Operating instructions
to laboratory lesson on the theme
"INTRODUCTION INTO GENERAL PRESCRIPTION. NON-LIQUID DOSED MEDICINAL FORMS"

Questions which are subject of study:

1. Definition of general prescription. Main notions of general prescription.
2. Prescription and its structure. Main rules of prescribing.
3. Classification of medicinal forms.
4. Non-liquid dosed medicinal forms
5. Powders, their classification, mass limitations of powders for taking inside.
6. Capsules, methods by which they are prescribed.
7. Tablets, methods and versions by which the tablets are prescribed.
8. Dragee, methods and versions by which they are prescribed.

Tasks on prescribing:

1. Rutinum (s.d. 0.02) and Acidi ascorbinicum (s.d.0.05) in a powder. One powder 3 times a day.
2. Cefalexinum (s.d. 0.5) in capsules. 1 capsule 3 times a day.
3. Analginum (s.d. 0,5) in tablets. Take 1 tablet for headache.
4. Tablets "Biseptolum". Take 2 tablets twice a day.
5. Dibazolum (s.d. 0.03) Theobrominum (s.d. 0.25) and Plathyphyllini hydrotartras (s.d. 0.003) in tablets. Take 1 tablet 3 times a day.
6. Aminazinum (s.d. 0,025) in dragee. Take 1 dragee twice a day.
7. Dragee "Undvitum". Take 1 dragee once a day.

***** s.d. – single dose (dose for one administration).

Literature: O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.7-14.

Operating instructions
to laboratory lesson on the theme"MEDICINAL FORMS FOR INJECTIONS.SOFT DOSED MEDICINAL FORMS"

Questions which are subject of study:

1. The classification of sterile medicinal forms.
2. Ampoules and bottles, their prescribing.
3. Requirements for sterile medicinal forms, main rules of their prescribing.
4. The classification of soft dosed medicinal forms, their properties and form-made substances.

Tasks on prescribing:

1. 0,5 % solution of **Bemegridum** in amp. on 10 ml. Administer 10 ml intravenously.
2. 0,5 % oil solution of **Desoxycorticosteroni acetas** in amp. on 1 ml. Administer 1 ml intramuscularly .

3. 10 bottles of **Insulinum** on 5 ml (1 ml - 40 IU). Administer subcutaneously 4 IU twice a day.
4. 5 ampoules of **Devincanum** containing 0,01. Dissolve in 2 ml of water for injections, administer intramuscularly twice a day.
5. 10 bottles of **Bicillinum-3** containing 300000 IU. Dissolve the contents of 1 bottle in 5 ml of water for injections, intramuscularly once 3 days.

Literature: O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.17, 31-32.

Operating instructions to laboratory lesson on the theme "LIQUID DOSED MEDICINAL FORMS"

Questions which are subject of study:

1. The classification of liquid dosed medicinal forms for internal use.
2. Solutions for internal use, their preparing and prescribing.
3. Drops for internal use and their prescribing.
4. Tinctures and extracts and their prescribing.
5. Neogalenic preparations and rules of their prescribing.
6. Infusions and broths (decoctions), their preparing and prescribing.
7. Mixtures, their properties and prescribing.

Tasks on prescribing:

1. 3 % solution of **Kalii bromidum** for internal use. Take tablespoon 3 times a day.
2. 1 % solution of **Omnoponum** in drops for internal use. 10 drops at pains.
3. Tincture of **Strophanthus.** 10 drops on reception.
4. Liquid extract of **Secale cornutum** for internal use. 15 drops 3 times a day.
5. Decoction from bark (cortex) of **Frangula** containing 18,0 of bark in 180 ml. Take 1 tablespoon 2 times a day.
6. Infusion from leaves (folii) of **Urtica** containing 6,0 of dry leaves in 180 ml. Take 1 tablespoon 3 times a day.
7. 180 ml of mixture from infusion of the grass (herba) of **Adonis vernalis** (6,0) with addition of **Natrii bromidum** (3,0). Take 1 tablespoon 3 times a day.
8. **Lantosidum.** Take 15 drops twice a day.

Literature: O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition). – P.18-27.

Operating instructions to laboratory lesson on the theme "NON-DOSED MEDICINAL FORMS"

Questions which are subject of study:

1. The classification of non-dosed medicinal forms.
2. Powders for external use and aspersions, their prescribing.
3. Solutions for external use, the main rules of their prescribing.
4. Forms from medicinal plants for external use.
5. Drops for eye, ear, or a nose and their prescribing.

6. Ointments, pastes, liniments and their prescribing.
7. Non –dosed medicinal forms which are used only in dentistry (dental powders, stomatological pastes) and rules of their prescribing.

Tasks on prescribing:

1. 2 % aspersion of **Acidum salicylicum**. On wound surface.
2. 0,5 % solution of **Chloraminum**. To wash out the wound.
3. 1% solution of **Pilocarpini hydrochloridum.** as eye drops. Apply 1-2 drops into each eye.
4. 10% ointment of **Anaesthesinum** for applying on the surface of burn
5. 10,0 of ointment "Synalar." Apply on the mucous membrane of oral cavity.
6. 5% paste of **Anaesthesinum** for applying on the wound .surface.
7. Liniment containing 15 ml of **Ol. Terebinthinae** and 15 ml of **Cloroformium.** Apply on the skin.
8. 10,0 of stomatological paste which contains 75 % of **Strontii chloridum o**n **Glycerinum.** For treatment of increased sensitivity of teeth.
9. Paste for sealing of root channels containing 2,0 of **Norsulfazolum** and 4,0 **Zinci oxydum.**
10. 100,0 of dental powder which contains 12,5 of Magnesii carbonas, 25,0 of Natrii hydrocarconas, 0,1ml of Olei Menthae and Calcii carconas. Dental powder.

Literature: O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition). – P.12-13, 18-19, 21-24, 29-30.

Operating instructions to laboratory lesson on the theme "FINAL CONTROL ON THE UNIT 'GENERAL PRESCRIPTION"

Questions which are subject of study:

1. Structure of prescription and main rules of prescribing.
2. Rules of prescribing of non-liquid dosed medicinal forms.
3. Rules of prescribing of sterile dosed medicinal forms.
4. Rules of prescribing of soft dosed medicinal forms.
5. Rules of prescribing of liquid dosed medicinal forms.
6. Rules of prescribing of non-dosed medicinal forms.

Control task (an example)

1. On dosed medicinal forms

Card A

1. Powders of Thyreoidinum (s.d. 0,02). Take 1 powder 3 times a day.
2. Tablets of Pentoxylum (s.d. 0,2). Take 1 tablet 3 times daily.
3. Tablets "Ascorutinum". Take 1 tablet twice a day.
4. Capsules of Celecoxibum (s.d. 0,1.). Take 1 capsule 3 times daily.
5. Dragee of Aminazinum (s.d. 0,025). Take 1 dragee 2 times a day.
6. 5% solution of Natrii salicylas for internal use. Take 1 tablespoon 3 times a day.
7. 4% solution of Dibazolum as drops for internal use. Take 10 drops 2 times a day.

8. Tincture of Arnica. Take 30 drops 3 times daily.
9. Ampoules each containing 1 ml of 50% solution of .Analginum. Administer IM.
10. Flacons each containing Heparinum in a dose of 5 ml (1 ml – 5000 IU). Administer IV.
11. 200 ml of sterile 5% solution of Glucosum for IV infusion.

2. On non-dosed medicinal forms

Card A

1. 3% aspersion of Octathionum. For applying on the skin.
2. 5% ointment of Iodoformium. For treatment of the wound.
3. 0,5% solution of Atropini sulfas as eye drops. Apply 2 drops into the each eye.
4. 2% paste of Acidum salicylicum. For applying on the skin.
5.15,0 of officinal paste of Aethonium. For filling of dental root channels.

Literature: O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).- P.7-32.

Operating instructions to laboratory lesson on the theme "GENERAL PHARMACOLOGY"

Questions which are subject of study:

1. Definition of pharmacology, its place among other medical and biological sciences. Main sections of pharmacology. New directions of pharmacology's development.
2. Pharmacokinetics, the definition of this concept. Routes of drugs administration, their comparative characteristics.
3. Absorbtion of medicinal substances, main mechanisms and factors affecting this process. Bioaviability.
4. Mechanisms of penetration of medicinal substances through biological membranes.
5. Transport and distribution of medicinal substances in the organism. Binding to plasma proteins Anatomic barriers.
6. Biotransformation. Stages of biotransformation. Microsomal oxidation, its inductors and inhibitors.
7. Drugs excretion. Main ways of excretion.
8. Pharmacodynamics of medicinal drugs. Types of drugs action.
9. The dose and concentration of medicinal substance. Dependence of pharmacological effect on a dose and concentration of medicinal substance. Types of doses. The wideness of therapeutic action. Principles of dosage of medications to children and elderly persons.
10. General mechanisms of drug action. Pharmacological receptors, the agonists, antagonists and agonists-antagonists of receptors.
11. Dependence of pharmacological effect on drugs properties, factors connected with the organism, climate, and anthropogenic factors. Features of reaction of child's organism on drugs.

