"Approved" at the meeting of department of therapeutic dentistry

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Head department
Professor T.O. Petrushanko

Guidelines for independent work of students for preparation for a practical lesson and during the practical studies

<table>
<thead>
<tr>
<th>Academic discipline</th>
<th>Therapeutic dentistry</th>
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<tbody>
<tr>
<td><strong>Module number 5</strong></td>
<td>Deepening the clinical thinking of students. Modern methods of diagnosis, treatment and prevention of major dental diseases. Clinical examination of patients at the dentist.</td>
</tr>
<tr>
<td><strong>Topic of the lesson 15</strong></td>
<td>Physical factors in the treatment of complicated caries</td>
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<tr>
<td><strong>Course</strong></td>
<td>V</td>
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<tr>
<td><strong>Faculty</strong></td>
<td>Foreign students training faculty (dentistry)</td>
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Poltava 2020
1. **Actuality of theme:**
A significant prevalence of dental caries complications (pulpitis and periodontitis) necessitates their high-quality treatment. The choice of a rational treatment method depends on the clinical course and the characteristics of periodontal lesions. Physiotherapeutic methods of treatment are essential in the complex treatment of patients.

2. **Specific objectives:**
1. To analyze contraindications to the appointment of physiotherapy in dentistry.
2. Explain the principles of the appointment of physiotherapy in dental patients.
3. To determine the indications for the use of physiotherapeutic methods in the complex treatment of pulpitis and apical periodontitis.
4. Offer to write out a referral to a physiotherapy room.

3. **Base knowledge, abilities, skills, needed to study themes (interdisciplinary integration):**

<table>
<thead>
<tr>
<th>Name of previous disciplines</th>
<th>Acquired skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy, histology</td>
<td>Define the concepts of &quot;tooth pulp&quot;, &quot;periodontium&quot;, &quot;endodont&quot;</td>
</tr>
<tr>
<td>Biophysics</td>
<td>Describe physical factors, determine the mechanism of their action on the body and tissues</td>
</tr>
<tr>
<td>Normal physiology</td>
<td>Apply knowledge about the physiology of the nervous and vascular systems of the organism</td>
</tr>
<tr>
<td>Pathological anatomy</td>
<td>Apply knowledge about pathological processes: dystrophy, inflammation, neoplastic</td>
</tr>
<tr>
<td>Propaedeutics of internal diseases</td>
<td>Own a patient examination methods</td>
</tr>
<tr>
<td>Therapeutic dentistry</td>
<td>Determine the structure and topography of the cavity of the teeth, the size of the root canals. To own methods of treating pulpitis and periodontitis</td>
</tr>
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</table>

4. **Task for independent work during preparation to employment.**

4.1. **List of basic terms, parameters, characteristics that a student must learn in preparation for the lesson:**

<table>
<thead>
<tr>
<th>Terminology</th>
<th>Definition</th>
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<tbody>
<tr>
<td>Physiotherapy of periodontal patients</td>
<td>The use of physical factors (natural and artificial) in the treatment of periodontal patients</td>
</tr>
<tr>
<td>Advantages of physiotherapy</td>
<td>Physiology, non-traumatic, versatility after effect phenomenon, accessibility, affordability</td>
</tr>
<tr>
<td>Types of Physiotherapy:</td>
<td>climatotherapy, balneotherapy, peloidotherapy</td>
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<tr>
<td>------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>1. Natural</td>
<td></td>
</tr>
<tr>
<td>2. Preformed</td>
<td>Electromagnetic factors (currents, fields)</td>
</tr>
<tr>
<td></td>
<td>Factors mechanical nature (massage, ultrasound, vibrotherapy)</td>
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<td></td>
<td>Factors airspace</td>
</tr>
<tr>
<td></td>
<td>Factors thermal nature (hydrotherapy, cryotherapy, thermotherapy)</td>
</tr>
<tr>
<td>Step reactions to physiotherapy</td>
<td>Physical</td>
</tr>
<tr>
<td></td>
<td>Physicochemical</td>
</tr>
<tr>
<td></td>
<td>Biological</td>
</tr>
<tr>
<td>Mechanisms of formation reaction of the body:</td>
<td></td>
</tr>
<tr>
<td>1. Nonspecific</td>
<td>- Local</td>
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<tr>
<td></td>
<td>- Reflex-segmental</td>
</tr>
<tr>
<td></td>
<td>- General</td>
</tr>
<tr>
<td>2. Specific</td>
<td>Specific for this physical factor</td>
</tr>
<tr>
<td>General contraindication for physiotherapy</td>
<td>Subject to the general state of the organism</td>
</tr>
<tr>
<td>Some contraindications for physiotherapy</td>
<td>Determining each type of physical therapy alone</td>
</tr>
<tr>
<td>The recipe of physiotherapy</td>
<td>List of physiotherapy</td>
</tr>
<tr>
<td>Pathogenic indications for physiotherapy periodontal patients</td>
<td>Normalization of immune processes</td>
</tr>
<tr>
<td></td>
<td>Normalization of blood circulation</td>
</tr>
<tr>
<td></td>
<td>Normalization of mineral metabolism</td>
</tr>
<tr>
<td></td>
<td>Normalization of nonspecific resistance</td>
</tr>
<tr>
<td>Symptomatic indications for physiotherapy</td>
<td>Elimination of inflammation, bleeding, purulent exudate, discomfort, hyperesthesia</td>
</tr>
</tbody>
</table>

