SPORT TRAUMAS AND THEIR RECOVERY THROUGH KINETOTHERAPY

Enoiu Răzvan Sandu & Moldovan Elena
Transilvania University of Braşov, Colina street /1, