

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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Protocol №1 from 30 of August 2021



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 5 "Physical rehabilitation during reconstructive and plastic operations in
the maxillofacial area. Physical rehabilitation for fractures of the jaw and
bones of the facial skeleton."

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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.

Fractures of the jaws - a fairly widespread trauma, its frequency is almost 15% of all bone fractures. Much more often (over 85% of cases) there are fractures of the mandible. By numerous data, displacement of fractures with bite violations at fractures of the mandible most often depends on the contraction fibers of chewing muscles, and with fractures of the upper jaw - from strength and the direction of mechanical action and the size of the chips. Fractures always accompanied by hemorrhages, infiltration of soft tissues and increase in the tone of chewing muscles. Immobilization period treatment of fractures is often complicated due to the presence of functional disorders of the maxillofacial area and as a result facial distortions - psycho-emotional disorders. The whole complex violations manifested by a decrease in the amplitude of movements in the temporal- mandibular joints, decrease in force and tone of chewing gum muscles, pain in the area of ossification of the muscles, tendons and articular capsules.

After providing appropriate surgical help effectiveness the treatment of such patients depends on timely and systematic the use of adequate non-pharmacological agents FR.

The use of FR facilities contributes to a significant acceleration of formation and the structuring of bone callus, the restoration of the volume of movements in temporomandibular joints, increase of force, speed and coordination of chewing muscles, helps to improve the quality of life the patient.

The study of this topic will form a motivation, enhance professional skills responsibility for timeliness, adequacy and systematicity the appointment of FR in the complex treatment of patients with fractures of the upper and lower jaw.

2. Educational goal

2.1. The student should know:

- Clinical and functional justification for appointment means of FR for patients with fractures of the jaws.

2.2. Be able:

- to justify and independently appoint the means of the FR in the composition complex treatment of patients with fractures of the jaws;

- describe and demonstrate to the patient special exercises.

2.3. Examine practical skills:

- collect a general history;
- to be able to fill the card of the exercise room;
- be able to arrange a referral for treatment in physiotherapy room;
- to be able to determine periods with different diseases;
- be able to determine motor modes.

3. Tips for the student:

1. Principles of treatment of fractures

1.1. Comparison of chips open (operational) or closed (manual) method

1.2. Immobilization (retention) of correlated chips in the right position

Overlap of various tires (one, two-javelin), the use of extra vehicles of a special design

With the help of quick fixing steel wire, metal plates, screws, knitting needles and others accessories (osteosynthesis)

1.3. Prevention, reduction of the severity of trophic disorders tissues in the area of immobilized jaws

1.4. Elimination of trophic disorders that are caused immobilization, restoration of functions of chewing and speech, improvement the quality of life of the patient

2. Complications due to immobilization

Hypotrophy, atrophy of the masticatory muscles, skin of the face behind by reducing the processes of assimilation

The contract of temporomandibular joints as a result deterioration of trophic articular cartilage, decrease in the number synovial fluid, which is produced during joint movements

Ossification of muscles, tendons, articular capsules due to fibroblasts, which are formed on the periphery of the hematoma on the 7th day and are the cause of pain and contractures

3. The tasks of the FR

3.1. The first period of immobilization is the formation period

Primary bone callol:

- Stimulation of resorption of post-traumatic infiltration tissues and hemorrhages in the area of the injured jaw;
- normalization of trophic musculoskeletal system, skin;
- normalization of trophic articular cartilage and stimulation of rhenium synovial fluid, which prevents contracture of the joints;
- Stimulation of the processes of formation of the primary bony callus

3.2. The second period of immobilization (from the beginning of the 3rd week) -

weakening of intermixtile fixation or replacement of two-jaw

Shooting with a removable tire:

- Stimulation of bone callol formation;
- normalization of trophic chewing muscles, ligaments and articular cartilage;
- Restoration of the volume of movements in the temporomandibular musculoskeletal system joint

3.3. The third period (removal of immobilization) - recovery

functions of the maxillofacial area:

- Stimulation of the restructuring of primary bone callus in secondary;
- restoration of the total volume of movements in the temporal mandibular joint;

- restoration of strength, speed and coordination of masticatory muscles;
- restoration of the functional capabilities of life- providing the body and improving the quality of life of the patient

4. Means of FR, forms, methods and dosage of physical loads in the complex treatment of patients with fractures upper and lower jaw

4.1. Driving mode depends on:

- the nature of the fracture;
- period of treatment;
- Concomitant pathologies (concussion of the brain, slaughter of the head brain, stroke, myocardial infarction, etc.);
- in the absence of somatic pathology: in a hospital – free mode, in outpatient conditions - sparing

