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Physiological Changes In The Locomotor System During Massage Effects.

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ABSTRACT

The musculoskeletal system is an important system of the body, ensuring the interaction of the organism with the environment and its adaptation in all conditions of existence. He participates in all types of body movements in space and therefore is very vulnerable in terms of the development of various disorders and injuries. In some cases, these lesions can be very serious, which requires long-term recreational measures. Currently, a wide range of approaches to the healing of bones, joints and muscles has been created. Already there is a large arsenal of drugs and physiotherapeutic effects, as well as options for therapeutic physical training. Despite this wide arsenal of wellness treatment, the wellness possibilities of massage are estimated as very high. It continues to be actively used as a preventive and therapeutic agent for dysfunctions and for diseases of the musculoskeletal system. A serious indication for the use of massage are injuries of the musculoskeletal system. This is a very common type of pathology in which a person has serious problems with movement and self-detection. To overcome all the manifestations of disorders caused by the pathology of the musculoskeletal system, it is necessary to apply a number of effects with the mandatory inclusion of massage in them. With its proper application, it is possible to express the improvement of the whole organism and reduce the severity of pathological manifestations in the musculoskeletal system. Timely and rational use of massage effects in all types of disorders of the musculoskeletal system in most cases leads to a steady return of lost functions and weakening of the activity of the pathological process.

Keywords: locomotor system, health, trauma, treatment, massage.

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INTRODUCTION

The musculoskeletal system is an important system of the body, ensuring the interaction of the organism with the environment and its adaptation in any conditions of existence [1,2]. He participates in all types of body movements in space and therefore is very vulnerable in terms of the development of various disorders and injuries [3,4]. In some cases, after the consequences of these lesions can be very serious, which requires the consistent implementation of health interventions [5-7].

Currently, a wide range of approaches to healing bones, joints and muscles has been created. There is a large arsenal of drugs and physiotherapeutic effects and variants of therapeutic physical training [8]. Despite this wide arsenal, the wellness possibilities of massage are considered to be very high. It continues to be actively used as a preventive and therapeutic agent for dysfunctions and for diseases of the musculoskeletal system [9]. Its great potential is a significant motive for the development of its various variants applicable in individual states [10, 11].

Taking into account the great health possibilities of massage, the goal was set in the work: to consider aspects of the use of massage effects after injuries of the musculoskeletal system.

In diseases of the musculoskeletal system, massage is often divided into preparatory and primary. After injuries, preparatory massage is performed not on injured parts. It runs for several sessions (3-5). It all depends on the type of trauma suffered and the presence of pain experienced by the person. The first massage includes a range of different techniques: stroking, squeezing, kneading and shaking [12-14].

In most cases, massage should begin with light strokes that need to be performed on an area just above the injury area. After gradually acclimating the injured area to the effects, a stronger stroking and intense squeezing can begin, without causing pain. Repeating squeezing 2-3 times, once again perform a combined stroking, then a small kneading, which captures most of the tissue [15].

If the injury was received at the site where the large muscles are located, use the double-ring and long kneading technique. When performing massage techniques kneading should be alternated with stroking techniques and shaking. Massage is done 2-3 times a day. The session lasts 5-7 minutes. For the first massage sessions, the time for its receptions is distributed as follows: for kneading and stroking - for 2-3 minutes, and for shaking - for 1 minute. After 2-3 days, after carrying out three to five preparatory massage sessions, you can start the main one [16,17].

The main massage is performed on the injured area. This massage is started only if pain in the area of the injury, swelling of the tissues and high temperature are not observed. Massages begin with stroking, squeezing and kneading areas in the area of injury. After that, the site of injury is massaged. It uses light combined stroking and rubbing. At the moment of stroking, various forces are pressed: the farther from the injured area the pressure is applied, the stronger it is [18].

In that case, if severe pain is not observed, you need to start using straight-line rubbing with the pads of your fingers from the very first day, holding it with small intensity, alternating with concentric stroking (on the joints). When the pain becomes insignificant, you need to start applying the spiral and circular rubbing with the pads of your fingers.

It is possible to carry out the main massage with the use of therapeutic and warming agents that have a beneficial effect. As a result, the recovery period can be significantly reduced. It is important that the massage is carried out in order to restore the functions of the injured area, so it must be combined with exercise and thermal procedures (before the massage session).