### 4.2. Theoretical questions for the lesson:

1. What are the advantages and benefits of physiotherapy?
2. What are the types of therapeutic physical factors?
3. What are the contraindications to the appointment of physiotherapy in dentistry?
4. What are the principles for the appointment of physiotherapy in dental patients?
5. What are the indications for the use of physiotherapeutic methods in the complex treatment of pulpitis?
6. What are the indications for the use of physiotherapeutic methods in the complex treatment of apical periodontitis?
4.3. Practical works (task) that are performed in class:
1. To conduct supervision of the patient with apical periodontitis.
2. To conduct supervision of the patient with pulpitis.
4. Schedule physiotherapeutic treatment for patients with apical periodontitis.
5. Write the direction to the patient in the physiotherapy room.
6. Prepare the patient with apical periodontitis for intracanal electrophoresis.
7. Carry out diathermocoagulation of pulp with pulpitis.
8. Fill out the medical card of the outpatient (F.0-43).

5. Content of the topic:
The modern definition of physiotherapy - is the branch of medicine that studies the effects on the body natural and artificial physical factors that are used to treat patients, disease prevention and medical rehabilitation.

The advantages and benefits of physiotherapy:
I. Universality of action (the same factor can be applied in different diseases).
II. Physiological and has a normalizing nature (physical factor as usual body stimulus, causing soft-adapted compensatory reactions).
III. The absence of toxicity, allergic effects, side effects.
IV. Non-invasive action.
V. Good compatibility with other therapeutic agents.
VI. The long aftereffect (therapeutic effect long shelf life and increases after the end of treatment).
VII. Potentiating effect of most drugs.
VIII. Availability and relative cheapness.

Types of therapeutic physical factors:
Natural (no preformed):
1. Climatotherapy, aerotherapy, speleotherapy, heliotherapy, thalassotherapy.
2. Balneotherapy.
3. Peloidoterapiya.

Artificial (preformed):
1. Factors electromagnetic nature (6 types):
   a) constant electric current (galvanization, medicinal electrophoresis, elektrosonterapiya, electroanalgesia, electrostimulation, diadynamic).
   b) alternating electric current (amplimpulse, interferential fluctuarization, ultratonotherapy, local and general darsonvalization).
   c) electric field (franklinization, infitoterapiya, electrostatic massage therapy, UHF).
   d) magnetic field (continuous, pulsed, low-frequency, high-frequency physiotherapy).
   e) electromagnetic radiation frequency range (microwave therapy, Deci-, Centimeter wave therapy, short-wave therapy)
f) electromagnetic radiation in the optical range (infrared radiation, chromotherapy, ultraviolet irradiation, laser therapy, photodynamic therapy).

2. Factors mechanical nature:
   - mechanical stress (therapeutic massage, chiropractic, acupuncture).
   - mechanical vibrations (vibrotherapy, ultrasound therapy, phonophoresis).
   - factors airspace (barotherapy, normooxygenation, oxygenobaro-therapy, oxygenohelio-therapy, carbogenes, aeroion-therapy, aerosol-therapy, halatherapy).

3. Factors thermal nature (hydrotherapy (pouring, sponging, wet wrapping, showers, baths, washing), baths, saunas, cryotherapy, paraffin, ozokerit-therapy, thermotherapy, batch cryotherapy).

