

LVIV NATIONAL MEDICAL UNIVERSITY N.A. DANYLO HALYTSKY

Department of Physical Training and Sports Medicine

Approved at the methodical meeting of
the department of Physical training and sports medicine
Head of the department

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GUIDELINES

in the discipline

PHYSICAL REHABILITATION AND SPORTS MEDICINE

for 3th year students

training of specialists of the second (master's) level higher education in the field of knowledge 22 "Health" specialty 221 "Dentistry" for independent work in preparation for practical classes

Topic 6 *"Physical rehabilitation in diseases and contractions of the temporomandibular joints. Physical rehabilitations for neuritis of the facial and trigeminal nerves."*

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Methodical guidelines are made in accordance with the requirements of the curriculum in the discipline "Physical Rehabilitation and Sports Medicine", compiled to train specialists of the second (master's) level of higher education in the field of knowledge 22 "Health" specialty 221 "Dentistry".

According to the curriculum, the study of physical rehabilitation and sports medicine at the medical faculty is carried out in the 3d year of study.

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1. Scientific and methodological substantiation of the topic.

The temporomandibular joints have a number of anatomical and structural differences from other joints and, depending on the etiology, pathogenesis and reactivity of the organism are accompanied early and fairly pronounced morphological and functional changes. Adjacent fabrics are also often involved in pathological process that increases the severity of clinical disturbances structure and function of the joints. The joints suffer not so much from the disease as how much from lack of mobility or their long-lasting tranquility, after all the clinical forms of the disease begin acutely and end recovery, others go into chronic form, and others characterized by a recurrent progressive course and complicated contractions of the joints. Patients with diseases of the temporomandibular joints in the composition of integrated treatment must necessarily be prescribed means Physical rehab, which are physiologically necessary.

It is impractical to expect the complete disappearance of manifestations of joint pain, since they develop degenerative substances after a while changes, and the lack or lack of movement leads to disturbances that can not be eliminated (contractions, fibroses) ankylosis). The means of physical rehabilitation stimulate blood flow lymph circulation, as well as trophism of the articular device, contributing to such a way to slow down the course of the disease and prevent development complications.

Studying this topic will help shape future physicians conscious and responsible attitude towards timely and complete the appointment of physical rehabilitation facilities in the complex treatment for patients with arthritis, arthrosis and contracture temporomandibular joints.

2. Educational goal

2.1. The student should know:

- Clinical and physiological substantiation for appointment means of FR patients with contractions of temporomandibular nerves joints
- basic approaches and features of methods of conducting exercise therapy with diseases and contractures of the temporomandibular nerves joints
- periods of exercise therapy;

- modes of motor activity of patients.

2.2. Be able:

- to justify and independently appoint the means of the FR in in the complex treatment of patients with diseases and contractions of the temporomandibular joints;

- describe and demonstrate to the patient special exercises.

2.3. Examine practical skills:

- be able to determine the periods of the disease;

- be able to determine motor modes;

- to independently designate the means of the FR in the complex treatment of patients with diseases of the temporal- mandibular joints;

- to independently designate the means of the FR in the complex treatment of patients with contractures temporomandibular joint musculoskeletal system;

- demonstrate to the patient special exercises.

2. Student tips:

Arthritis and arthrosis of the temporomandibular joints

Special tasks of the FR

Improvement of blood and lymph circulation in the affected joint area:

- acceleration of resuscitation of the exudate, the elimination of inflammatory joints in the joint;

- activation of restorative processes and metabolism;

- prevention of contractures, ankylosis in the temporal- mandibular joint

Compensation for violations of the function of chewing, swallowing, speech at the expense of unaffected tissues.

Restoration of the excited function of mimic, chewing muscles, muscles of the tongue, soft palate, volume of movements in the temporal- mandibular joint

General tasks of physical rehabilitation

Increase the tone of the central nervous system and normalization of processes of excitation and inhibition in the cortex the brain

Normalization of the patient's emotional state.

Restoration of physical efficiency, domestic and professional level.

Means and forms of FR, dosage of physical activity

The first treatment period - joint pain, expressed exudative manifestations in it, swelling of adjacent tissues, violation of the function of chewing, swallowing, speech, facial expressions.

Driving mode is free.

Physical exercises in the form of medical gymnastics, dosed walking, massage.