Among the injuries is often found damage to the ligaments of the joints. They are associated with strong tension of a certain part of the fibrous capsule of the joint and its ligaments that strengthen it. The most common sprain occurs in blocky joints, mainly in the ankle, wrist, elbow, knee, and finger joints. Often during the stretching of the ligamentous apparatus of the joint, simultaneous damage occurs to its synovial membrane, tendons, and in some cases joints, nerves.

At stretching thermal procedures are appointed, which are carried out on the second day. They include a warming compress, baths, paraffin and massage. When acting on the joints, the massage therapist must take into account the patient's condition and perform techniques with such force that the person being massaged does not experience pain. During the massage of the joints, one should remember about the places of attachment of muscles to the tendons and pay attention to them [19].

The impact on the shoulder joint should begin with the muscles of the shoulder girdle. First you need to use stroking and kneading (single, double ring), and after two or three minutes to move to concentric stroking of the shoulder joint and kneading the shoulder. Massage should be carried out for 5-7 minutes, 2 times a day.

If there is no acute pain, you can begin a direct impact on the joint. First, massage the front, back and bottom walls of the articular bag. In order to work more comfortably, the patient is advised to have an injured arm (as far as possible) behind his back. Standing behind the patient, the massage therapist simultaneously acts on the right and left joints: with his right hand on the right joint, with his left - on the left. Along with this, various rubbings are used: rectilinear with the pads of four fingers; circular pads of four fingers, the base of the palm and phalanges of the fingers bent into a fist. Rubbing should be applied in combination with stroking and kneading [20].

Massage of the shoulder joint can be performed in the position when the forearm of the sore hand is on the table. This position makes it possible to relax the muscles of the shoulder and to more strongly influence the articular bag. The first step is to perform concentric stroking, then rectilinear and circular grinding around the joint [21].

At the end of each massage session, several movements should be made in the joint. To do this, with one hand the masseur must fix the outer edge of the scapula, and the other, holding the distal limb, perform movements in all directions, increasing the amplitude time after time.

If the knee ligaments are damaged, an effusion is accumulated in the articular bag, which then deforms its front wall and shifts the patella up. Massaging should begin with the front of the thigh. After a two-three-minute preparatory massage, which includes stroking techniques, squeezing, stretching, you can go to the concentric stroking of the knee joint. After that, it is recommended to carry out rectilinear and circular rubbing with the pads of four fingers and the base of the palm, lasting 2-3 minutes. Particular attention should be paid to the lateral areas of the joint. The patient is recommended to bend the leg at the knee, after which it is necessary to continue rubbing the side sections with the pads of the thumbs. To grind need in different directions. Over time, the intensity of the massage should increase [22].

If you need to massage the back of the knee joint, the patient should take a prone position and bend the knee at an angle of 45-75 degrees. Massage should be carried out in the same way as on a healthy joint, taking into account only the level of pain of the patient. Massaging of the knee joint should be completed with alternating passive, active movements and movements with resistance (sometimes they alternate with rubbing).

Before starting the massage of the ankle joint, you should place a roller or a pillow under the affected leg, and then start a preparatory massage in the direction from the ankle to the knee (2-3 minutes). In this case, use the combined stroking and squeezing [23].

Then the hands of both hands need to be stroked in the direction from the foot to the middle of the tibia, exerting pressure of different strength in different areas. Most often, a greater effort is made on the foot, and as you move, the stroking is replaced by squeezing from the joint. After completing the implementation of straight strokes and push-ups, gradually you need to go to a concentric stroking of the joint and light rubbing. Attention should be focused on those places where the ankle is most accessible: under the ankles and on both sides of the Achilles tendon.

After this, the therapist should have an effect on the Achilles tendon with the pads of four fingers, applying straight and circular rubbing. Then you need to perform a circular rubbing with the pads of all the fingers of both hands, which should be located on both sides of the Achilles tendon, and finally massage the

lower leg. Using circular grinding, it is possible to penetrate into the depth of the joint, even in those areas where tendons are located above the joint. Circular grinding must be used in combination with energetic concentric stroking and passive flexion and extension of the foot. After the pain gradually passes, you can increase the duration of the session [24].