   **The response of the body to determine the effect of physiotherapy:**
   1. The physical nature and dosage factor.
   2. The initial functional status and quality of the individual organism.
   3. The electoral body's sensitivity to a particular factor.
   4. The nature of the disease process.

   **Stages of reaction in response to the action of physical factors:**
   I. PHYSICAL - physical energy performance physical factor on the biological system as a whole, tissues, cells, intercellular substance.

   II. PHYSICO-CHEMICAL - Primary effects (shift):
   - Heat generation.
   - Changing the concentration and ratio of ions in cells and tissues.
   - The formation of free forms biologically active substances.
   - The generation of free radicals.
   - Changes in the spatial structure (conformation) of proteins.
   - Changing the electric potentials of organs, tissues, cells.

   III. BIOLOGICAL - There are direct and reflex changes in organs and tissues.

   **Mechanisms of formation reaction of the organism the effect of physical factors are:**

   UNIVERSAL:
   Nonspecific aimed at increasing the general resistance, improved adaptation:
   - Local reactions of the body
   - Reflex-segmental
   - General

   SPECIFIC:
   Activated specific factors are inherent only this factor effect.
**General contraindications to physiotherapy:**
1. Tumors.
2. Systemic diseases of blood and bleeding tendency.
4. Individual intolerance of physical factor.
5. The total depletion of the patient.
7. Acute infectious process.
8. Epilepsy, hysteria, convulsive seizures, psychosis with psychomotor agitation.

**Some contraindications for physiotherapy:**

**Galvanization, electrophoresis:**
- Acute skin disease.
- Acute inflammation, especially pus.
- Toxic conditions.
- Pharmacological contraindications to the drug.
- Violation of the integrity sheets in places imposition electrodes.

**Electrosleep:**
- Eyelid skin diseases.

**Diadynamic, amplipulse:**
- Purulent processes.
- Fractures of the bones.

**Fluctuarization:**
- Mynera syndrome.

**UHF and microwave therapy:**
- Hypotension.
- Active tuberculosis.
- Limited (encysted) purulent processes.
- Metallic foreign bodies within range.

**Darsonvalization:**
- Active tuberculosis, children under 7 years.

**UV irradiation:**
- Systemic lupus erythematosus.
- Active tuberculosis.
- Endocrinopathy.

**Aeroiono-, aerosoltherapy:**
- Pulmonary tuberculosis.
- Asthma.

**Ultrasound therapy:**
- Diseases of the central nervous system and the endocrine system, scleroderma.
- Vascular dystonia.
- Metallic osteosynthesis.
- Dermatomyositis, pemphigus.

**Thermotherapy:**
- Acute inflammation.
- Renal disease.

**Hydrotherapy:**
- Purulent inflammation.

**Vacuum therapy:**
- Vitamin deficiency.

**Massage:**
- Acute inflammation, especially pus.
- Violation of renal excretory function

**No contraindications to local cryotherapy.**

Physical methods shown in periodontology at all stages of treatment in any form and severity of periodontal pathology.

