

Pharmacology - practical courses

Dentistry

Spring semester 2020

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INTRODUCTION TO THE STUDY OF PHARMACOLOGY

Contents of the study of Pharmacology, contents and organization of theoretical and practical courses and lectures, required and recommended textbooks. The conditions for granting the credit. Pharmacology - definition, basic terminology, subspecializations, drug nomenclature. Introduction to the prescription terminology. Classification of drug preparations. Pharmacopoeia, Pharmacopoeia Bohemica.

INTRODUCTION TO THE PHARMACOKINETICS

Transport of drugs across biological barriers. Basic pharmacokinetic processes. Pharmacokinetic parameters. Pharmacokinetics of single and repeated intravascular and extravascular drug administration. Therapeutic drug monitoring (therapeutic monitoring of drug plasmatic concentrations).

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GENERAL RULES OF THE DRUG PRESCRIPTION

Medical prescription and its essentials. Prescription of drugs. Legislation of drug prescription. Work with various handbooks and databases (SÚKL database, Pharmindex, AISLP etc.). Prescription and provisions of narcotic and psychotropic substances.

DRUG DELIVERY APPROACHES

Classification of administration routes. Factors related to administration route selection. Characteristic of administration routes. Innovative administration routes.

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PRESCRIPTION OF READY MADE PREPARATIONS - practice.

SOLID DRUG DOSAGE FORMS

Prescription of selected drug forms (solid drug dosage forms – powders, capsules, tablets, suppositories).

SOFT AND MELTING DRUG DOSAGE FORMS

Prescription of selected drug forms (soft and melting drug dosage forms – ointments, creams, pastes, gels and other preparations for application to the skin and mucous membranes).

FLUID DRUG DOSAGE FORMS

Prescription of selected drug forms (fluid drug dosage forms - solutions for rubbing, compresses and lavages, solutions and drops for oral administration).

SPECIAL PRESCRIPTION OF INDIVIDUALLY PREPARED DRUGS USED IN

STOMATOLOGY (mucoadhesive pastes, solutions, suspensions, gels, ointments, pastes).

PHARMACOLOGY OF PERIPHERAL NERVOUS SYSTEM - introduction

Terminology, neurotransmissions in peripheral nervous system, adrenergic and cholinergic receptors, agonists and antagonists. Functional importance and possibilities of pharmacological affection of sympathetic and parasympathetic system.

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PRESCRIPTION TEST (PRESCRIPTION OF READY-MADE PREPARATIONS AND LATIN TRANSLATION)

NORADRENERGIC (SYMPATHETIC) DRUGS

Receptors of noradrenergic (sympathetic) system, pharmacology of drugs activating and blocking noradrenergic (sympathetic) system.

CHOLINERGIC (PARASYMPATHETIC) DRUGS

Receptors of cholinergic (parasympathetic) system, pharmacology of drugs activating and blocking cholinergic (parasympathetic) system.

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MULTIPLE CHOICE FINAL (CREDIT) TEST OF PHARMACOLOGY (MCHQ - topics lessons from days 1 to 4)

GLUCOCORTICOIDS

Physiology and pathophysiology of adrenal cortex hormones. Natural and synthetic adrenocorticosteroids, steroid receptors, mechanism of action, pharmacological use and side effects. Examples of ready-made drug preparations.

H₁ ANTIHISTAMINES, ANTI-ASTHMATICS

Classification and clinical use of H₁ antihistamines. Pathophysiology of bronchial asthma, sites and mechanisms of action of anti-asthma drugs. Prescription of antitussives, expectorants, anti-asthmatics.

ANTIDIABETIC DRUGS

Course content: Therapy of type 1 and 2. DM. Insulines. Peroral antidiabetics. Examples of ready-made drug preparations.

CREDITS