

Learning unit: Preclinical trials

Impact of the learning unit:

This unit aims to introduce the processes of drug research and development before a new medicine enters clinical trials. Physicians are also experts on drugs, and thus, basic information about the preclinical phase of research is considered as general pharmacological knowledge. This information may also help with the future involvement in either academic or commercial preclinical research.

Relevant terms

life cycle of a drug

in silico methods in drug development

in vitro techniques of drug testing

- molecular pharmacology

- cell line (cell culture)

- isolated organ

animal model

- experimental animal, species

- principle of 3R, Project of animal experiments

toxicological testing of new drugs

- acute, subchronic, chronic toxicity

- lethal dose test

- skin toxicity

- mutagenicity, carcinogenicity

- teratogenicity

Learning outcomes

The student is able to summarize and explain the course of testing before a new drug enters clinical practice. Student describes the life cycle of a drug.

The student is knowledgeable about the issue of preclinical research, explains the aim of animal use in drug development and essential ethic principles.

Study materials

Rang & Dale's Pharmacology, 8th edition, 2016, chapter 60, pp. 718-722

Study materials for courses aVLFA0721p and aVLFA0721c.

Exam questions

General pharmacology: 3. Preclinical and clinical trials, stages