**Physiotherapeutic methods for the treatment of pulpitis and periodontitis:**

<table>
<thead>
<tr>
<th>Physical method</th>
<th>Therapeutic effect, indications</th>
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<tbody>
<tr>
<td>Ultrasound</td>
<td>Ultrasound has a pronounced bactericidal effect. The action of ultrasound on a biological object passes through an acoustic environment (solutions of antiseptics, antibiotics, enzymes, etc.). The effectiveness of the action depends on their physic-chemical properties. For endodontic treatment of the canals, a solution of sodium hypochlorite is used with ultrasound. Ultrasound also activates the cutting ability of files due to spatial smoothing of the canal walls.</td>
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<tr>
<td>- ultrasonic transcanal processing</td>
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<tr>
<td>- endocanal ultraphonophoresis</td>
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<tr>
<td>UHF field</td>
<td>With serous periodontitis, when there is not yet evidence for creating an outflow. With acute purulent and exacerbated chronic periodontitis in the presence of an outflow of exudate. It helps to accelerate the course of the inflammatory process and limit the focus, rejection of necrotic masses and resorption of the infiltrate</td>
</tr>
<tr>
<td>Vacuum therapy</td>
<td>With acute purulent and exacerbated chronic periodontitis. It drains of contents of the root canal and exudate from the periapical focus. It stimulates reparative processes in periodontal tissues</td>
</tr>
<tr>
<td>Transcanal Anod galvanization</td>
<td>With acute and exacerbated chronic periodontitis. It reduces of inflammation, dehydration and reduction of</td>
</tr>
<tr>
<td>Treatment</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>Electrophoresis</td>
<td>It allows you to enter pharmacological preparations directly into the periapical tissues, including with impassable root canals. It is used after the elimination of acute phenomena. With destructive forms of periodontitis. It normalizes microcirculation and trophism in periapical tissues, stimulates reparative processes. With acute and exacerbated chronic periodontitis for thin and improve the outflow of exudate. It stimulates local phagocytic reaction.</td>
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<tr>
<td>-solution of iodine, potassium iodide (with the cathode)</td>
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<tr>
<td>-solution of trypsin (transcanal)</td>
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<tr>
<td>Diathermocoagulation</td>
<td>With pulpitis, chronic granulating and granulomatous, aggravated periodontitis, cysts, cystogranulomas. It reduces the risk of pushing the contents of the canal beyond the apex, inhibition of microflora in the canals, stimulation of reparative processes in the periodontium. It has anesthetic and blood coagulating effect.</td>
</tr>
<tr>
<td>Darsonvalization</td>
<td>With acute periodontitis, post-filling pain due to the release of filling material out of the apex of the root. It reduces the sensitivity of nerve endings, acts as a painkiller.</td>
</tr>
<tr>
<td>Fluctuating current alone or in combination with microwave therapy</td>
<td>It has analgesic effect and anti-inflammatory effect.</td>
</tr>
<tr>
<td>UV rays, intra-canal irradiation</td>
<td>Its have bactericidal action.</td>
</tr>
<tr>
<td>Helium-neon laser (transcanal action), magnetic laser therapy, laser reflexology</td>
<td>With acute and exacerbated chronic periodontitis. Its reduce the intensity of inflammation, restorative of microhemo - and lymphocoagulation, active of protective reactions.</td>
</tr>
<tr>
<td>Depophoresis of copper-calcium hydroxide</td>
<td>Its combines drug treatment and root canal filling. In the treatment of teeth with gangrenous contents of the canals, with devitalized pulp residues, obliterated canals, with granulomatous periodontitis, radicular cysts, perforations, with fragments of instruments, and teeth that were</td>
</tr>
</tbody>
</table>

- swelling
previously unsuccessfully treated with the endodontic method.
The method is based on the strong bactericidal action and deep penetration of the stabilized system of copper-calcium hydroxide CuCa (OH)₂. System consists of 3 active components (hydroxycuprate ions, colloidal copper hydroxide ions and hydroxyl ions).

6. Material for self-control:

Test tasks:

1. The patient S., 40 years old, the root canal of the 34th tooth was filled for chronic fibrous periodontitis. Pain appeared soon. X-ray: the root canal of the 34th tooth is sealed to the apex of the root. What is the doctor's tactic for pain?
   A. - Prescribe antibiotics
   B. - Prescribe physiotherapeutic procedures
   C. - Make a cut near the apex
   D. - Make conduction anesthesia
   E. - Make infiltration anesthesia

2. The doctor treating the 14th tooth a patient with acute partial pulpitis by the vital extirpation method. He wants to stop bleeding in the root canals. Which method is preferable in this case?
   A. Electrophoresis of iodine solution
   B. Irrigation of sodium hypochlorite
   C. Diathermocoagulation
   D. Electroodontodiagnosis
   E. Depophoresis

3. After treatment of acute purulent pulpitis of 35 teeth in patient S., 30 years old, a day later there was pain, swelling and hyperemia of the oral mucosa at the apex of the root. On the radiograph: the root canal is sealed to the radiological tip. What is the doctor's tactics?
   A. Removal of material from the root canal
   B. Resection of root apex
   C. Applications of Solution Dimexide
   D. Appointment of physical procedures
   E. Extraction of tooth

4. The dentist treats pulpitis 47 tooth to a patient 56 years old. For the purpose of pulp devitalization, arsenic paste was used. At the appointed time, the patient did not appear to continue treatment. A toxic arsenic periodontitis has developed. Which of the following physiotherapeutic methods is appropriate to apply in this case?
   A. Electrophoresis of calcium chloride
   B. Electrophoresis of potassium iodide solution
5. Patient S., 24 years old, complains of aching pain in the 11th tooth, which intensifies when biting. Two days ago, a tooth filled for pulpitis. The tooth reacts to temperature stimuli. Vertical percussion is painful. On the roentgenogram: filling material is removed at the top of the root of the 11 tooth per 1 mm. Which treatment method is better to choose?
A. Fluctuation
B. Antibiotic therapy
C. Injection of 1% solution of hydrocortisone submucous
D. Laxative incision
E. Prescription of analgesics

