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PERSPECTIVE

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Potential Application of Drugs in Pharmacology

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Description

Pharmacology is a branch of medicine, biology and pharmaceutical sciences concerned with drug or medication action. This is a biomedical discipline that studies the chemical characteristics, biological effects of chemicals, and therapeutic applications as well as the explication of cellular and organismal function in connection to these chemicals. Pharmacology is the study of drug origins, natural, or endogenous (from inside the body) substance that has a biochemical or physiological impact on a cell, tissue and organism. There are various sub disciplines within the field of pharmacology, each with a specific focus.

Systems of the body

Pharmacology may also concentrate on particular bodily systems. Divisions that focus on bodily systems research how medications affect the body's various systems. These include immunopharmacology for the immune system and neuropharmacology for the central and peripheral nervous systems. Cardiovascular, renal, and endocrine pharmacology are further subfields. The study of how medications that influence the mind, behaviour, and psyche are such antidepressants, It is used to treat mental diseases are known as psychopharmacology (depression). With an interest in the behavioural and neurobiological processes of action of psychoactive drugs, it combines methods and approaches from behavioural neuroscience, animal behaviour, and neuropharmacology. Neuropsychopharmacology is a related subject, focuses on how medications affect the neurological system and psyche in concert.

Clinical practice and drug discovery

Clinical sciences are fields where pharmacology can be applied. Clinical pharmacology is the study of medications in humans using pharmacological concepts and methods. Posology, the study of dosage patterns for medications, serves as an illustration of this. Toxicology and pharmacology are closely connected fields. Toxicology and pharmacology are scientific fields that concentrate on comprehending the characteristics and functions of chemicals. Toxicology, on the other hand, is the study of chemical side effects and risk assessment; whereas pharmacology focuses the therapeutic effects of chemicals, typically medications or substances that potentially become drugs. In both medicine and pharmacy, pharmacotherapy recommendations are based on pharmacological knowledge.

Drug discovery

The study area of drug discovery is focused on developing novel medications. It includes the drug development and design subfields. Drug design, the creative process of locating new medications, is where drug discovery begins. Creating molecules that are complementary in shape and charge to a certain biomolecular target is what this means in its most basic form. Medicine development entails bringing a drug to market after a lead compound has been found through drug discovery. Pharmacoeconomics is a branch of health economics that examines the value of medicines which has an association with the discovery of new pharmaceuticals. In order to determine the best distribution of healthcare resources, pharmacoeconomics assesses the costs and benefits of medications. Pharmaceutical engineering is a subfield of engineering that focuses on the methods used in drug discovery, formulation, production, and quality control. Safety pharmacology focuses on identifying and analysing potential negative effects of medications.

Pharmacology is not only entails the evaluation of currently available medications but also the investigation of substances, molecules, and compounds in order to develop novel medicinal therapies. The focus is also on the physiology of the human body and how medications can either help or hurt people. The pharmacy technician benefits from learning about pharmacological pro-

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cesses since it increases patient safety. The pharmacy technician is made aware of the tremendous effects that tablets and other formulations, despite being relatively small in size, can have on the body by the knowledge and application of pharmacology.