

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

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8.	<p>Pharmacology of CNS.</p> <ul style="list-style-type: none"> - Chemical transmission in the CNS. - Drug action in the CNS. - Antipsychotics. 	<p>Drugs affecting cholinergic nervous system.</p> <ul style="list-style-type: none"> - Cholinergic neurotransmitters, receptors. - Cholinergic agonists. - Cholinergic antagonists. <p>Myorelaxants.</p>
9.	<p>Antidepressants. Antianxiety drugs. Hypnotics. Psychostimulants and psychodysleptics.</p>	<p>Drugs influencing CNS.</p> <ul style="list-style-type: none"> - Chemical transmission in the CNS. - Drug action in the CNS. - Antipsychotics. <p>Control test.</p>
10.	<p>Drugs used to treat motor disorders.</p> <ul style="list-style-type: none"> - Parkinson's disease, pathophysiology. - Dopaminergic drugs. - Anticholinergic drugs. - Epilepsy, pathophysiology. - I. – III. generation of antiepileptics. 	<p>Antidepressants, antianxiety drugs, psychostimulants and psychodysleptics. Hypnotics.</p>
11.	<p>General anesthetics.</p> <ul style="list-style-type: none"> - Inhalatory. - Intravenous. <p>Local anesthetics.</p> <ul style="list-style-type: none"> - Mechanism of action. - Classification of local anesthetics. - Types of local anesthesia. - Toxicity. 	<p>Drugs used to treat epilepsy and Parkinson's disease.</p> <ul style="list-style-type: none"> - Parkinson's disease, pathophysiology. - Dopaminergic drugs. - Anticholinergic drugs. - Epilepsy, pathophysiology. - I. – III. generation of antiepileptics.
12.	<p>Opioid analgesics.</p> <ul style="list-style-type: none"> - History. - Mechanism of action, receptors. - Classes of opioids. - Toxicity of opioids. 	<p>General anesthetics</p> <ul style="list-style-type: none"> - Inhalatory. - Intravenous. <p>Local anesthetics.</p> <ul style="list-style-type: none"> - Mechanism of action. - Classification of local anesthetics. - Types of local anesthesia. - Toxicity.
13.	<p>Antipyretic analgesics.</p> <ul style="list-style-type: none"> - Pain. - Mechanism of action, COX-1, COX-2. - Derivatives of salicylic acid. - Derivatives of aniline. <p>Nonsteroidal antiinflammatory drugs.</p> <ul style="list-style-type: none"> - Classes of NSAIDs, side effects. 	<p>Opioid analgesics.</p> <ul style="list-style-type: none"> - History. - Mechanism of action, receptors. - Classes of opioids. - Toxicity of opioids. <p>Control test.</p>
14.	<p>Drug dependence.</p> <ul style="list-style-type: none"> - Psychological and physical dependence. - CNS stimulants. - Hypnosedatives. - Opioids, cocaine. - Nicotine, alcohol. - Hallucinogens (LSD, marihuana). 	<p>Antipyretic analgesics.</p> <ul style="list-style-type: none"> - Pain. - Mechanism of action, COX-1, COX-2. - Derivatives of salicylic acid. - Derivatives of aniline. <p>Nonsteroidal antiinflammatory drugs.</p> <ul style="list-style-type: none"> - Classes of NSAIDs, side effects.