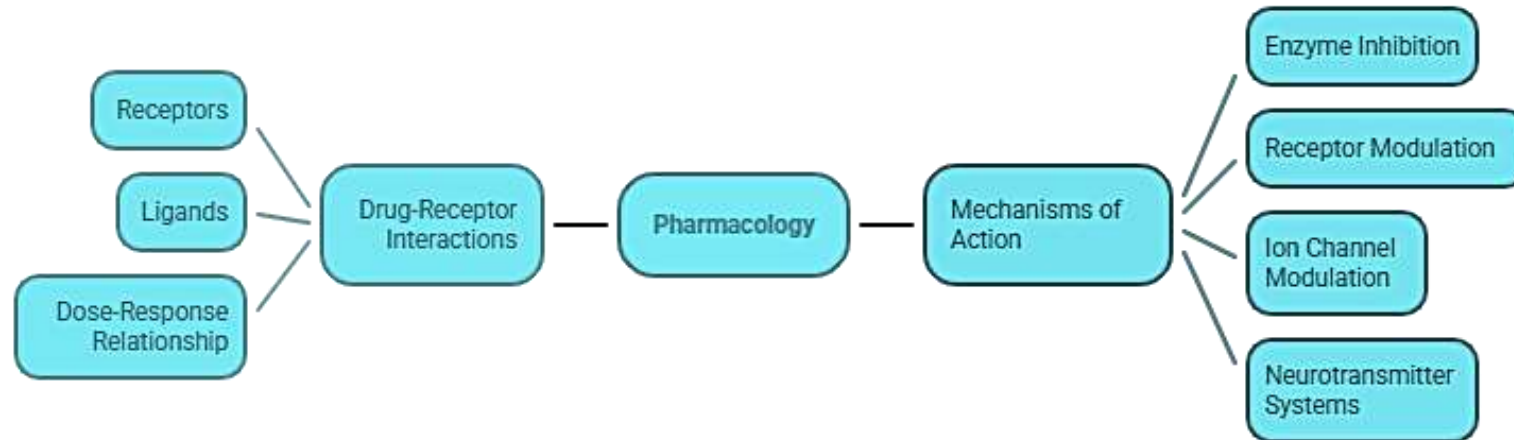
Pharmacokinetics Process Sequence



Made with  Napkin

PHARMACODYNAMICS

Pharmacology: Drug-Receptor Interactions and Mechanisms of Action



Made with  Napkin

TOXICOLOGY

Dose	
Pharmacology <u>Dose</u> refers to the amount of drug absorbed from an administration 	Toxicology <u>Dose</u> refers to the amount of chemical introduced into a biological system 