12. Drugs interaction: pharmaceutical, pharmacokinetic and pharmacodynamic drug interaction.
13. Combined action of medicinal drugs. Synergism (addition, potentiation), antagonism (physical, chemical, pharmacological).
14. Side-effects of drugs and their types.
15. Phenomena which occur after the repeated administrations of drugs: accumulation, tolerance, tachyphylaxis, drugs dependence.
16. Main principles of drugs classification.

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.35-46.

Operating instructions to laboratory lesson on the theme "CHOLINERGIC AGONISTS"

Questions which are subject of study:

1. The peculiarities of parasympathetic nervous system.
2. The structure and functions of cholinergic synapse.
3. Types of cholinergic receptors; M- and N-cholinoreceptors location.
4. Classification of cholinergic agonists.
5. M-, N-cholinomimetics with direct type of action (carbachol, acetylcholine) and their pharmacological characteristics.
6. Anticholinesterases as indirect-acting M-, N-cholinomimetics. Pharmacological characteristics of the group and peculiarities of some preparations (neostigmine (Proserinum), physostigmine, pyridostigmine, galanthamine hydrobromide, Phosphacolum, Arminum)
7. The emergence help in acute poisoning with organophosphates.
8. M-cholinomimetics (pilocarpine hydrochloride, Aceclidinum), their pharmacological properties, indications and side-effects.
9. N-cholinomimetics as "respiratory analeptics", pharmacology of Cytitonum and lobeline hydrochloride, indications to use.
10. Use of M-cholinomimetics and anticholinesterases in dentistry.
11. Negative influence of nicotine on the body; cholinomimetics used in the fight against tobacco smocking.
12. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Pilocarpini hydrochloridum – flac.1% sol. – 10 ml (eye drops)
2. Proserinum – tab. 0,015; amp.0,05% sol. – 1 ml
3. Galantamini hydrobromidum – amp. 1% sol. –1 ml
4. Cytitonum – amp 1ml
5. Lobelini hydrocloridum – amp. 1% sol. –1 ml

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.55-58.

Operating instructions
to laboratory lesson on the theme "CHOLINERGIC ANTAGONISTS"

Questions which are subject of study:

1. Location and function of M-cholinoreceptors.
2. Classification of M-cholinoblockers.
3. Pharmacology of atropine (Atropini sulfas), Pharmacokinetics, pharmacodynamics and indications to use of atropine in dentistry.
4. Comparative characteristics of other preparations: hyoscine (Scopolamini hydrobromidum), plathyphylline (Plathyphyllini hydrotartras), extract of Belladonna, Methacinum. Indications and side-effects.
5. Main signs of poisoning by the plants which contain the M-cholinoblocking substances; treatment of poisoning.
6. Location and function of N-cholinoreceptors.
7. Classification of N-cholinoblockers.
8. Definition of myorelaxants and their classification on mechanism of action.
9. Pharmacology of depolarizing myorelaxants (Dithylinum, succinylcholine).
10. Pharmacology of non-depolarizing myorelaxants (tubocurarine chloride, Mellictinum).
11. Ganglioblocking agents; definition, classification on chemical structure.
12. Common pharmacological properties of ganglia blockers.
13. Peculiarities of some ganglia blockers (Bernzohexonium, Pentaminum, Hygronium, Pirilenum).
14. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Atropini sulfas – tab. 0,0005; amp. 0,1% sol. – 1 ml; flacons on 5 ml of 1% sol. (eye drops)
2. Plathyphyllini hydrotartras – amp. 0,2 % sol.– 1 ml
3. Benzohexonium - tab. 0,1; amp. 2,5% 1ml
4. Pentaminum – amp. 5% – 1ml
5. Tubocurarini chloridum – amp. 1 % – 1,5ml
6. Dithylinum – amp. 2% – 5ml
7. Mellictinum – tab. 0,01

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. - K.,2007 (the 2nd edition).-P.59-60.

Operating instructions
to laboratory lesson on the theme "ADRENERGIC AGONISTS"

Questions which are subject of study:

1. The features of anatomy and physiology of sympathetic part of autonomic nervous system.
2. Types of adrenergic receptors, their function and location.
3. Classification of adrenergic agonists.

4. Pharmacological characteristics of adrenaline (Adrenalini hydrochloridum), indications to use in dentistry.
5. Pharmacological characteristics of ephedrine (Ephedrini hydrochloridum), its comparison with adrenaline; indications, side-effects and contraindications.
6. Comparative characteristics of α-adrenomimetics: noradrenaline (Noradrenalini hydrotartras), phenyleiphrine (Mesatonum), naphazoline (Naphthyzinum), xylometazoline (halazolin).
7. Comparative characteristics of β-adrenomimetics: isoprenaline (Isadrinum), salbutamol, fenoterol (partusisten).

8. Preparations and doses.

Preparations which are subject to study (task for prescription):

1. Adrenalini hydrochloridum – amp. 0,1% sol.– 1 ml
2. Ephedrini hydrochloridum – tab.0,025, amp. 5% sol.– 1 ml
3. Naphthyzinum – flac. 0,1% sol.– 10 ml
4. Noradrenalini hydrotartras – amp. 0,2% sol.– 1 ml
5. Mesatonum – tab.0,01 amp. 1% sol.– 1 ml
6. Isadrinum – tab.0,005, flac. 0,5% sol.– 10 ml (for inhalations)
7. Salbutamolum – aerozol 10 ml, tab.0,002

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. - K.,2007 (the 2nd edition).-P.63-68.

Operating instructions to laboratory lesson on the theme "ADRENERGIC ANTAGONISTS. HISTAMINE- AND SEROTONIN-ERGIC DRUGS"

Questions which are subject of study:

1. Classification of antiadrenergic drugs:
2. Pharmacokinetics and pharmacodynamics of α-adrenoblockers. Their indications, side-effects and contraindications.
3. Pharmacokinetics and pharmacodynamics of β-adrenoblockers. Their indications, side-effects and contraindications.
4. Pharmacokinetics and pharmacodynamics of α-, β-adrenoblockers:
Their indications, side-effects and contraindications.
5. Pharmacokinetics and pharmacodynamics of sympatholytics. Their indications, side-effects and contraindications.
6. Allergy. Types of allergic reactions. Histamine: its role in allergy and resorbtive action.
7. Classification of antihistamines.
8. Blockers of H_1-histamine receptors. Pharmacology of these antihistamines and their comparative characteristics. Use in dentistry.
9. Mast cell stabilizers and their use in a clinic.

10. Blockers of H_2-histamine receptors. Pharmacology of these antihistamines and their comparative characteristics.
11. Serotoninergic drugs and their using.
12. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Phentolamini hydrochloride –tab. 0,025
2. Anaprilinum – tab. 0,01; amp 0,1% sol. – 1 ml
3. Octadinum – tab. 0,01
4. Reserpinum – tab. 0,0001
5. Metoprololum – tab.0,05
6. Dimedrolum – tab. 0,05, amp. 1% sol. – 1 ml
7. Diasolinum – dragee 0,05

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.69-72, 230-231.

Operating instructions to laboratory lesson on the theme "FINAL CONTROL ON THE UNIT "AUTONOMICS"

Themes which are subject of study

1. Cholinergic agonists.
2. Cholinergic antagonists.
3. Adrenergic agonists.
4. Adrenergic antagonists. Histaminergic and serotoninergic drugs

Structure of control card:

A. Tasks on prescribing:

Prescribe the drugs and point their pharmacological group:

1. 2. 3. 4. 5.

B. Tasks on pharmacotherapy

Select and prescribe the drugs:

1. 2.

C. Tests (1 correct answers)

1. 2. 3.

D. Situation task

1.

The time of control = 60 min!

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K.,2007.– P. 55-72.