6. Patient V., 18 years old, complains of severe pain in the 22 tooth when biting. The tooth was treated 2 days ago for pulpitis. Objectively: filling is in 22 tooth. Tooth percussion is sharply painful. The mucous membrane in region 22 is unchanged. On the radiograph: radiopaque material along the entire length of the canal. A small amount of it is bred at the apex of the root. There are no destructive changes in the bone. What is the doctor's tactics?
A. Fluctophoresis of lidocaine solution
B. Removal of material from the root canal
C. UHF therapy
D. Extraction of tooth
E. Electrophoresis of potassium iodide solution

7. Which of the following methods is appropriate in the treatment of residual pulpitis of a 36 tooth with poorly passable root canals in a patient 64 years old?
A. Diathermy
B. Mummification
C. Diathermocoagulation
D. Darsonvalization
E. Electrophoresis of 10% iodine solution intracanal

8. Patient P., 66 years old, is treated with chronic granulating periodontitis of 36 teeth. The medial root canals are obliterated. What physiotherapy method is indicated?
A. Depophoresis of copper-calcium hydroxide
B. Diathermocoagulation
C. Helium-Neon Laser
D. Darsonvalization
E. Ultrasound transcanal
9. Patient S., 35 years old, is treated with chronic granulating periodontitis of 25 tooth in one session. What physical method of exposure is shown to suppress microflora in the root canals, stimulate reparative processes in the periodontium, has an analgesic and blood coagulating effect?
A. UHF therapy
B. Darsonvalization
C. Depophoresis of copper-calcium hydroxide
D. Diathermocoagulation
E. UV rays intracanal

10. Patient N., 43 years old, was diagnosed with exacerbation of chronic granulating periodontitis of 36 tooth. Instrumental processing of root canals was performed. The doctor decided to use electrophoresis to dilute and improve the outflow of exudate, and stimulate the phagocytic reaction. What exactly did the doctor prescribe?
A. Electrophoresis of potassium iodide solution
B. Electrophoresis of calcium gluconate solution
C. Electrophoresis of ascorbic acid
D. Electrophoresis of trypsin solution transcanal
E. Electrophoresis of novocaine solution transcanal

**Situational tasks:**

1. Patient W., 32 years old, complains of aching pain in the 15th tooth, which intensifies when biting. Two days ago, a tooth was filled for pulpitis. The tooth reacts to temperature stimuli. Vertical percussion is painful. On the roentgenogram: filling material is removed at the top of the root of the 15 tooth per 1 mm. What is the treatment tactic?
A. Assign a rinse
B. Explain that the pain will go away in 3 days
C. Prescribe physiotherapy (fluctuation, phonophoresis of anti-inflammatory ointments, UHF)
D. Removal of material from the root canal and prescribe a rinse
E. Re-fill the root canal and prescribe UHF

2. Patient V., 48 years old, complains of severe pain in the 34 tooth when biting. The pain appeared 2 days ago after tooth treatment for periodontitis. Objectively: 34 tooth is sealed. Tooth percussion is sharply painful. Gum in the area of 34 teeth with a bluish tinge. On the radiograph: radiopaque material along the entire length of the canal. A small amount of material is removed beyond the apex of the root. What should be the medical tactics of the doctor?
A. Laxative incision
B. Removal of material from the root canal
C. Fluctophoresis of lidocaine
D. Electrophoresis of solution of sodium fluoride
E. Extraction of tooth
3 The dentist treats chronic periodontitis of 36 tooth in a 53-year-old patient. On the radiograph: the medial canals are curved. In the area of the apex of the medial root, site of destruction of bone tissue with uneven edges, up to 5 mm in size. What medication is advisable to choose for intracanal electrophoresis?
A. 0.1% solution of trypsine
B. 10% solution of potassium iodide
C. 1% solution of novocaine
D. 1% solution of miramistine
E. 1% solution of decamethoxine

