

THE ROLE OF PHYSICAL EXERCISE AND HYDROKINETOTHERAPY IN THE RECOVERY OF RECYCLING DUST LUXURY

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Abstract: *Luxation is a post-traumatic shoulder disorder of great gravity, which consists in the permanent movement of the articular extremities, where the joint surfaces lose their relationship. The installation of the dislocation occurs through several mechanisms due to trauma, being favored by the existence of a joint instability. In recurrent cases the presence of malformations of bone segments was also noted. It is recommended that treatment undergoing treatment be screened by a series of general and special anthropometric measurements. This will be followed in their dynamics, articular balance, muscular balance, complex movements, and changes in tone. Physical therapy aims at recovering some partially or totally lost functions by using various therapies to improve patient life, create motor independence, and improve self-service capacity, and hydrotherapy has sedative effects on pain, muscle relaxation, increasing joint mobility. In the aquatic environment different pathologies such as rheumatic, orthopedic and pediatric diseases can be treated and rehabilitated.*

Key words: *health, dislocation, exercise, hydrokinetotherapy.*

1. Introduction

Luxation is a post-traumatic shoulder disorder of great gravity, which is the permanent movement of the extremities of the joint, where the joint surfaces lose their relationship. In the scapular-humeral dislocation, following a direct or indirect trauma, the humeral head leaves its normal relationship with the scapula's glenoid cavity. It is one of the most common emergencies encountered in traumatic practice. The most common are the anterior dislocations, followed by the

lower and lower ones that have a lower degree of production.

The most common dislocation in the body, with a share of about 50-80% generally inferior to an indirect trauma such as: shoulder, elbow or hand, arm when the arm is abducted at 90 ° and external rotation in very few cases and as a result of direct trauma to the back of the shoulder.

The most common shoulder dislocations are due to strong trauma (accidents). In elderly people, dislocations can also occur

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after more energetic gestures, such as throwing a ball, lifting an object.

Scapulo-humeral luxation can also occur in performance athletes: handball players, volleyball players. These people have a high risk of relapse.

The installation of the dislocation occurs through several mechanisms due to trauma, being favored by the existence of a joint instability. In recurrent cases the presence of malformations of bone segments was also noted.

In a dislocation, important joint and ligament joint lesions (tears, tears, or dilations) occur.

The articular capsule of the scapular-humeral joint is relaxed and thin and can easily break; the two edges of the rupture may be free, floating. It is also possible to produce, on the antero-lower part of the glen, a capsule disengagement from the glenoid frame.

Bone lesions may also be important: the most common is the detachment of the glen margins or a parcel fracture of the upper extremity of the humerus.

Long-term maintenance of the segments in the position where the dislocation has occurred leads to considerable changes in the injured joint elements. Soft tissues gradually retract, heal in the new position, and the humeral head undergoes major changes.

2. Non-surgical Methods of Treatment

The treatment of a dislocation is called the reduction, and consists in the correct return, that is, the return of the two bony ends in the joint, in the same way as the dislocation. Local anesthesia for muscle relaxation is recommended.

A. Procedures for reducing scapulo-humeral dysplasia:

A1. *The Hippocratic Process* (fig.1) - „the patient in the dorsal decubitus, the physician inserts the heel into the patient's axle, and performs traction in the axle with slight adduction and repeated movements of internal and external rotation, the return of the humeral head to the glenoid cavity is manifested by a tightening” [3].

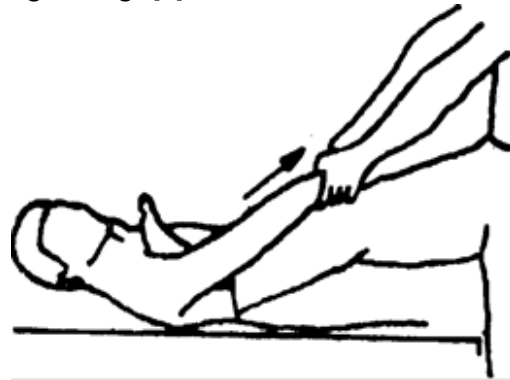


Fig. 1. *The Hippocratic Process*, [3].