Toxicology Overview

Types of Toxicity

Different ways toxicity manifests in organisms



Mechanisms of Toxicity

Processes through which toxicity occurs



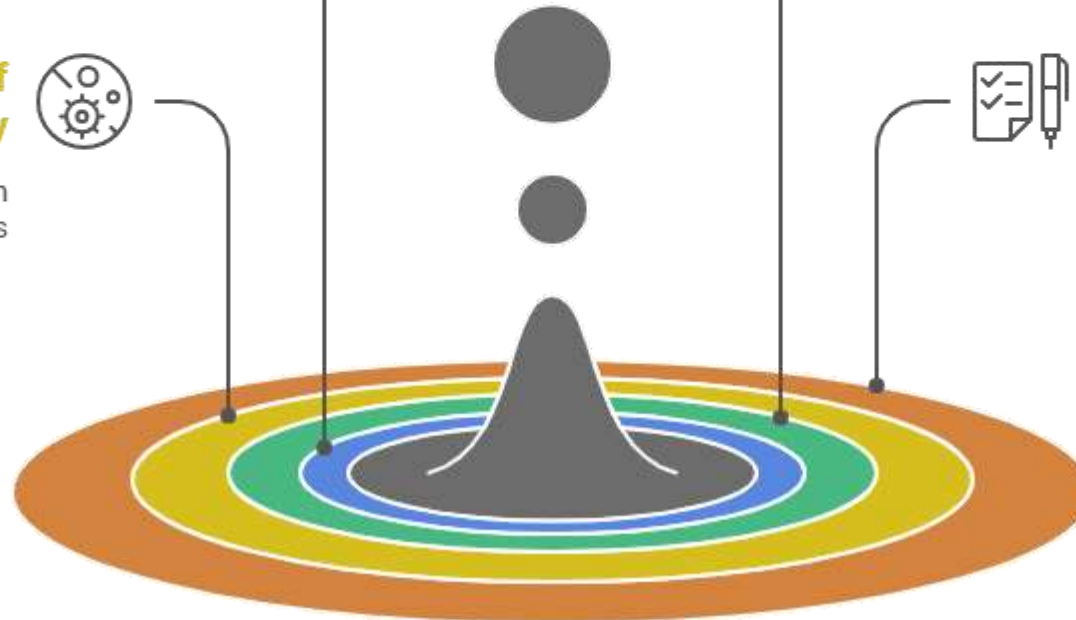
Factors Affecting Toxicity

Elements influencing the severity of toxic effects



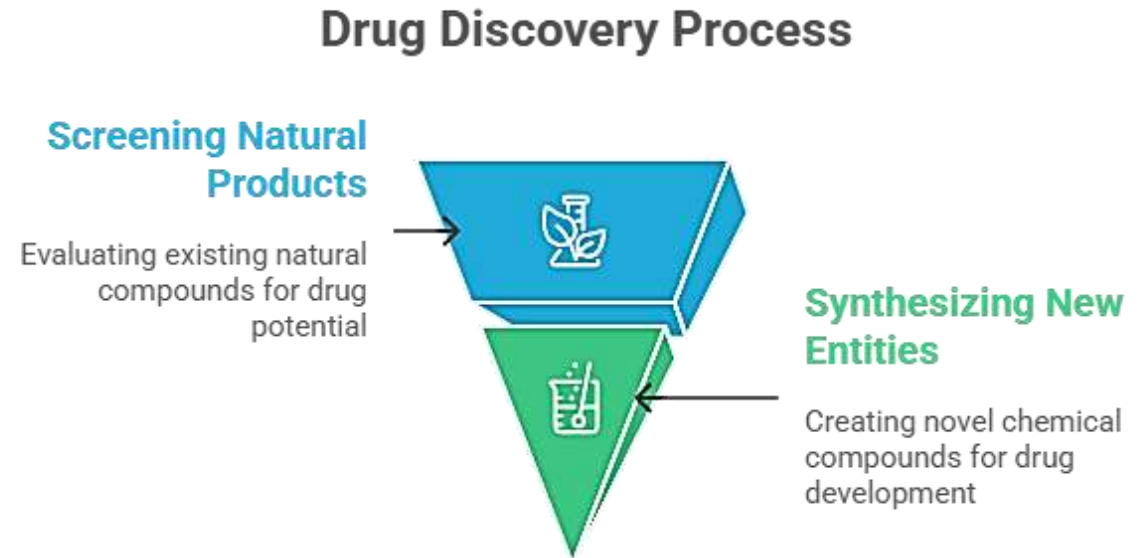
Risk Assessment

Steps to evaluate and manage toxic risks



CLINICAL PHARMACOLOGY

- Applies pharmacological knowledge to patient care, including drug trials and monitoring.
- Focuses on efficacy, safety, and individualized dosing.
- Examples: Phase I-IV clinical trials for new drugs.

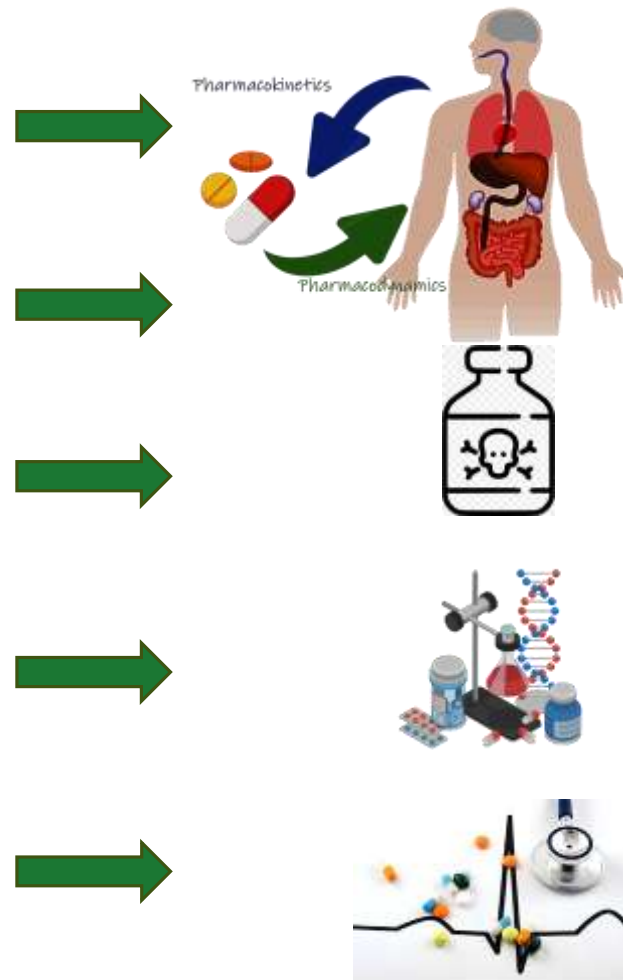


Made with  Napkin

SUMMARY

- Pharmacology bridges chemistry and medicine for better health outcomes.
- Key branches: Pharmacokinetics, Pharmacodynamics, Toxicology.
- History evolves from herbs to precision drugs.
- Terminology and approaches guide safe drug use.

ASSESSMENT



FIND THE BRANCHES OF
PHARMACOLOGY



REFERENCES

- Rang & Dale's Pharmacology, 9th Edition, Elsevier, 2019.
- Goodman & Gilman's: The Pharmacological Basis of Therapeutics, 13th Edition, McGraw-Hill, 2018.
- Text book of Pharmacology by KD Tripathi