Special:

- for the facial muscles of the tongue, soft palate;
- ideomotor exercises for chewing muscles;
- short isometric stresses of chewing muscles;
- before execution it is desirable to carry out thermal procedures and massage, exercise for neck muscles, shoulder girdle;
- every exercise is repeated 5-6 times in a row, at least 5 once a day.

General development:

- for small and medium groups of muscles of the neck, head, distal limb departments;
- every exercise to perform 5-6 times in a row in a slow tempo, alternating with respiratory exercises 1: 1, 1: 2;
- the intensity of the total load - within the limits of activation 25-30% chronotropic reserve;
- Duration - 30 min. daily.

The second treatment period - the presence of residual exudative phenomena in the temporomandibular joint, complete recovery disturbed functions of chewing, swallowing, no speech.

Driving mode is free.

Physical exercises in the form of medical gymnastics, massage, mechanotherapy, metered walking.

Special:

- for the facial muscles of the tongue, soft palate;
- active and active-passive exercises for chewing muscles;
- before execution it is desirable to carry out thermal procedures and massage, exercises for muscles of the neck, shoulder girdle;
- every exercise repeat 5-6 times in a row, at least 5 times in day.

General development:

- for large muscle groups of the body, neck, head, limbs;
- Each exercise is performed 6-8 times, alternating with respiratory exercises 3: 1;
- the intensity of the total load - within the limits of activation - 50

% chronotropic reserve;

- duration - 30-40 minutes daily.

Third curative period - there are no common phenomena in the joint residual impairment of the maxillofacial area: chewing, speech, restrict opening of the mouth.

Driving mode - sparing, dear-coaching, trained.

Physical exercises in the form of medical gymnastics, independent exercises, mechanotherapy, metered walking, massage.

The intensity of exercises depends on the functional state of the systems power supply.

Special:

- active for all facial muscles;
- with maximum amplitude and maximum static tension and obstruction (with resistance by the hand of the patient or methodologist);
- repeat each exercise 10-15 times in a row, at least 5 times for a day.

General development:

- for large muscle groups of the body, neck, head, limbs;
- Each exercise is performed 6-8 times, alternating with respiratory exercises 4: 1;
- intensity of the total load - within activation - 50- 75% chronotropic reserve;
- duration - 30-40 minutes daily

Contractures of the temporomandibular joint

Factors that may contribute to the development of temporal contracture mandibular joint:

- myogenic and endogenous (as a result of inflammatory and dystrophic processes);
- ischemic (as a consequence of prolonged pain and reflex muscle tension in the maxillofacial area);
- arthrogenetic (as a consequence of transmitted arthritis and arthrosis of the temporal-mandibular joint - exchange, as a result of traumatism at night gritting of teeth, gnawing nuts, having high crowns or seals);
- posttraumatic (especially after fractures of the mandible in section of the cervix and the angle of the mandible and double-jaw immobilization chips

Features of using special exercises:

- Slow opening of the mouth in a sitting position with a thrown back the head;
- after the maximum possible opening of the mouth to lower the bottom jaw forward;
- when the head is thrown back to pull the lower jaw for with the help of hands, capturing thumb with chin;
- Circular and lateral movements of the jaw (in the first lessons it is necessary helping the patient with directional movements and holding on chin);
- exercises with resistance to pressure on the chin by the hand of a methodologist during jaw movements. In the future, the patient independently creates such resistance;
- idemotor exercises - link the pulse to reduce the condition rest.

In the first period, special exercises for chewing muscles appoint for 3-4 days after surgery, repeating each of them 5- 10 times at a slow pace with intervals of 1-2 minutes avoiding intensifying the pain and tiredness of the chewing muscles. A complex of these exercises the patient performs at least 8-10 times a day.

Application of mechanotherapy with different devices and the gadgets can begin at 6-8 days after the operation in combination with thermal treatments and massage.

In the second period after removal of postoperative sutures are increased

Duration and intensity of functional load on temporomandibular joint Mouth opening, lateral, anterior and circular movements of the mandible performed with maximum amplitude before pain in the joint area.

In the occupation of ThG includes a large number of developing and breathing exercises

In addition to ThG classes, patients continue to perform their own tasks a set of special exercises.

The main task of the third period of ThG is the restoration of the complete volume of movements in the temporomandibular joint and preparation sick to work activity.

The method of classes during this period is supplemented by special exercises with resistance to movements of the lower jaw in different directions, passive exercises performed by the fingers of the patient, and mechanotherapy.