Operating instructions
to laboratory lesson on the theme
"DRUGS FOR GENERAL ANESTHESIA"

Questions which are subject of study:

1. Definition of general anesthesia, its distinguishes from local anesthesia.
2. Main concepts of general anesthesia: induction into anesthesia, basis narcosis, combined narcosis, mixed narcosis, safety margin, premedication, management of narcosis depth.
3. Classification of inhalation general anesthetics.
4. Mechanism of action of inhalation anesthetics.
5. Stages of general anesthesia (produced by ether).
6. Comparative characteristic of inhalational anesthetics: ether, halothane (Phthorotanum), Aethylii chloridum, nitrous oxide.
7. Peculiarities of IV general anesthesia.
8. Classification of drugs for IV general anesthesia on mechanism and duration of action.
9. Pharmacology of sodium oxibutyrate.
10. Barbiturates as IV general anesthetics.
11. Pharmacokinetics and pharmacodynamics of dissociative anesthetic ketamine.
12. Pharmacological properties and usage of Propanididum.
13. Use of general anesthetics in dentistry.
14. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Aether pro narcosi – flacons on 100 ml
2. Phthorotanum – flacons on 50 ml
3. Aethylii chloridum – amp.30 ml
3. Ketaminum – flacons on 20 ml of 1% sol.
4. Propanididum –amp. 5% sol. – 10 ml
5. Thiopentalum-natrium – flacons 0,5
6. Natrii oxybutiras – amp. 20% sol. – 10 ml

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. - K.,2007 (the 2nd edition).-P.80-83.

Operating instructions
to laboratory lesson on the theme
"ETHANOL. HYPNOTICS. ANTIEPILEPTIC AND ANTIPARKINSONIAN DRUGS"

Questions which are subject of study:

1. Effects of ethyl alcohol (local action, CNS effects, cardio-vascular, liver, endocrine effects).
2. Mechanism of ethanol's action .

3. Pharmacokinetics of ethanol. The role of alcohol dehydrogenase and aldehyde dehydrogenase in ethanol's metabolism.
4. Clinical uses of ethanol, use in dentistry.
5. Acute alcohol poisoning and its treatment.
6. Chronic alcohol intoxication (alcoholism). Treatment of alcoholism by Teturamum (disulfiram).
7. Physiological role of sleep. Normal sleep patterns.
8. Hypnotics. Definition of the group. Chemical classification of hypnotics.
9. Pharmacology of barbiturates (phenobarbital).
10. Side-effects of barbiturates (after-action, return syndrome, drugs dependence). Acute poisoning with barbiturates, emergence help.
11. Advantages of benzodiazepine hypnotics (nitrazepam).
12. Seizures and emergence help in seizure attack (tranquilizers, hypnotics, IV general anesthetics, myorelaxants).
13. Types of epilepsy. Classification of antiepileptic drugs on their clinical usage.
14. Comparative pharmacological characteristics of phenobarbitone (phenobarbital), phenytoin (Dipheninum), carbamazepine, ethosuximide. Use of antiepileptics in dentistry.
15. Definition of Parkinson's disease and main symptoms.
16. Two approaches to treatment of Parkinson's disease. Classification of antiparkinsonian drugs.
17. Levodopa, amantadine (Midantanum), nakom (levodopa + carbidopa), Trihexyphenidyl (Cyclodolum). Mechanisms of action, clinical usage.
18. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Spiritus aethylicus – 40%, 70%, 96% sol.
2. Phenobarbitalum – tab. 0,1
3. Nitrazepamum – tab. 0,01 (or 0,005)
4. Dipheninum – tab. 0,117
5. Carbamazepinum – tab. 0,2
6. Levodopa – caps. 0,5

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. - K.,2007 (the 2nd edition).-P.84-91.

Operating instructions to laboratory lesson on the theme "NEUROLEPTICS. ANXIOLYTICS. SEDATIVES. LITHIUM SALTS"

Questions which are subject of study:

1. Definition of neuroleptics. Classification of drugs.
2 Antipsychotic effect and its mechanisms.Types of dopamine receptors, their localization and role.
3. Other pharmacological effects of neuroleptics and their mechanisms. Clinical use of neuroleptics and side-effects.

4. Comparative characteristics of phenothiazine derivatives: chlorpromazine (Aminazinum), trifluorperazine (Triftazinum).
5. Pharmacological properties of butyrophenones (haloperidol, droperidol) and thioxanthenes (chlorprothixene).
6. Characteristics of anxiety as a mental disturbance.
7. Classification of anxiolytic drugs.
8. Mechanism of action of tranquilizers. The benzodiazepine, GABA- receptors and chloride ion channels in realization of anxiolytic effect.
9. Pharmacological effects of tranquilizers and their clinical use.
10. Pharmacokinetic peculiarities of benzodiazepines.
11. Side-effects and contraindications to their usage.
12. Comparative characteristics of chlordiazepoxide (Chlozepidum), diazepam (Sibazonum), Phenazepamum, medazepam.
13. Overdose of benzodiazepines and its treatment.
14. Definition of sedatives, their classification.
15. Pharmacology of bromides. Bromism, manifestation and treatment.
16. Sedative drugs from medicinal plants (preparations of valerian and Leonurum), their pharmacological properties and usage.
17. Use of anxiolytics and sedatives in dentistry.
18. Lithium salts and their pharmacological characteristics (lithium chloride).
19. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Aminazinum – drag. 0,025; amp. 2,5% sol. – 1 ml
2. Triftazinum – tab.0,005: amp. 0,2% sol. –1 ml
3. Droperidolum – amp. 0,25% sol. –10 ml
4. Clozapinum – tab. 0,025; amp. 2,5% sol. –2 ml
5. Sibazonum – tab. 0,005; amp. 0,5% sol. – 2 ml
6. Phenazepamum – tab. 0,0005 (or 0,001)
7. Natrii bromidum – 3% sol. for usage inside
8. Tinct.Valerianae – flacons on 30 ml

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.98-100, 103.

Operating instructions to laboratory lesson on the theme "OPIOID (NARCOTIC) ANALGESICS"

Questions which are subject of study:

1. Pain sensation (nociception), its significance for the organism. Antinociceptive system.
2. Definition of analgesics.
3. Narcotic and non-narcotic analgesics, distinctions between them.
4. Classification of narcotic (opioid) analgesics. Agonists, antagonists and agonist-antagonists of opioid receptors.

5. Mechanism of action of opioid analgesics.
6. Pharmacological properties of morphine, indications, side-effects and contraindications.
7. Comparative characteristics of opioid analgesics (codeine, Omnoponum, trimeperidine (Promedolum), fentanyl, pentazocine).
8. Tramadol as analgesic with opioid and non-opioid mechanism of action.
9. Antagonists of opioid analgesics (naloxone, naltrexone).
10. Acute poisoning with narcotic analgesics, emergence help.
11. Use of narcotic analgesics in diseases of maxillary-facial area.
1. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Morphini hydrochloridum – tab., powders 0,01; amp. 1% sol. – 1 ml
2. Omnoponum – amp. 2% sol. – 1 ml
3. Promedolum – tab. 0,025; amp. 2% sol. – 1 ml
4. Phentanylum – amp. 0,005% sol. – 2 ml
5. Pentazocinum – tab. 0,05; amp. 3% sol. – 1 ml
6. Tramadoli hydrochloridum – caps. 0,05; amp. 5% sol. – 1 ml
7. Naloxoni hydrochloridum – amp. 0,04% sol. – 1 ml

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.92-93.

Operating instructions to laboratory lesson on the theme "NON-OPIOID ANALGESICS. ANTITUSSIVES"

Questions which are subject of study:

1. Pain sensation, its significance for the organism. The role of prostaglandins in pain sensation, inflammation and thermoregulation.
2. Definition of non-narcotic analgesics.
3. Distinguishes between non-narcotic and narcotic analgesics.
4. Classification of non-narcotic analgesics on their chemical structure.
5 General characteristics of non-narcotic analgesics. Mechanism of anti-inflammatory, analgesic and antipyretic action of non-opioid analgesics.
6. Pharmacological properties of aspirin (acetylsalicylic acid).
7. Pharmacological characteristics of pyrazoles: metamizol (Analginum), phenylbutazone (Butadionum).
8. Pharmacokinetics, pharmacodynamics, indications and side-effects of para-aminophenol derivative (paracetamol).
9. Pharmacological characteristics of fenamates (mefenamic acid), propionic and phenylacetic acids derivatives (ibuprofen, diclofenac-sodium).
10. Pharmacological properties, indications, side-effects and contraindications of indolacetic acids derivatives (indometacin) and oxicam derivatives (piroxicam).
11. Movalis (meloxicam) and celecoxib as selective inhibitors of COX-2.
12. Peculiarities of usage of non-narcotic analgesics in dentistry.

