CONTENT OF THE SUBJECT

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

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 halflife.*	**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 neurotransmiters, 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 neurotransmiters, receptors.* *- Cholinergic agonists.* *- Cholinergic antagonists.* **Myorelaxants.**	**Drugs affecting adrenergic nervous system.** *- Adrenergic neurotransmiters, receptors.* *- Adrenergic agonists.* *- Adrenergic antagonists.*

CONTENT OF THE SUBJECT

8.	**Pharmacology of CNS.** *- Chemical transmission in the CNS.* *- Drug action in the CNS.* *- Antipsychotics.*	**Drugs affecting cholinergic nervous system.** *- Cholinergic neurotransmiters, 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.* *- Halucinogens (LSD, marihuana).*	**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.*