It is necessary to reach the full amplitude of movements in the joint.

It is very important to control the degree of opening of the mouth every day.

Massage and thermal procedures, preceding the occupation of ThG, improve the effectiveness of regenerative treatment. In medical massage using stroke techniques, rubbing, kneading, vibration. The course of massage is 15-20 procedures (every day or every other day).

Physiotherapeutic treatment for arthrosis of temporal- mandibular joint: thermal procedures (paraffin, ozokerite, infrared irradiation), electrophoresis (novocaine, iodine, lidazy), paraffinotherapy (performed in conjunction with electrophoresis, paraffin application followed by iodine electrophoresis), ultraphonophore in hydrocortisone in continuous mode, iodine- Electrophoresis in combination with paraffin therapy every day (initially heat treatment is carried out).

Physiotherapeutic treatment for arthritis of temporomandibular mandibular joint: ultraviolet irradiation electrophoresis anesthetics, diadynamic therapy, local hypothermia, ultrasound in pulsed mode, ultraphonophoresis, thermal therapy (paraffin, ozokerite, infrared irradiation).

Physiotherapy with temporal contractions mandibular joint: general franklinization, local hypothermia, paraffinotherapy, ultraviolet irradiation, ozokerite, ultrasound, ultraphonophore, diadynamic therapy, electrophoresis.

Physical rehabilitation for neuritis of the facial and trigeminal nerves.

1. Scientific and medical substantiation of the topic.

Neuritis is a disease of the peripheral nerves which occurs as a result of:

- traumatic injury;
- infectious diseases (diphtheria, flu);

- inflammatory processes;
- intoxication (alcoholic);
- metabolic disorders.

Most often in the dentist's practice there are neuritis facial and trigeminal nerves. The nature of functional disorders is determined by their localization and degree of damage. The clinical picture of neuritis consist of disorders of sensitivity, motor and vegetative-trophic disorders. Motor disorders in neuritis are manifested by the development of paresis or paralysis. Peripheral paralysis is sluggist and accompanied by muscular athrophy, decreased muscle tone, trophic changes, skin sensory disorders, pain in muscle sprain. In the complex treatment of this group of patients, medical physical training, massage and physiotherapy are of great importance.

Complex rehabilitation in neuritis solves such tasks:

- stimulation of regeneration and relaxation of oppressed areas;
- improvement of blood supply and trophic processes in the affected area;
- prevention of formation of adhesions and cicatricial changes;
- strengthening of pathetic muscles and ligament apparatus;
- prevention of contractures and immobilization of the joint;
- normalization of motor functions and development of compensatory devices.

The method and nature of rehabilitation measures is determined by the volume and movement disorders, their localization and stage of the disease.

The study of this topic will help to form a responsible and conscious attitude to the timely appointment of the means of physical rehabilitation in patients with neuritis.

2. Purpose of training.

2.1. Student should know:

- Clinical and physiological justification for the purpose of the means of physical rehabilitations in neuritis;
- Basic approaches and features of the technique of carrying out rehabilitation at neuritis
- Periods of application of physical therapy;

- Motor activity regimes of patients.

2.2. Student must be able:

- To justify and independently appoint means of physical rehabilitation at neuritis;
- To describe and demonstrate special exercises to the patient.

2.3. Practical skills of the student:

- be able to determine periods of disease;
- be able to determine the modes of motor activity.

Neuritis of the facial nerve

Neuritis of the facial nerve is manifested by peripheral paresis or paralysis of facial muscles of the corresponding half of the face, accompanied by its asymmetry.

Treatment position, massage and therapeutic gymnastic appoint:

- 1) with neuritis of the infectious and vascular etiology;
- 2) after surgical removal of the tumor causing compression of the nerve;
- 3) after a complete sanitation of acute purulent process in the middle ear that caused neuritis;
- 4) neuritis, as a result, caused by an operation involving epithimpanitis.

These methods are used from the first days of the disease, as well as with residual effects and complications (contractures, community movements).

The technique differentiated according to the clinical features and the course of the process.

The task of medical exercises:

- improve blood circulation especially from the side of the lesion;
- restore the affected function of the affected muscles;

- prevent the development of contractions and movements of the commonwealth;
- restore the correct pronunciation.

In the *early period* (1-10 days of illness) use treatment position, massage and physical therapy.