13. Cough as protective reaction and as the symptom of diseases.
14. Definition of antitussives and their classification.
15. Centrally acting antitussives: opioids and non-opioids, disadvantages of opioids. Pharmacodynamics of codeine and Glaucin hydrochloride.
16. Antitussives of peripheral action. Pharmacodynamics of libexin.
17. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Acidum acetylsalicylicum – tab. 0,5
2. Analginum – amp. 50% sol. – 1 ml
3. Paracetamolum – tab.0,2
4. Ibuprofenum – tab.0,2
5. Diclofenac-natrium – tab. 0,025; amp. 2,5% sol. – 3 ml
6. Indometacinum – caps. or drag. 0,025
7. Celecoxib – caps.0,1
8. Glaucini hydrochloridum – tab.0,05
9. Libexinum – tab.0,1

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.94-97.

Operating instructions to laboratory lesson on the theme "ANALEPTICS. PSYCHOMOTOR STIMULANTS"

Questions which are subject of study:

1. Main groups of preparations stimulating CNS.
2. Definition of analeptics and their classification.
3. Pharmacological characteristics of camphor, its local and resorbtive action, indications, side-effects and contraindications.
4. Peculiarities of other preparations from analeptics group: sulphocamphocaine, nikethamide, Bemegridum, Aethimizolum, Carbogenum, strychnine.
5. Definition of psychomotor stimulants, their classification.
6. Pharmacological description of caffeine, indications, side-effects and contraindications.
7. Pharmacology of adrenergic psychostimulants (sydnocarb).
8. Drug dependence on psychomotor stimulants. Toxicology of amphetamine.
9. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Camphora – amp. 20% oil sol. – 2 ml
2. Cordiaminum – amp. 2 ml; flac. 15 ml (for internal use)
3. Bemegridum – amp. 10% sol. – 10 ml
4. Aethimizolum – amp. 1% sol. – 10ml; tab.0,1
5. Sulfocamphocainum – amp. 10% sol. – 1ml
6. Coffeini-natrii benzoas – tab.0,1; amp. 10% sol. – 1ml
7. Sydnocarbum – tab.0,005 (or 0,01)

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.104-107.

Operating instructions to laboratory lesson on the theme "ANTIDEPRESSANTS. ADAPTOGENS. NOOTROPS. ANOREXIGENS"

Questions which are subject of study:

1. Types of depression and amine hypothesis of depression.
2. Classification of antidepressant drugs.
3. Pharmacological characteristics of non-selective monoamine re-uptake inhibitors: imipramine (Imizinum), amitriptyline.
4. Antidepressants from the group of MAO inhibitors: Nialamidum. Use in diseases of maxillary-facial area.
5. Nootropic drugs as cognition enhancers. Pharmacology of piracetam, nicergoline (sermion), cavinton (vinpocetin), sodium oxybutyrate.
6. Adaptogens and actoprotectors. Pharmacological description of tincture of Ginseng, liquid extract of Eleuterococcus, Pantocrinum. Pharmacodynamics, indications, side-effects. Use in dentistry.
7. Anorexigens as suppressors of appetite: amfepranone (Phepranonum), fenfluramine.
8. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Imizinum – tab. 0,025; amp. 1,25% sol.– 2ml
2. Amitriptylinum – tab. 0,025; amp. 1% sol. – 2 ml
3. Nialamidum – tab.0,025
4. Pyracetamum – caps.0,4; tab.0,2; amp. 20% sol. – 5 ml
5. Extr. Eleutherococcus fluidum – flacons on 50 ml
6. Pantocrinum –flacons on 50 ml; tab.0,15; amp. on 1 ml (or 2 ml)

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.101-102, 106.

Operating instructions to laboratory lesson on the theme "FINAL CONTROL ON THE UNIT "DRUGS ACTING ON CENTRAL NERVOUS SYSTEM"

Themes which are subject of study

1. Drugs for general anesthesia.
2. Ethanol. hypnotics. antiepileptic and antiparkinsonian drugs.
3. Neuroleptics. anxiolytics. sedatives. lithium salts.
4. Opioid (narcotic) analgesics.
5. Non-opioid analgesics. Antitussives.
6. Analeptics. psychomotor stimulants.

7. Antidepressants. adaptogens. nootrops. Anorexigens.

Structure of control card:

A. Tasks on prescribing:

Prescribe the drugs and point their pharmacological group:

1. 2. 3. 4. 5.

B. Tasks on pharmacotherapy

Select and prescribe the drugs:

1. 2.

C. Tests (1-4 correct answers)

1. 2. 3.

D. Situation task

1.

The time of control = 60 min!

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K.,2007.– P.80-106.

Operating instructions to laboratory lesson on the theme "DRUGS INHIBITING AFFERENT INNERVATION"

Questions which are subject of study:

1. Definition of local anesthesia, distinguishes from general anesthesia, kinds of local anesthesia.
2. Classification of local anesthetics and distinguishes between preparations from esters and amides.
3. Mechanism of action of local anesthetics.
4. Pharmacological properties and usage of local anesthetics. Comparative characteristics of preparations. Use in dentistry and maxillary-facial surgery.
5. Mechanism of action, pharmacological effects and clinical usage of astringents.
6. Mechanism of action, pharmacological effects and clinical usage of adsorbents.
7. Mechanism of action, pharmacological effects and clinical usage of protectives.
8. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Novocainum – 0.25% sol. for infiltration anesthesia; amp. 2% sol – 5 ml. for conductive anaestesia, 5% ointment
2. Dicainum – 1% sol. for application anesthesia
3. Anaesthesinum – 5% oil sol. for external use; 5% ointment; 5% paste; 5% aspersion
4. Lidocainum – 2-5% sol. for superficial anesthesia; 0.5% sol. for infiltration anesthesia; 1-2% sol. for conductive anesthesia
5. Trimecainum – 0.25-0.5% sol. for infiltration anesthesia; 1-2% sol. for conductive anesthesia; 2-5% sol. for superficial anesthesia
6. Tanninum – 0.25% sol. for gargling; 5% sol. for processing of burns

7. Folium Salviae – infusion (1:10) for gargling
8. Cortex Quercus – decoction (1:10) for gargling
9. Carbo activatus– tab. 0.5

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.49-52.

Operating instructions to laboratory lesson on the theme "DRUGS STIMULATING AFFERENT INNERVATION"

Questions which are subject of study:

1. Classification of drugs stimulating the afferent innervation.
2. Pharmacological characteristics of irritating drugs (menthol, mustard seeds, solution of ammonia, camphor) and their use. Topical application of menthol and camphor in oral cavity.
3. Pharmacological characteristics of reflexly acting expectorants (grass of Thermopsis, root of Althea, Mucaltinum), indications and side-effects.
4. Bitters as drugs for stimulation of appetite.
5. Pharmacological characteristics of emetic drugs. Emetics of central and reflexive action (apomorphine, root of ipecaquanna, sulfates of copper and zinc), their use in a clinic.
6. Laxatives, their classification, pharmacodynamics of laxatives and purgatives from different groups, indications, side-effects and contraindications.
7. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Mentholum – 1% oil sol. (drops for nose)
2. Sol. Ammonii causticum – flac. 10% sol. – 30 ml
3. Infusum herbae Thermopsidis - 0,6 – 180 ml
4. Mucaltinum – tab. 0,05
5. Tinctura Absinthium – flac.on 25ml
6. Apomorphini hydrochloridum – amp.1% – 1 ml
7. Magnesii sulfate – powders 30,0
8. Bisacodylum – dragee 0,005

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.50, 122, 130, 134.

Operating instructions to laboratory lesson on the theme "INOTROPIC DRUGS"

Questions which are subject of study.

1. Definition of cardiotonics. The notion about steroidal and non-steroidal cardiotonics.

2. Cardiac glycosides: structure of molecule and correlation between the structure and pharmacological properties.
3. The classification of cardiac glycosides.
4. Mechanism of action of cardiac glycosides.
5. Pharmacokinetics and pharmacodynamics of preparations from Digitalis group (digitoxin, digoxin, Celanidum). Indications and contraindications.
6. The peculiarities of pharmacology and clinical usage of infusion from the grass of Adonis.
7. Pharmacokinetics and pharmacodynamics of preparations from Strophantus group (strophanthin, Corglyconum). Indications, side-effects and contraindications.
8. Acute poisoning with cardiac glycosides and its treatment (Pananginum, Unithiolum, atropine, lidocaine, propranolol, phenytoin).
9. Pharmacology of non-glycoside cardiotonics (dobutamine).
10. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Digitoxinum –tab.0,0001
2. Digoxinum – tab.0,00025; amp. 0,025% sol.– 1 ml
3. Celanidum – tab.0,00025; amp. 0,02% sol. – 1 ml
4. Strophanthinum –amp. 0,05% sol. – 1ml
5. Corglyconum – amp 0,06% sol.– 1 ml
6. Inf. herb. Adonis vernalis – 6,0 - 180 ml
7. Dobutaminum – amp. 0,05
8. Pananginum –tab., amp. on 10 ml
9. Unithiolum –amp. 5% sol. – 5 ml

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.– K.,2007 (the 2nd edition).– P.141-146.