Often massage is used for sprains. Dislocation - persistent displacement of the ends of the bones beyond their normal mobility, often accompanied by hemorrhage. Its consequence is a sprain or rupture of the articular sac and ligaments. Dislocations of the upper limb, in particular the shoulder joint, are most often observed. To conduct a massage you need to go only after reposition of the dislocation. The method of massage for sprains is similar to that of sprains.

Massage is used for fractures. Fracture is called a violation of the integrity of the bone. A traumatic fracture occurs when a kind of mechanical force is applied to the bone. When using massage to treat fractures, blood circulation and lymphatic circulation are greatly improved, and muscle elasticity is activated and the functions of the limb are normalized. In cases of closed fractures, the massage is scheduled for the 2nd - 3rd day after injury. Massaging helps to soothe the pain, favors the resorption of hematoma in the area of the fracture, as well as the early formation of callus.

Massage of the injured area is possible when a plaster cast is applied to it. When the plaster cast has already been applied, a preparatory massage and a massage of the healthy limb should be carried out, remembering its reflex action. During the first days after the transfer of the injury, the massage should be carried out according to the method, which aims to reduce the increased muscle tone [25].

Massaging is performed on the open area of the foot. Used combined stroking. It is also performed on the open part of the thigh, on its inner, middle and outer areas. At first, massage should be performed for 3 - 4 minutes, then massage should be carried out on other limbs.

Massaging a healthy limb should also begin with light strokes, and then proceed to squeezing, which should be combined with stroking and shaking. Ordinary, double ring and long kneading should be used. The masseuse must perform a Finnish shaking, placing the patient's healthy limb on his hip, while at the same time performing stroking and shaking. The duration of the thigh massage is 3-4 minutes. The same effect should be carried out on the legs and chest, reducing the time to 1-2 minutes. Massage lasts 6-9 minutes, but the time may vary depending on the patient's well-being and other reasons [26].

When the fascia is torn and the bruise of the muscle is massaged, it is similar to that which is done while stretching the muscles: squeezing and kneading alternate with stroking. If there is no pain at the site of the injury, then a light stroke of the bruised muscle can be applied.

Massage for this type of injury is carried out the day after the injury and with the permission of the doctor. The massage is done 2 times a day for 5-7 minutes. You can use sollux at the same time. At the subsequent sessions - dry air baths. The time of the massage should gradually increase, and active-passive movements should be added to the techniques [27].

In case of myalgia, before massaging the massage, one should take thermal procedures: bath, steam or dry-air bath. After each energetic reception, light, relaxing and pain-relieving techniques (combined stroking, shaking) should be done. The procedure for the massage in this case is as follows:

1. Massage should begin with such techniques as light stroking and shaking (large muscles - gluteus, gastrocnemius).
2. Then go to the rub: straight and circular. First with the pads of the thumbs, then with the pads of the four fingers, then with the phalanges of the bent fingers and, finally, with the base of the palm. Rubbing need to alternate with pressure.
3. Next, deep kneading should follow: ordinary, double neck, double ring, long, gable.
4. 3-5 minutes before the end of the session, a rubbing should be applied to the sore spot, without rubbing: dolpik, apizatron, finalgon (with strong pain, rubbing can be rubbed around the sore spot) - and massage areas higher or lower.
5. After 2-3 minutes you need to make a deep cautious massage of the sore spot.

6. After the massage, a dry dressing or compress should be applied to the sore spot (in order to preserve heat).

With myositis, massage and heat treatments are applied in the complex. They greatly accelerate the healing process. Massage has a particularly beneficial effect if it is performed with rubbing - dolnik or apizatron.

Massage should be regularly 2 times a day. The duration of the session in each case should be different (from 5 to 15 minutes or more). The method of massage for myositis is the same as for myalgia. Therapeutic massage is one of the available natural means of restoring lost functions in various injuries of the musculoskeletal system [28-31].

CONCLUSION

Disorders of the musculoskeletal system - this is a very common type of pathology that needs timely correction. When they appear, a person has serious problems with movement and self-detection. To overcome manifestations of disorders of the musculoskeletal system, a number of effects are used, among which massage is prominent. With its proper use, it is possible to express the improvement of the whole body and reduce the severity of pathological manifestations on the part of the musculoskeletal system. Timely and rational use of massage effects for all types of disorders of the musculoskeletal system leads to a steady return of lost functions and a decrease in the activity of the pathological process.

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