A2. *The Von Arlt Process* (figure 2) - „the patient is seated laterally on a seat with a backrest, the forearm flicked at 90 °, the doctor performs a push in the axle with adduction and external rotation” [2].



Fig. 2. *The Von Arlt Process*, [2].

A3. *The Mothes Milch Process* (fig.3) -, the patient in dorsal decubitus for anterior and ventral dislocations in the posterior ones. A strap is inserted through the patient's ax, traced by a helper that is slanting obliquely at 45 ° contralateral and upward. Traction in the axle of a second helper with small internal and external rotation, pressing on the humeral head, pushing it with the shelves to the axle" [4].

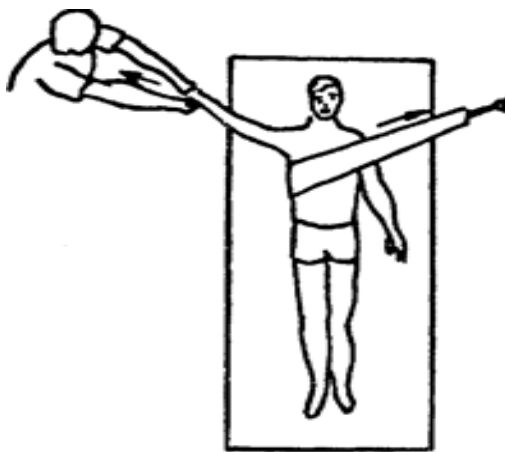


Fig.3. *The Mothes Milch Process*, [4]

B. *The Massage*

„ The objectives of therapeutic massage are to reduce pain, reduce muscle contraction, improves blood circulation.

Massage maneuvers are running slowly and with low intensity in the chronic phase. The smoothing is applied to the anterior and posterior sides of the shoulder, to the supraclavicular and superficial region. The knees are adapted to local sensitivity and are easy to perform. Vibrations are performed with the palm for muscle decontraction. After pain remission, stimulation and toning muscles are recommended to prevent hypothyroidism.

In this step friction with fingers are used in the form of knocked or chopped" [3, p. 165].

C. *The Physical therapy*

„ Kinetology or kinetotherapy are a form of motion therapy that pursues through static or dynamic physical exercise programs: restoration of diminished functions, increase of functional level, creations of compensatory mechanisms in functional rehabilitation situations [1].

Physical therapy seeks to recover certain partially or totally lost functions by using various therapies to improve patient life, create motor independence, and improve self-service capacity." [2, p. 8].

D. *The Hydrokinotherapy*

"It is a set of exercises performed with the immersion body in order to re-educate some deficiencies, benefiting from the mechanical, chemical and physical factors.

Hydrotherapy has sedative effects on pain, muscle relaxation, increased articular mobility. In the aquatic environment various pathologies such as rheumatic, orthopedic, pediatric and cardiology diseases can be treated and rehabilitated." [2, p. 16].

3. *The Program of Hydro-kinotherapy*

The shoulder recovery methodology should be adapted to the patient's particularities and pathology, but from the point of view of the means of achievement we refer to kinetic therapy, exercises in the pool, under the coordination of a physical therapist [4], [6], [7].

These exercises tighten the muscles of the shoulder but also of the arms, neck

and chest. Exercises in the water help the body relax so that the joints bear only 10% of the weight of the body, especially when the body is submerged in water to the throat.

Also, water maintained at 35-36 °, as there are decreases peripheral sensitivity with change in painful perception.

Ex.1. – Hands on the body, front-facing shelves, lifting the arms up to the chest level, (figure 4).



Fig. 4. *The kinetic exercise no.1.*

Ex.2.- The arms stretched out sideways, bringing the arms forward with the approaching palms coming back, (figure 5).