Operating instructions to laboratory lesson on the theme “ANTIANGINAL DRUGS”

Questions which are subject of study

1. Definition of angina pectoris. Stabile and variant (Prinzmetal's) angina pectoris. Main pathogenic mechanism of angina pectoris. The approaches to treatment of angina pectoris
2. Classification of antianginal drugs.
3. Mechanisms of action, pharmacological effects, clinical uses, and side effects of organic nitrates.
4. Pharmacodynamics and pharmacokinetics of calcium channel blockers.
5. Drugs decreasing oxygen demand of myocardium, mechanism of their antianginal effect.
6. Drugs that increase the oxygen supply.
7. Drugs influencing upon metabolism of myocardium.

8. Groups of drugs used in myocardial infarction: anticoagulants; thrombolytic drugs; β- adrenoceptor blockers; analgesics; anti-arrhythmic drugs; inotropic drugs.
9. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Nitroglycerinum – tab. 0,0005; flac. 1% sol. – 5 ml
2. Sustac-forte – tab. 0,064
3. Isosorbide dinitratum (Nitrosorbidum) – tab. 0,005
4. Verapamilum – tab. 0,04; amp. 0,25% sol.– 2 ml
5. Anaprilinum – tab. 0,01 (or 0,04)
6. Metoprolol – tab. 0,05 (or 0,1)
7. Dipyridamolum – tab. 0,025; amp. 0,5% sol. – 2 ml
8. Validolum – tab. 0,06; flac. on 5 ml.

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K.,2007 (the 2nd edition).– P.150-155.

Operating instructions to laboratory lesson on the theme "ANTIHYPERTENSIVE DRUGS. HYPERTENSIVE AGENTS"

Questions which are subject of study

1. Definition of hypertension. The factors determining the level of systemic blood pressure (BP). Neural and humoral mechanisms of BP regulation.
2. Classification of antihypertensive drugs.
3. Pharmacological description of neurotropic drugs.
4. Calcium channel blockers, their pharmacological effects and clinical use.
5. Pharmacodynamics and pharmacokinetics of ACE inhibitors.
6. Comparative pharmacology of ACE inhibitors and angiotensin receptors antagonists.
7. Different vasodilators: FDE III inhibitors, magnesium salts, sodium nitroprusside.
8. Diuretics in the treatment of hypertension.
9. Contemporary approaches to the treatment of hypertension. Drugs for hypertensive emergence.
10. Hypertensive drugs: classification on mechanism of action; the peculiarities of usage of analeptics, adaptogens, adrenomimetics, hormonal preparations and inotropes as hypertensive agents.
11. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Clophelinum – tab. 0.00015; amp. 0.1% sol. – 1 ml
2, Reserpinum – tab. 0.0001
3. Octadinum – tab. 0.025
4. Prazosinum – tab. 0.001

5. Anaprilinum – tab. 0.01 (or 0.04); amp. 0.1% sol.– 1 ml
6. Nifedipinum – tab. 0.01
7. Magnesii sulfas – amp. 25% sol.– 10 ml
8. Dichlothiazidum – tab. 0.1
9. Dibazolum – tab. 0.02; amp. 1% sol.– 1 ml
10. Drotaverinum (No-Spa) – tab. 0.04; amp. 2% sol. – 2 ml
11. Captoprilum – tab. 0.025 (or 0.05)
12. Natrii nitroprussidum – amp. 0,05
13. Mesatonum – tab. 0,01; amp. 1% sol. – 1 ml

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K.,2007 – P.156-162.

Operating instructions

to laboratory lesson on the theme "ANTI-ATHEROSCLEROTIC DRUGS"

Questions which are subject of study

1. Atherosclerois, definition and main links of pathogenesis.
2. Classification of angioprotective drugs: hypolipoproteinemic drugs, antioxidants, anti-platelet drugs, endothelium-tropic drugs.
3. Hypolipoproteinemic drugs, their classification and pharmacology (Polysponinum, cholestyramine, fenofibrate, clofibrate, lovastatin, Linaetholum, lipostabil).
4. Antioxidants, their classification, mechanism of action and usage for treatment of atherosclerosis (direct-acing antioxidants: α-tocopherol acetate, ascorbic acid, rutin; indirect-acting antioxidants: glutaminic acid, Methioninum, Cysteinum). Use in dentistry.
5. Anti-platelet drugs and anticoagulants in the therapy of atherosclerosis (aspirin, dipyridamole, heparin).
6. Endothelium-tropic drugs (parmidin, etamsylate), their mechanism of action, pharmacodynamics, indications and side-effects.
7. Principles of choice of anti-atherosclerotic preparations according to clinical and laboratory type of atherosclerosis.
8. Preparations and doses.

Preparations, which are subject of study (tasks on prescribing):

1. Polysponinum – tab.0,1
2. Cholestyraminum – 500,0
3. Phenofibratum – caps.0,1
4. Lovastatinum – tab.0,1
5. Acidum ascorbinicum – drag.0,05
6. Tocopheroli acetas – caps.on.0,5 ml of 20% oil sol.
7. Acidum glutaminicum – tab.0,5
8. Acidum acetylsalicylicum – tab.0,25

9. Parmidinum – tab.0,25

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K.,2007 (the 2nd edition). – P.196-197.

Operating instructions to laboratory lesson on the theme "DRUGS ACTING ON BLOOD COAGULATION AND FIBRINOLYSIS"

Questions which are subject of study

1. Physiological role of coagulant and anticoagulant systems in the body. The main stages of haemostasis and the role of platelets in it.
2. Classification of drugs acting on hemostasis.
3. Mechanism of action and clinical usage of coagulants for systemic and local administration: thrombin, fibrinogen, calcium chloride, Vikasolum. Their use in dentistry.
4. Mechanism of action and clinical usage of fibrinolysis inhibitors: aprotinin (Contrykal), aminocaproic acid. Their use in dentistry.
5. Pharmacokinetics and pharmacodynamics of directly acting anticoagulants and their clinical usage (heparin). Properties of low molecular weight heparin (fraxiparine). Their use in dentistry.
6. Indirectly acting anticoagulants, their mechanism of action, pharmacokinetics and clinical usage: warfarin, Neodicumarinum, Phenylinum. Their complications in oral cavity.
7. Anti-platelet drugs, their mechanism of action and clinical usage: aspirin, dipyridamole.
8. Mechanism of action, pharmacokinetics and clinical usage of thrombolytic drugs, their comparative characteristics: fibrinolysin, streptokinase, alteplase.
9. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Heparinum –flac. on. 5 ml (1 ml – 5000 IU)
2. Neodicumarinum – tab. 0,1
3. Acidum acetylsalicylicum – tab. 0,25
4. Fibrinolysinum –flac.10000 IU
5. Streptokinasum – amp. 250000 IU
6. Contrykal –flac. 10000 IU
7. Acidum aminocapronicum –flac. on. 100 ml of 5% sol.
8. Thrombinum – amp. (or flac.) 125 IU.
9. Fibrinogenum –flac. 2,0
10. Calcii chloridum – amp. 10% sol. – 10 ml
11. Vikasolum – tab. 0,015; amp. 1% sol. – 1 ml

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K.,2007 (the 2nd edition).–P.190-194.

Operating instructions
to practical lesson on the theme
"FINAL CONTROL ON THE UNIT "DRUGS AFFECTING CARDIO-VASCULAR SYSTEM"

Themes which are subject of study

1. Inotropic drugs.
2. Antianginal drugs.
3. Antihypertensive drugs. Hypertensive agents.
4. Anti-atherosclerotic drugs.
5. Drugs acting on blood coagulation and fibrinolysis.

Structure of control card:

A. Tasks on prescribing:

Prescribe the drugs and point their pharmacological group:

1. 2. 3. 4. 5.

B. Tasks on pharmacotherapy

Select and prescribe the drugs:

1. 2.

C. Tests (1-4 correct answers)

1. 2. 3.

D. Situation task

1.

The time of control = 60 min!

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K.,2007.– P.139-168; 190-202.