4.2. Exercise:

- gymnastic, sports-applied, ideomotor;
- active and passive;
- dynamic and isometric (ideomotor);
- respiratory (dynamic and static)

Forms of exercise:

- therapeutic gymnastics;
- independent classes on a special task before a mirror;
- mechanotherapy;
- dosed walking;
- Moving, moving sports games;
- massage (manual, cryomassage)

Methods of conducting classes:

- Depend on the nature of the fracture, the period of treatment, concomitant somatic pathology;
- in the absence of somatic pathology - a group method to supplement with independent classes

Intensity and duration of the total load depend on:

- the nature of the fracture;
- Concomitant pathology;
- Functional capabilities of life support systems

5. Features of using physical exercises

5.1. The first period of immobilization

Exclude sharp slopes of the trunk, jumps, sharp turns the head

With dvuhshleplennogo shining to perform ideomotor exercises for chewing muscles

Receive impulses to reduce chewing muscles at closed teeth at a slow pace with an interval of 1-2 s

Perform exercises in front of a mirror for mimic muscles, tongue, neck muscles

With single-jaw tineus or osteosynthesis for 2-3 days open and close your mouth, slow down the lower motions jaws in the sides, chewing movements

Cryomassage of the whole person with an emphasis on the area traumatic process, self-massage of the internal dento-jaw surface tongue, stroke

5.2. Second immobilization period (from the beginning of the 3rd week)

Loosen intermixal fixation or apply a removable spike at double-jaw tire

Introduce active exercises for chewing muscles slowly tempo with incomplete amplitude, without pain

With single-jaw shunting you can recommend more energetic exercises for chewing muscles.
Use caution passive movements and elements of mechanotherapy

Cryomassage, self-massage of the internal dento-jaw-surface tongue, facial massage using stroke techniques, gentle mess and vibration

Active exercises for neck muscles and mimic muscles

5.3. Third, post-immunization, restoration period

Active - passive exercises with maximum amplitude for

Chewing muscles: mouth opening, lateral movements of the lower jaw, putting it forward

Active exercises for resistance to chewing muscles

Mechanotherapy with the help of "vibrational beds" of Limborg, combustion machines with shoulder blades or spoons, Apparatus Matesis, Oxman, expander, spill extender

In the massage procedure include more active rubbing, stirring and vibration

Increase the intensity and duration of the overall load on the body according to functional opportunities of power supply systems

6. Assessment of the adequacy of direct action of physical

loads under operational control to achieve safety

occupy a positive cumulative effect

The values of heart rate and blood pressure should not exceed

functional capabilities of the patient's body

In patients with concussion or sight of the brain of magnitude

The heart rate and blood pressure should not exceed those in a condition

rest

Lack of pain in the maxillofacial area

7. Estimation of cumulative effect of used means of the FR in stages of treatment

7.1. At the end of the immobilization period

Radiologically confirming the formation of the primary bone corn in a defined period

Lack of inflammation in the maxillofacial area

Lack of edema and ossification of the muscles, tendons, articular capsules in the maxillofacial area

Lack of contracture of the maxillofacial area

Absence of significant reduction of functional reserves life support systems

7.2. At the end of the recovery period

X-ray confirmation of formation of secondary bone callus at the site of a break in a specified period

Restoration of movements of the lower jaw forward, at the side

Restoration of "working open mouth" - not less than 2 transverse dimensions of the middle finger of the patient

Restoration of strength, tone, coordination and efficiency functioning of chewing muscles

5.3 Control questions:

1. How is the content (immobilization) of the chips carried out jaw bones?
2. To what complications can cause immobilization of chips matching jaw bones?
3. Tasks of the first immobilization period of treatment of patients with fractures of the jaw bones?
4. To what complications can result in immobilization of chips matching jaw bones?
5. Tasks of the first immobilization period of treatment of patients with fractures of the jaw bones?
6. The tasks of the second immobilization period of treatment of patients?

7. Tasks of the third period of treatment of patients (after withdrawal immobilization)?
8. What determines the motor status of the patient with a fracture jaw bones?
9. What physical exercises are used to solve special problems in patients with fractures of the jaw bones from the first days of treatment?
10. How is massage in jaw fractures?
11. What determines the choice of the method of physical activity exercises in patients with fractures of the jaw bones?
12. What determines the intensity of the general physical load during classes with patients?
13. What is the essence of the second immobilization period treating patients with fractures of the jaw bones?
14. What are the tasks of the second period of immobilization of fractures of the jaw bones?
15. What are the tasks of the third period of treatment of fractures of the jaw bones?
16. What are the peculiarities of the use of physical exercises in the first period immobilization?
17. What are the peculiarities of the use of physical exercises in the second period immobilization?
18. What are the features of the use of physical exercises in recovery period?

5. Literature:

5.1. Basic:

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