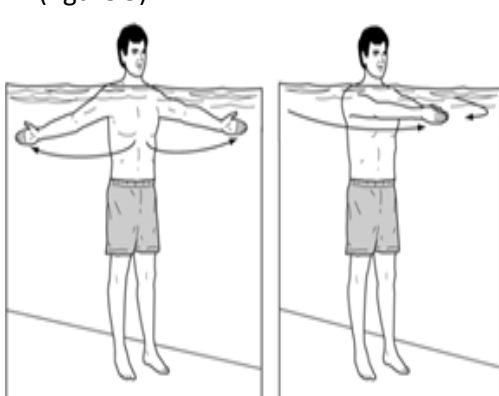


Fig. 5. *The kinetic exercise no.2*

Ex. 3.- The arms beside the body elbowed from the elbow joint at 90 ° to the palms facing upward, carrying the arms to the side holding the elbows attached to the trunk-return (figure 6).

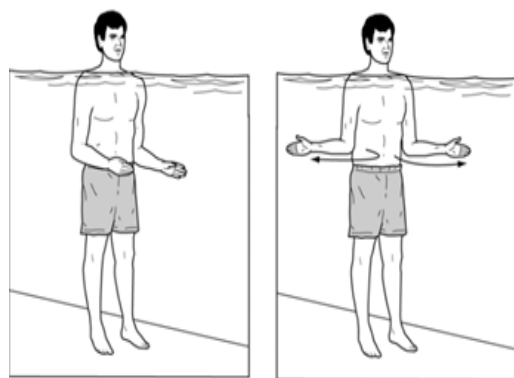


Fig. 6. *The kinetic exercise no.3.*

Ex.4 - Hanging face to the edge of the basin, the hands catch the edge, move by hand by crossing them, and then vice versa, (figure 7).

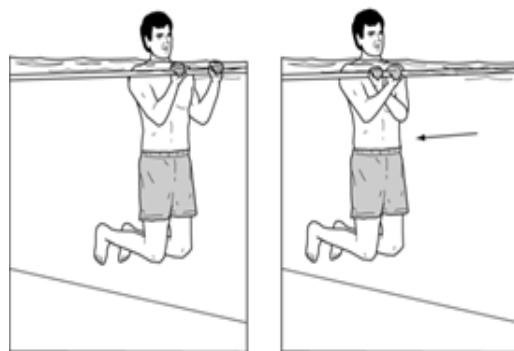


Fig. 7. *The kinetic exercise no.4.*

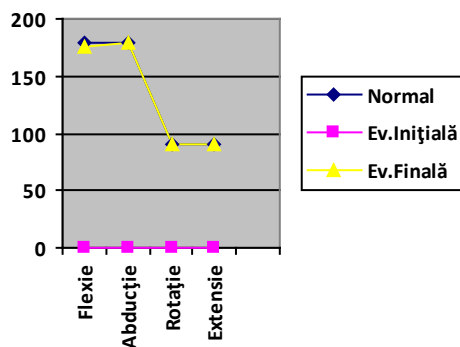
It is very important to consider total recovery at this level because partial or poor recovery results in negative results, an incomplete motion amplitude has repercussions on the shoulder [5].

Following application of the program, the following values were obtained:

Table 1

Joint check

Articulation	Movement	Initial test values	Final test values
Shoulder	Flexion	0°	175°
	Abduction	0°	180°
	Internal rotation	0°	90°
	External rotation	0°	90°
	Extension	0°	90°

Fig. 8. *Functional gain*

From figure 8 shows that the recovery was 95% due to the strictly followed recovery program, but also the individual's willingness to resume work on the field, post-traumatic sequelae did not exist.

4. Discussion

The shoulder is often prone to traumas that occur either on a sports, professional or household basis [5, 6]. As a result of these traumas, the shoulder undergoes muscular, articular changes, leading to functional impotence, lack of coordination. There are also psychic

changes, so the patient can't carry out his everyday work.

The values presented in the tables and graphs show that the recovery program was effective and the role of physical exercise and hydrokinetotherapy was demonstrated in recuperating recurrent post-operative shoulder dislocation.

By acting immediately after the intervention and immobilization period with an effective kinetotherapy and hydrokinetotherapy program, the functional gain is 95%, so I can say that the recovery is almost complete.

Practicing the program Training results in better quality of life and may represent a manifestation of a beneficial life style of modern man, who appreciates the value of physical, motor activities, regardless of age, physical or social condition [1].

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