Operating instructions
to laboratory lesson on the theme
"DRUGS ACTING ON HEMOPOIESIS (HEMATINICS)

Questions which are subject of study:

1.Definition of anemia and main types of anemia.
2. Classification of drugs influencing erythropoiesis.
3. Pharmacology of drugs for treatment of iron-deficiency anemia (ferrous lactate, Fercovenum, Ferrum-Lek, coamid).Their side-effects in oral cavity.
4. Pharmacology of drugs for treatment of megaloblastic anemia (cyanocobalamin, folic acid) and their use in dentistry.
5. Inhibitors of erythropoiesis and their clinical usage (sodium phosphate containing P^{32}, imiphos).
6. Main diseases resulting from disorders of leukopoiesis and ways of their pharmacological management.
7. Classification of drugs acting on leukopoiesis.
8. Pharmacology of drugs stimulating leukopoiesis (Pentoxylum, Methyluracilum), their application in dentistry.

9. Inhibitors of leukopoiesis and anticancer drugs. Mechanism of action of alkylating drugs, antimetabolites, antibiotics, alkaloids, enzymes and hormones for treatment of leukemia. Their indications and side effects.

10. Preparations and doses.

Preparations which are subject of study (task on prescribing):

1. Ferri lactas – caps. 0.2
2. Fercovenum – amp. 5 ml
3. Coamidum – amp. 1 ml of 1% sol.
4. Cyanocobalaminum – amp. 1 ml of 0.05% sol.
5. Acidum folicum – tab. 0.001
6. Pentoxilum – tab. 0.2
7. Methyluracilum – tab. 0.5; 10% ointment (25.0)
8. Chlorbutinum – tab. 0.002 (or 0.005)
9. Methotrexatum – amp. 0.025
10. Vinblastinum – amp. 0.005
11. Adriamycinum –flacons 0.01
12. Asparaginasum –flacons 10 000 IU

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students - K.,2007 (the 2nd edition).-P.185-190.

Operating instructions to laboratory lesson on the theme "HORMONAL PREPARATIONS"

Questions which are subject of study:

1. Definition of hormones and their role in the organism.
2. Hierarchic structure of hormonal system, the role of feed-back mechanism in its control.
3. Common mechanisms of hormones action.
4. Definition of hormonal preparations and anti-hormonal drugs.
5. Types and principles of hormonal therapy.
6. Classification of hormonal preparations on chemical structure and origin.
7. Pituitary hormones. Mechanism of action and clinical uses of corticotropin , gonadotropins (human menopausal gonadotropin, human chorionic gonadotropin).
8. Pharmacological effects, mechanism of action and clinical uses of vasopressin and oxytocin.
9 Pharmacology of thyroid hormones and anti-thyroid preparations (L-thyroxine, triiodthyronine hydrochloride, methimazole (Mercazolilum), iodides).
10. Pharmacolological effects, mechanism of action and clinical uses of calcitonin (myocalcic) and parathyroidin.
11. Types of diabetes mellitus and approaches to their treatment. Mechanism of action and effects of insulin. Preparations of insulin and their comparative characteristics (regular insulin, semilente insulin suspension, lente insulin, ultralente insulin suspension).

12. Oral anti-diabetics. Sulfonylurea (butamide, glibenclamide) and biguanide derivatives (metformin), their mechanisms of action, pharmacodynamics, indications and side-effects.
13. Diabetic and insulin coma, their manifestations and treatment.
14. Adrenal steroids. Pharmacology of glucocorticoids and mineralcorticoids, their indications, side-effects and contraindications. Comparison of preparations (hydrocortisone acetate, prednisolone, dexamethasone, triamcinolone, fluocinolone acetonide, desoxycorticosterone acetate – DOCSA).
15. Pharmacological effects and use in a clinic of androgens (testosterone propionate) and anabolic steroids (nandrolone deconoate (retabolil), Phenobolinum, methandienone (Methandrostenolonum).
16. Clinical usage of estrogens (estron, estradiol benzoate, Synoestrolum) and gestagens (progesterone, turinal).
17. Hormonal contraception. Classification of preparations, indications and contraindications, side-effects.
18. The use of hormonal drugs in dentistry.
19. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Corticotropinum –flacons 10 IU
2. L-Thyroxinum – tab.0,05
3. Insulinum –flacons on 5ml (1 ml – 40 IU)
4. Glibenclamidum – tab.0,005
5. Metforminum – tab.0,5
6. Prednisolonum – tab.0,005; amp. 1 ml of 3% sol.; 10,0 of 0,5% ointment
7. Progesteronum – amp.1 ml of 1% oil sol.
8. Retabolil – amp. 1 ml of 5% oil sol.

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. - K.,2007 (the 2nd edition).-P.212-219.

Operating instructions to laboratory lesson on the theme "VITAMINS PREPARATIONS"

Questions which are subject of study:

1. Vitamins and vitamins preparations: definition, history of investigation.
2. Classification of vitamins on solubility and biological activity.
3. Differences between membrane-tropic and co-enzymic vitamins.
4. Vitamins deficiency: kinds of hypovitaminoses; notion about anti-vitamins.
5. Types of vitamins therapy.
6. Pharmacology of membrane-tropic vitamins preparations (retinol acetate, ergocalciferol, α-tocopherol acetate, ascorbic acid, rutin, calcium pangamate).
7. Hypervitaminosis caused by membrane-tropic vitamins preparations (acute and chronic overdose of vitamins A and D) and their treatment.

8. Pharmacology of co-enzymic vitamins preparations (thiamine chloride, ribofl;avin, nicotinic acid, pyridoxine hydrochloride, cyanocobalamin, folic acid, calcium pantothenate). Co-enzymes preparations (cocarboxylase)
9. Multivitamins preparations and their usage for prevention of vitamins deficiency and improvement of non-specific resistance of the organism.
10. Indications to use of vitamins preparations in dentistry.
11. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

1. Thiamini chloridum – amp. 1 ml of 5% sol.; stomatological paste containing 75% of Thiamini chloridum
2. Riboflavinum – 10 ml of 0,1`% sol. (eye drops)
3. Acidum nicotinicum – tab 0,05; amp. 1 ml of 1% sol.
4. Pyridoxini hydrochloridum – tab.0,001; amp. 1 ml of 1% sol.
5. Cyanocobalaminum – amp. 1 ml of 0,05% sol.
6. Acidum ascorbinicum – dragee 0,05; tab.0,5; amp. 1 ml of 5% sol
7. Ascorutinum – tab.
8. Retinoli acetas – flacons on 10 ml of 3,44 % oil sol.
9. Ergocalciferolum – flacons on 10 ml of 0,125% oil sol. or on 10 ml of 0,5% alcohol sol.
10. Tocopheroli acetas – caps. on 0,5 ml of 20% oil sol.; amp. 1 ml of 10% oil. sol.

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).-P.206-208.

Operating instructions to laboratory lesson on the theme "ACIDS, ALKALIS, SALTS. ENZYMES AND ENZYMES INHIBITORS. GLUCOSE. PREPARATIONS FOR TRANSFUSION THERAPY. DRUGS INFLUENCING DENTAL BONE"

Questions, which are subject of study:

1. Classification of drugs influencing on electrolyte and acid-base balance.
2. Local and resorbtive action of acids, indications to use (hydrochloride acid, boric acid, salicylic acid).
3. Pharmacology of sodium bicarbonate, magnesium oxide, solution of ammonia.
4. Acute poisoning with strong acids or alkalis. Emergency treatment of this intoxication.
5. Pharmacology of sodium chloride, its isotonic and hypertonic solutions, usage in a clinic.
6. Pharmacology of potassium chloride and Asparkam (Pananginum)
7. Pharmacology of magnesium sulfate. Pharmacokinetics, pharmaco-dynamics, dependence of effect on rout of administration, indications.
8. Pharmacology of calcium salts (calcium chloride, calcium gluconate, calcium glycerophosphate). Pharmacological effects, indications, routs of administration. Their use in dentistry.

9. Pharmacology of fluorides and use of sodium fluoride and Vitaftor in dentistry.
10. Pharmacology of glucose, indications to use of isotonic and hypertonic solutions of glucose.
11. Medical application of oxygen. Indications to use.
12. Classification of enzymes. Mechanism of action and indications of peptidases (pepsin, natural gastric juice), proteases (trypsin, chymotrypsin), nucleases (ribonuclease, desoxyribonuclease), hyaluronidase preparations (Lydasum), combined preparations (pancreatin)
13. Common characteristics of enzymes inhibitors. Classification, indications and contraindications (aminocaproic acid, contrykal).
14.Classification of drugs for transfusion therapy, their pharmacology and clinical usage (isotonic solution of sodium chloride, solution of sodium hydrocarbonate, isotonic solution of glucose, reopolyglucin, Neohemodesum, Lipofundinum).
15. Preparations and doses.

