

# WELCOME TO MY PRESENTATION

Veterinary Pharmacology

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# HISTORY OF



# PHARMACOLOGY:

## DERIVATION:

The word pharmacology is derived from two Greek word i.e.

- I. **PHARMACON** (an active principle or equivalent to drug, medicine or poison).
- II. **LOGIA** meaning “to study” or “knowledge”.

## MEANING:

Pharmacology means “The science of drug”.

## DEFINITION:

*Pharmacology* is the science of drugs which deals with interaction of exogenously administered chemical molecule (drug) with living system.

OR

*Pharmacology* can be defined as the study of substances that interact with living system ,specially by binding to regulatory molecules and activating or inhibiting normal body process.

# A brief history of pharmacology:

980-1027's

## **IBN-E-SINA (Avicenna):**

- ❖ Wrote a famous book named “AL QANNUN FIT TIB” in which he discussed human physiology and medicine. “CANON OF MEDICINE” compiled the medical knowledge of the Greeks & Egyptians.
- ❖ This was the standard textbook in many European medical and universities until the 17<sup>th</sup> century.
- ❖ Supplanted Galen's work- Arab world & then western Europe.
- ❖ He wrote on less than 230 books and treaties.



# IN 16<sup>th</sup> Century

## PARACELSUS:



- He is the father of pharmacology. Also known as grand father of pharmacology.
- **Dose response concept:** Poison is in everything and nothing is without poison. The dosage makes it either a poison or a remedy.
- Improved pharmacy and therapeutics, introducing new remedies and compounds and reducing overdosing.
- Use of chemicals and minerals (zinc) in medicine.

1820-1879's

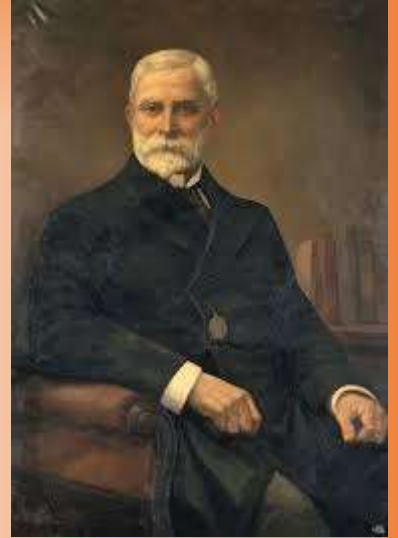
## **RUDOLF BUCHHEIM:**

- ❖ A German pharmacologist.
- ❖ In 1847, He was appointed professor of pharmacology at the university Dorpat in Estonia. And first pharmacology laboratory in the world (1860).
- ❖ Today at the university of Giessen is the “Rudolf Buchheim” institute of pharmacology.



1844-1916's

## SIR THOMAS LAUDER BRUNTON:



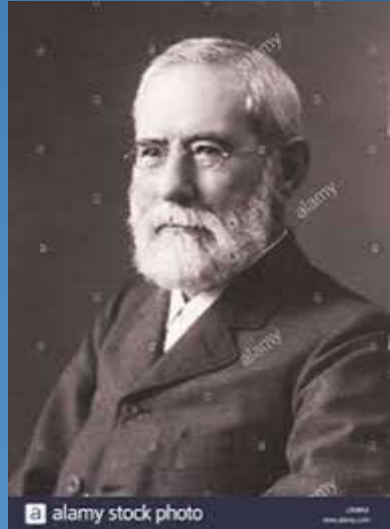
- ❖ He is a Scottish physician.
- ❖ Textbook of pharmacology , “Therapeutics and Materia Medica” (1885).



1838-1921's

## **OSWALD SCHMIEDEBERG:**

- ❖ He is the father of modern pharmacology.
- ❖ **1869** – Muscarine had similar effect on the heart as electrical stimulation of the vagus nerve.
- ❖ **1872** – He became professor of pharmacology at the university of strassburg.
- ❖ **1878** – Published a classic text “Outline of pharmacology”.
- ❖ Discovered glucuronic acid.



1857-1938's

## **JOHN JACOB ABEL:**

- ❖ He is an American pharmacologist.
- ❖ Ph.D from the university of Michigan. He is also father of American pharmacology.
- ❖ In the United states, the first chair in pharmacology was established at the university of Michigan in 1890 under J.J. Abel.



1882-1973's

## **COLONEL RAM NATH CHOPRA:**

❖ He is the father of Indian pharmacology.

❖ **In 1921:** Appointed as the first professor of pharmacology in newly established Kolkata school of topical medicine and parallelly headed the department of pharmacology at the Kolkata medical college.

❖ **From 1941 to 1957:** He was director of the drug research lab at Srinagar.



1923-2003's

## LOISE LASAGANA:



- ❑ Father of Clinical pharmacology.
- ❑ 1954- 1<sup>st</sup> clinical pharmacology dept. – Johns Hopkins University.
- ❑ Conceptualized controlled clinical trial & placebo effect.
- ❑ Improvement in testing drug effectiveness and regulation of drug for effectiveness and safety.

## Historical developments in pharmacology:

- ❑ **Theophrastus (380-287 BC):** A great philosopher called father of botany. He classified medicinal plants on the basis of medicinal characteristics.
- ❑ **Discorides (AD 57):** A Greek, produced one of the first materia medica of approximately 500 plants & remedies.
- ❑ **Galen (AD 129-200):** First attempted to consider the theoretical background of pharmacology.
- ❑ **Valerius cordus (1514-1544):** He compiled the first pharmacopeia where he described techniques for the preparation of drugs.

## Nobel Laureates In Pharmacology:

- ❑ **1908:Paul Ehrlich:** First antimicrobial drugs (magic bullet).
- ❑ **1923:Frederick Banting:** Isolation and discovery insulin and its application in the treatment of the diabetes.
- ❑ **1935:Sir Henly Dale:** Chemical transmission of nerve impulses.
- ❑ **1945:Ernest Chain, Sir Alexander Fleming:** Discovery of penicillin and its curative effect in various infectious disease.

Division:

The discipline of pharmacology can be divided into many sub disciplines each with a specific focus

- **Clinical pharmacology**

- Clinical pharmacology is the basic science of pharmacology with an added focus on the application of pharmacological principles and methods in the medical clinic and towards patient care and outcomes.

- **Neuropharmacology**

- Neuropharmacology is the study of the effects of medication on central and peripheral nervous system functioning.

## **Psychopharmacology**

Psychopharmacology, also known as behavioral pharmacology, is the study of the effects of medication on the psycho (psychology),

## **Cardiovascular pharmacology**

Cardiovascular pharmacology is the study of the effects of drugs on the entire cardiovascular system, including the heart and blood vessels.

## **Pharmacogenetics**

Pharmacogenetics is clinical testing of genetic variation that gives rise to differing response to drugs.

## **Pharmacogenomics**

Pharmacogenomics is the application of genomic technologies to drug discovery and further characterization of older drugs.

## **Pharmacoepidemiology**

**Pharmacoepidemiology** is the study of the effects of drugs in large numbers of people.



## Toxicology

Toxicology is the study of the adverse effects molecular targets, and characterization of drugs or any chemical substance in excess (including those beneficial in lower doses)

## Dental pharmacology

Dental pharmacology relates to the study of drugs commonly used in the treatment of dental disease

**THANK**

**YOU**