Treatment position includes such recommendations:

- sleep in a lateral position (on the side of the disease);
- for 10-15 minutes 3-4 times a day to sit, bending his head to the side of the defeat, supporting her with the back side of the brush;
- tied the scarf, pulling the muscles from the healthy side to the side of the lesion (from the bottom up).

To eliminate the asymmetry of the face conducting a plaster tension from the healthy side to the side of the defeat. The adhesive tension to reduce the occipital slit is carried out by one or two narrow strips of adhesive plaster. The plaster tension in the first day is carried out for 30-60 minutes 2-3 times a day (mostly during active mimic actions). Then the treatment time increases to 2-3 hours a day.

Massage begin with collar area and neck. After this massage is performed on the face. The patient sits with a mirror in his hand and the masseur is in the opposite direction. Massage techniques (stroke, friction, light stirring, vibration) –carry out a very gentle method.

Special methods of massage belongs to the method of reduction – longitudinal rubbing and warm-up of the abdomen of muscle in its various state – relaxed or with varying degrees of tension. Shaking, fine point vibration, and short-term compression (on the verge of pain) – also belong to the techniques of reduction.

Treatment gymnastics is carried out in small doses and has a selective nature. The focus on the first stage is given to the muscles of the healthy side.

In the main period (from 10-12 days) spontaneous restoration of muscle function begins, treatment with special physical exercises. The adhesive plaster tension is carried out for 8-10 hours. Massages are performed with different techniques depending on the topography of the lesion. The main massage is performed from the middle of the mouth, all massage movements are combined with therapeutic exercises.

Therapeutic gymnastics includes differentiated tension of individual muscles (frontal, brow, circular muscle of the mouth); dosed tension (relaxation) of muscles.

Special exercises for facial muscles:

- raise eyebrows up
- smile with your mouth closed
- whistle
- expand the nostrils
- inflate the cheeks

- lower the corners of the mouth down with the mouth closed
- retract the cheeks with the mouth closed
- lower the upper lip to the lower

Massage and therapeutic exercises are prescribed daily for 2-3 weeks. The duration of the facial massage procedure 5-12 minutes. From the first days of the disease, physiotherapy treatment in the form of moderate heat is recommended.

Neuritis trigeminal nerve

Peripheral neuritis is the most frequent complication of injuries, surgical intervention and dental manipulations on the jaw. Peripheral neuritis of trigeminal nerve occurs in 85% of cases. The trigeminal nerve is responsible for the sensitivity of the face. The first branch is responsible for the sensitivity of the eyes and forehead. The second branch is responsible for the eyes, nostrils, cheeks. This branch provides innervation of the middle part of the face. The third branch innervates the lower gums, lips, mandible. This branch is also responsible for the sensitivity of the muscles that move the jaw.

Causes of trigeminal neuritis:

- infections of the oral cavity
- tooth decay
- supercooling
- trauma: skull fracture, upper and lower jaw fracture, complicated tooth extraction, incorrect prosthesis

Rehabilitation is selected individually in each case. Acupuncture is very effective in the treatment. It is used for anti-inflammatory effects, relieving swelling, increasing the body's overall resistance, incorporating compensatory reactions.

There is a positive therapeutic effect when applying vibrating mechanical massage. Massage should not exacerbate pain. The duration of the procedure is 6-7 minutes, 15-20 procedures are prescribed for the course.

Physiotherapy treatment: UV irradiation, electrophoresis of anesthetics, ultrasound, thermal procedures.

4. Control issues:

1. Clinical and physiological substantiation for the appointment of means of the FR patients with contractions from the temporomandibular nerves joints
2. Basic approaches to conducting FR in diseases and contractions of the temporomandibular joints.

3. Indications for the inclusion of exercise therapy in integrated treatment patients with contractions of the jaws.
4. Basic requirements to the method of exercise therapy at contractions of the jaws.
5. Factors that determine the periodization of exercise therapy for patients with contractions of the jaws.
6. Periods of application of FR.
7. Modes of motor activity of patients.
8. The task of exercise therapy in the first period of training; features the use of special exercises in a surgical method treatment of contractures.
9. Tasks and means of exercise therapy in the second and third periods of its application in the treatment of patients with contractures.
10. Features of the use of special exercises in the first and second periods of exercise classes after surgical treatment contracture of the temporomandibular joint.

5. Literature:

5.1. Basic:

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