

CONTENT OF THE SUBJECT

Subject:	Pharmacology 1		
Study	<i>Dental Medicine</i>	Study Period:	<i>Winter time</i>
Evaluation:	<i>Graduated</i>	Subject Type:	<i>Compulsory</i>
Content:	<i>2 h. lectures and 2 h. seminars / week</i>		<i>Total 56 hours</i>

Department: **Pharmacology UPJŠ FM**

Week	Lectures https://portal.lf.upjs.sk/index-en.php	Seminars
1.	Introduction to pharmacology. - Historical background. - General pharmacological principles. - Drug development.	Organization of practical exercises. General pharmacological principles. Basic pharmacological terminology. Drug names.
2.	Basic pharmacokinetic principles - I. - Passage of drugs across membranes. - Drug absorption. - Distribution of drugs. - Plasma protein binding of drugs. - Volume of distribution.	Prescription of drugs, practical application.
3.	Basic pharmacokinetic principles - II. - Hepatal and extrahepatal metabolism. - Factors influencing drug metabolism. - Renal and extrarenal excretion. - Factors influencing drug excretion. - Biological half-life.	Pharmacokinetic principles - I. - Transfer of drugs across membrane. - Drug absorption. - Routes of drug application. - Distribution. - Plasma protein binding. - Volume of distribution.
4.	Mechanisms of drug action. (Pharmacodynamics). - Molecular aspects. - Major receptor families. - Drug - receptor interactions. - Agonists and antagonists.	Pharmacokinetic principles - II. - Drug metabolism. - Drug excretion. - Factors influencing drug metabolism and excretion of drugs.
5.	Unwanted drug effects. - Adverse drug reactions. - Toxic drug reactions. - Type A-E reactions. Factors influencing drug action.	Pharmacodynamic principles of drug action. - Molecular aspects. - Drug - receptor interactions. - Second messengers. - Non-specific drug action.
6.	Adrenergic neurotransmission and drugs affecting adrenergic nervous system. - Adrenergic neurotransmitters, receptors. - Adrenergic agonists. - Adrenergic antagonists.	Unwanted drug effects. - Adverse drug reactions. - Toxic drug reactions. - Type A-E reactions. - Factors influencing drug action (age, disease, genetic factors). Control test.
7.	Cholinergic neurotransmission and drugs affecting cholinergic nervous system. - Cholinergic neurotransmitters, receptors. - Cholinergic agonists. - Cholinergic antagonists. Myorelaxants.	Drugs affecting adrenergic nervous system. - Adrenergic neurotransmitters, receptors. - Adrenergic agonists. - Adrenergic antagonists.

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8.	Pharmacology of CNS. - Chemical transmission in the CNS. - Drug action in the CNS. Antipsychotics.	Drugs affecting cholinergic nervous system. - Cholinergic neurotransmitters, receptors. - Cholinergic agonists. - Cholinergic antagonists. Myorelaxants.
9.	Antidepressants. Antianxiety drugs. Hypnotics. Psychostimulants and psychodysleptics.	Drugs influencing CNS. - Chemical transmission in the CNS. - Drug action in the CNS. - Antipsychotics. Control test.
10.	Drugs used to treat motor disorders. - Parkinson's disease, pathophysiology. - Dopaminergic drugs. - Anticholinergic drugs. - Epilepsy, pathophysiology. - I. – III. generation of antiepileptics.	Antidepressants, antianxiety drugs, psychostimulants and psychodysleptics. Hypnotics.
11.	General anesthetics. - Inhalatory. - Intravenous. Local anesthetics. - Mechanism of action. - Classification of local anesthetics. - Types of local anesthesia. - Toxicity.	Drugs used to treat epilepsy and Parkinson's disease. - Parkinson's disease, pathophysiology. - Dopaminergic drugs. - Anticholinergic drugs. - Epilepsy, pathophysiology. - I. – III. generation of antiepileptics.
12.	Opioid analgesics. - History. - Mechanism of action, receptors. - Classes of opioids. - Toxicity of opioids.	General anesthetics - Inhalatory. - Intravenous. Local anesthetics. - Mechanism of action. - Classification of local anesthetics. - Types of local anesthesia. - Toxicity.
13.	Antipyretic analgesics. - Pain. - Mechanism of action, COX-1, COX-2. - Derivatives of salicylic acid. - Derivatives of aniline. Nonsteroidal antiinflammatory drugs. - Classes of NSAIDs, side effects.	Opioid analgesics. - History. - Mechanism of action, receptors. - Classes of opioids. - Toxicity of opioids. Control test.
14.	Drug dependence. - Psychological and physical dependence. - CNS stimulants. - Hypnosedatives. - Opioids, cocaine. - Nicotine, alcohol. - Hallucinogens (LSD, marijuana).	Antipyretic analgesics. - Pain. - Mechanism of action, COX-1, COX-2. - Derivatives of salicylic acid. - Derivatives of aniline. Nonsteroidal antiinflammatory drugs. - Classes of NSAIDs, side effects.