Preparations which are subject of study (task on prescribing):

1. Natrii chloridum – 0,9% sol. for IV infusion, 10% sol. for treatment of purulent wounds
2. Magnesii sulfas – amp. 10 ml of 25% sol.; 25,0 of a powder
3. Calcii chloridum – amp. 10 ml of 10% sol.
4. Calcii gluconas – amp. 10 ml of 10% sol.; tab. 0,5
6. Trypsini crystallisatum – amp 0.005
7. Lydasum - amp. 64 IU
8. Contrycalum –flacons 30000 IU
9. Glucosum – 5% sol. for IV infusion; amp. 20 ml of 40% sol.
10 .Natrii hydrocarbonas – amp. 20 ml of 4% sol.
11. Pancreatinum – tab.0,5
12. Natrii fluoridum – 75% stomatological paste

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students.- K.,2007 (the 2nd edition).- P.209-211, 233-235.

Operating instructions to practical lesson on the theme "FINAL CONTROL ON THE UNIT"DRUGS ACTING ON METABOLISM"

Themes which are subject of study

1. Drugs acting on hemopoiesis (Hematinics).
2. Hormonal preparations.
3. Vitamins preparations.
4. Acids, alkalis, salts. Enzymes and enzymes inhibitors. Preparations for transfusion therapy. Glucose. Drugs influencing dental bone.

Structure of control card:

A. Tasks on pharmacotherapy

1. 2. 3. 4. 5. 6.

B. Tests

1. 2. 3.

C. Situation task

1.

The time of control = 60 min.!

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. - K.,2007.- P.185-190, 206-219, 233-235.

Operating instructions
to laboratory lesson on the theme "ANTISEPTICS AND DISINFECTANTS"

Questions which are subject of study:

1. Notion about the disinfecting, antiseptic and chemotherapeutic actions. Types of antimicrobial action.
2. Classification of disinfecting and antiseptic drugs.
3. Pharmacology of antiseptics from the group of oxidizers: solution of hydrogen peroxide, potassium permanganate.
4. Pharmacology of halogen-containing compounds: chloramine B, iodine alcohol solution, chlorhexidine bigluconate.
5. Pharmacology of acids, alkalis: boric acid, salicylic acid, ammonia solution.
6. Pharmacology of heavy metals salts: mercury dichloride, yellow mercury oxide, silver nitrate, copper sulfate, zinc oxide.
7. Pharmacology of antiseptics from aromatic group: phenol, resorcinol; birch tar, ichthyol.
4. Pharmacology of antiseptics from the group of nitrofurans: nitrofurazone.
5 Pharmacology of antiseptics from the group of alcohols and aldehydes: ethyl alcohol, formaldehyde.
6. Pharmacology of antiseptics from the group of dyes: brilliant green, etacridine lactate, methylene blue.
7. Pharmacology of antiseptics from the group of detergents: Aethonium, Decametoxinum.
12. Antiseptics from medicinal plants: Chlorophylliptum, Novoimaninum.
13. Toxic effects of halogens, metallic salts, phenol. Emergence help in poisonings.
14. Use of antiseptics and disinfectants in dentistry.
15. Preparations and doses.

Preparations which are subject to study (task for prescribing):

Hydrogenii peroxydi – 3% sol.
Kalii permanganas – 0,1%; 0,5%; 5% sol.
lodum – 5% alcohol sol.
Furacilinum – 0,02% sol.; tab. 0,1 for external use (ad usum externum)
Viride nitens –1% alcohol sol.
Aethacridini lactas – 0,1 % sol.
Chlorhexidini bigluconas – flacon 20% sol. – 500 ml (to dissolve in ethyl alcohol in a ratio of 1:40)

Spiritus aethylicus – 40%, 70%, 90%
Aethonium – 0,5% sol., officinal paste
Decametoxinum – 0,02% sol.; tab. 0,1 for preparation of solution

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K., 2007. – P.242-243.

Operating instructions to laboratory lesson on the theme "COMMON PRINCIPLES OF CHEMOTHERAPY. SULFONAMIDES. CHEMOTHERAPEUTICS OF DIFFERENT CHEMICAL STRUCTURE. ANTIFUNGAL DRUGS"

Questions which are subject of study:

1. Principles of chemotherapy.
2. Sulfa drugs and their classification on pharmacokinetics and duration of action.
3. Pharmacology of sulfonamides, their pharmacokinetics, spectrum of action and indications. Schemes of treatment by sulfa drugs.
4. Side-effects of sulfa drugs and their prevention.
5. Comparative description of sulfonamides: Aethazolum, Sulfacylum- natrium, Sulfadimethoxine, Sulfamethoxypyrazine (Sulfalenum), Phthalyl sulfathiazole (Phthalazolum).
6. Pharmacology of Co-Trimoxazole (Bactrium).
7. Classification of antimicrobial drugs with different chemical structure.
8. Mechanism of action, spectrum and indications of nitrofuran derivatives: furazolidone.
9. Pharmacology of quinolones: nitroxoline (5-NOK), nalidixic acid, and fluorquinolones: ciprofloxacin.
10. Classification of antifungal drugs.
11. Pharmacological characteistics of nystatin, amphotericin B, grizeofulvin, and imidazole derivatives (itraconazole).
12. Usage of antifungal drugs for treatment and prophylaxis of fungal diseases.
13. Clinical use of sulfa drugs, chemotherapeutics with different chemical structure and antifungal drugs in dentistry.
14. Preparations and doses.

Preparations which are subject of study:

Aethazolum – tab. 0,5; non-dosed powder for external use
Sulfacylum - natrium – 30% sol. (eye drops)
Sulfadimethoximum – tab. 0,5
Sulfalenum – tab. 0,2
Co-Trimoxazole –tab.
Furazolidone – tab. 0,05
Nitroxolinum – tab. 0,05.
Amphotericinum B – flacons 50000 IU
Griseofulvinum – tab. 0,125

Itraconazole – caps. 0,1
Nystatinum – tab.250000 IU; ointment 10,0 (1,0 – 100000 IU)

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K., 2007 (the 2nd edition). – P. 244-247, 259.

Operating instructions to laboratory lesson on the theme "ANTIBIOTICS-INHIBITORS OF CELL WALL SYNTHESIS"

Questions which are subject of study:

1. Definition of antibiotics. History of antibiotics development.
2. Principles of therapy by antibiotics.
3. Spectra of antibiotics action.
4. Types of antibiotics side-effects.
5. Classification of antibiotics on their structure and mechanism of action.
6. Classification and pharmacology of penicillins: penicillin-sodium (Benzylpenicillinum-natrium), penicillin-potassium (Benzylpenicillinum-kalium), benzathine penicillin (Bicillinum-1), bicillin-5, oxacillin, ampicillin.
The aim of combination of penicillins with β-lactamase inhibitors.
7. Classification and pharmacology of cephalosporines: cefazolin, cephalexin, cefotaxime.
8. Clinical use of beta-lactams in dentistry.
9. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

Benzylpenicillinum-natrium – flacons 500000 IU
Bicillinum-1 – flacons 600000 IU
Bicillinum-5 – flacons1500000 IU
Ampicillini-trihydras – tab. 0,5
Oxacillini-natrium – tab. 0,5; flacons 0,5
Cephalexinum – caps. 0,25
Cefazolinum – flacons 1,0.

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K., 2007 (the 2nd edition). – P.248-252.

Operating instructions to laboratory lesson on the theme "ANTIBIOTICS-INHIBITORS OF PROTEIN SYNTHESIS"

Questions which are subject of study:

1. Classification of antibiotics inhibiting protein synthesis on spectrum of their antimicrobial action.
2. Classification of antibiotics inhibiting protein synthesis on chemical structure and mechanism of action.