4 Patient 22 years old, complains of pain in the tooth in the upper jaw, aggravated by biting. From the anamnesis 3 days ago the treatment of acute pulpitis of 21 tooth was completed. Root canal is sealed with phosphate-cement. Objectively: in 21 tooth a filling made of composite material. The reaction of the tooth to temperature stimuli is negative. Percussion is positive. On the radiograph: a slight excess of filling material behind the apex of the root. What will be the tactics of the dentist?
A. Removal of material from the root canal
B. Patient monitoring
C. Root apex resection
D. Prescribing physiotherapeutic treatment
E. Prescription of drug treatment

5 A 33-year-old patient complains of periodically arising pain from a hot tooth in 24 tooth. The tooth was previously ill, paroxysmal pains appeared. Objectively: in the 24th tooth there is a carious cavity that communicates with the tooth cavity. Deep sounding in the area of root canals is painful. Percussion is painless. A preliminary diagnosis is chronic gangrenous pulpitis. Which of the following physical factors most effectively eliminates the pain that is possible after root canal filling?
A. UV rays
B. Electrosleep
C. Anodegalvanization
D. Diathermocoagulation
E. Diadynamic therapy

6. Patient N., 32 years old, complains of a carious cavity in the 25th tooth. Previously, the tooth was treated for pulpitis, the filling fell out a month ago. Objectively: the crown of the 25 tooth is pink. On the palatal-medial surface, a carious cavity, partially filled with a filling. The mouth of the root canal is closed with filling material. On the roentgenogram: in the region of the apex of the root of the 25th tooth, a lesion of rounded bone tissue with clear boundaries, 3 mm in diameter. The root canal is 2/3 filled with filling material. Choose the best treatment:
A. Fill the cavity and conduct electrophoresis with potassium iodide on the projection area of the root apex
B. Fill the carious cavity and perform resection of the apex of the root
C. Removal of filling material from the root canal, processing and complete filling of the root canal
D. Removing filling material from the root canal, instrumental processing of the canal, leave the tooth open
E. Removal of filling material from the root canal, instrumental processing of the canal, canal and carious cavity with a loose dressing

7. Patient S., 24 years old, complains of aching pains in the area of 24 teeth, aggravated by biting. Two days ago, a tooth was filled for pulpitis. Objectively: There is seal in 24 tooth. The temperature test is painless. Vertical percussion is painful. On the radiograph: the root canals are sealed with the output of the material at the top of the root by 1 mm. Which of the following methods is most effective in eliminating complications?
   A. Prescription of analgesics
   B. Laxative incision
   C. Phonophoresis of hydrocortisone ointment
   D. UHF - therapy
   E. Injection of 1% hydrocortisone solution submucous

8. Patient M., 25 years old, complains of acute pain in the 35th tooth, aggravated by biting. Objectively: There is seal in 24 tooth. The reaction to cold is painless. Percussion is sharply painful. On the roentgenogram: in the area of the root of the 35 tooth, the destruction zone with uneven edges. Diagnosed with exacerbation of chronic granulating periodontitis. What method is indicated for root canal drainage?
   A. Electrophoresis of potassium iodide solution
   B. Vacuum Therapy
   C. UV rays
   D. Diathermocoagulation
   E. Darsonvalization

9. Patient P., 45 years old, with a diagnosis of "chronic granulomatous periodontitis of 47 teeth" is treated with root canals. On the x-ray revealed that they are bent. What physical method of treatment has a bactericidal effect and activates the cutting ability of files?
   A. Diathermocoagulation
   B. UV rays transcanal
   C. Ultrasound transcanal processing
   D. Anode-galvanization transcanal
   E. Electrophoresis of trypsinsolution transcanal
10. Patient R., 40 years old, complains of a constant throbbing pain in the 26th tooth for 3 days. Objectively: swelling of the left cheek. There is a carious cavity in the 26th tooth. Percussion is sharply positive. The tooth is movable. The gum of about 26 teeth is hyperemic, swollen. Instrumental processing of the root canals with the opening of the apical opening was performed. What method of physiotherapy helps to accelerate the inflammatory process, limit the focus, rejection of necrotic masses and resorption of exudate?
A. Diathermocoagulation  
B. ultrasound transcanal  
C. UV rays  
D. UHF therapy  
E. Electrophoresis

7. Literature:
   
   **Basicsources**


   **Additional sources**

5. Jenkins G.N. The Biochemistry of the Mouth. – 4-th ed. – Oxford etc:
3. **Electronic resources:**

Guidelines prepared assistant of the department N.V. Kotelevskaya