3. Pharmacology of antibiotics-inhibitors of protein synthesis in 30S subunits of ribosomes: aminoiglycosides (streptomycin sulfate, neomycin sulfate, gentamycin sulfate), tetracyclines (tetracycline, methacycline hydrochloride, doxycycline).
4. Pharmacology of antibiotics-inhibitors of protein synthesis in 50S subunits of ribosomes: chloramphenicols (laevomycetin); macrolides (erythromycin, oleandomycin), linkosamides (linkomycin).
5. Pharmacology of antibiotics influencing the structure and function of cell membranes: polyenes (nystatin, amphotericin B), cyclic dekapeptides (polymyxin M sulfate).
6. Pharmacology of antibiotics violating the function of nucleic acids (rifampicin).
7. Principles of antibiotics combination with antimicrobial preparations of other groups.
8. The use of antibiotics inhibiting protein synthesis and antibiotics influencing cell membranes in dentistry.
9. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

Neomycini sulfas – tab. 0,25; flacons 0,5
Gentamycini sulfas – amp. 4% sol. – 2 ml
Tetracyclinum – tab. 0,1; ointment 3% – 10,0
Methacyclini hydrochloridum – caps. 0,15 (or 0,3)
Laevomycetinum – tab.0,25; caps. 0,25
Erythromycinum – tab. 0,1; ointment 1% – 10,0 (1,0 – 10000 IU)
Nystatinum – tab. 250000 IU, ointment 10,0 (1,0 – 100000 IU).

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K., 2007 (the 2nd edition). – P.253-258.

Operating instructions to laboratory lesson on the theme "ANTISPIROCHETAL DRUGS. ANTIMYCOBACTERIAL DRUGS. ANTIVIRAL AGENTS"

Questions which are subject of study:

1. Pharmacology of antispirochetal drugs: benzylpenicillin-sodium, bicillins, macrolides, cephalosporins, tetracyclines, bismuth preparations. Side-effects of bismuth preparations in oral cavity.
2. Classification of antimycobacterial drugs.
3. Principles of therapy of tuberculosis.
4. Antimycobacterial antibiotics (streptomycin sulfate, kanamycin sulfate, rifampicin).
5. Synthetic antimycobacterial drugs: isoniazid, ethionamide, sodium para-aminosalicylate; their pharmacological characteristics.
6. Classification of antiviral drugs on structure and clinical usage.
7. Pharmacological characteristics and indications for interferons, remantadine, oxoline, acyclovir, azidotimidin.

8. Clinical use of antiviral drugs in dentistry.
9. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

Streptomycini sulfas – flacons 0,5 (or 1,0)
Rifampicinum – caps. 0,15
Isoniazidum – tabl. 0,1 (or 0,3)
Bijochinolum – flacon on 100 ml
Remantadinum – tabl. 0,05
Oxolinum – ointment 0,5% -10,0
Acyclovir –flacons 0,25; tabl. 0,2; ointment 3% – 5,0
Laferonum – amp. 1000000 IU.

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K., 2007 (the 2nd edition).– P.260-263.

Operating instructions to laboratory lesson on the theme "ANTIPROTOZOAL DRUGS"

Questions which are subject to study:

1. Malaria as protozoal infection. Life-cycle of plasmodium of malaria. Principles of anti-malarial therapy.
2. Antimalarial drugs: quinine (Chinini sulfas), chloroquine (Chingaminum), pyremethamine (Chloridinum), primaquine (Primachinum). Classification. Mechanism of action. Side-effects.
3. Notion about amebiasis. Amebicidic drugs: metronidazole, emetine (Emetini hydrochloridum); classification, mechanism of action, application, Side-effects. Use in dentistry.
4. Drugs for treatment of trichomoniasis and lambliasis: metronidazole, furazolidone, aminoquinole. Mechanism of action. Indications. Side-effects.
5. Drugs for treatment of leishmaniasis: Acrichinum, sodium stibogluconate (Solusurminum). Peculiarities of treatment of dermal and visceral forms of leishmaniasis. Side-effects.
6. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

Chingaminum – tab.0,25, amp. 5% sol. – 5 ml
Chloridinum – tab.0,01
Primachinum – tab. 0,003 (or 0,009)
Metronidazolum – tab. 0,25 (or 0,5)
Emetini hydrochloridum – amp.1% sol. – 1 ml
Solusurminum – amp. 20% sol. – 10 ml

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K., 2007 (the 2nd edition). – P. 281-285.

Operating instructions
to laboratory lesson on the theme "ANTIHELMINTHIC DRUGS"

Questions which are subject of study:

1. Helminth infestations and species of pathogenic warms caused these infestations.
2. Definition of helminthicides and their classification.
3. General principles of chemotherapy of helminthiasis.
4. Preparations for treatment of infestations by nematodes: piperasin adipinate, pyrantel, levamisole (decaris); mechanism of action, indications, side-effects.
5. Drugs for treatment of infestations by cestodes: niclosamide (Phenasalum), Extractum Fillicis maris spissum, their mechanisms of action, indications, side-effects.
6. Drugs for treatment of infestations by trematodes: praziquantel, Chloxilum, mechanisms of action, indications, side-effects.
7. Drugs with wide spectrum of action (mebendazole), mechanism of action, indications, side-effects.
8. Preparations and doses.

Preparations which are subject of study (tasks on prescribing):

Mebendazolum –tab.0,1
Levamisolum – tab.0,15
Pyrantelum – tab.0,25; susp. 5% – 15 ml
Prasiquantelum – tab.0,6
Piperazini adipinas – tab.0,5 (or 0,2)
Phenasalum – pulv. (single dose for adults is 2,0).

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K., 2007 (the 2nd edition). – P.286-287.

Operating instructions
to practical classes on the theme "FINAL CONTROL ON THE UNIT "ANTIMICROBIAL AND ANTIPROTOZOAL DRUGS"

The themes which are subject of study:

1. Antiseptics and disinfectants
2. Main principles of chemotherapy. Sulfonamides. Antimicrobial drugs of different chemical structure. Antifungal drugs.
3. Antibiotics – inhibitors of cell wall synthesis
4. Antibiotics – inhibitors of protein synthesis.
5. Antimycobacterial, antispirochetal and antiviral drugs.
6. Antiprotozoal drugs.
7. Antihelminthics.

The structure of control card:

A. Prescribe the drugs and point their pharmacological group

1. 2. 3.

B. Select and prescribe the drug (Tasks on pharmacotherapy)

1. 2. 3.

C. Tests

1. 2. 3. 4. 5. 6.

D. Situation task

1.

The time of control = 60 min.!

Literature:

O.Stefanov, V.Kucher. Pharmacology with general prescription: text-book for English-speaking students. – K., 2007 (the 2nd edition). – P.242-287.

Operating instructions to laboratory lesson on the theme "ACUTE POISONINGS AND DRUGS OVERDOSE. BASIC PRINCIPLES OF URGENT AID AND THERAPY"

Questions which are subject of study:

1. Definition of acute poisoning and drugs overdose.
2. Principles of treatment of poisonings.
3. Prevention of absorbtion of the poison.
4. Acceleration of poison elimination. Notion about forced diuresis.
5. Specific antidotes and mechanisms of their action (Unithiolum, Naloxone, chelating agents,
reactivators of cholinoesterase).
6. General measures: resuscitation and supportive therapy.
7. Acute poisoning with organic phosphates and its antidote therapy.
8. Acute poisoning with muscarine and its antidote therapy.
9. Acute poisoning with atropine or plants containing atropine and its antidote therapy.
10. Overdose of non-depolarizing myorelaxants and decurarization.
11. Acute poisoning with ethanol and its emergence treatment.
12. Acute poisoning with hypnotics and its emergence treatment.
13. Acute poisoning with morphine and its antidote therapy.
14. Acute poisoning with cardiac glycosides and its therapy.
15. Acute poisoning with metallic salts and its antidote therapy.
16. Acute poisonings with acids and alkalis; their treatment.
17. Acute poisonings with formaldehyde, phenol or halogens; their treatment.
18. Drugs toxic effectys in oral cavity: classification, examples, prevention and treatment.
19. Principles of pharmacotherapy of cardiovascular emergency.
20. Principles of emergence help in urgent pathology of respiratory system
21. Principles of emergence help in urgent pathology of CNS.
22. Pharmacotherapy in urgent pathology of GI tract and endocrinal system.
23. Preparations and doses.

1.5. Preparations which are subject of study (tasks on prescribing):

1 Carbo activatus – powder 25,0; tab.0,5
2. Tanninum - 0,5% sol.
3. Kalii permanganas – 0,1-0,5% sol.
4. Atropini sulfas – amp. 1 ml of 0,1% sol.
5. Proserinum – amp. 1 ml of 0,05% sol.
6. Bemegridum – amp. 10 ml of 0.5% sol.
7. Naloxoni hydrochloridum – amp. 1 ml of 0,04% sol.
8. Unithiolum – amp. 5 ml of 5% sol
9. Natrii chloridum – 0,9% sol. for IV infusion
10. Furosemidum – amp. 2 ml of 1% sol.
11. Magnesii sulfas – powder 25,0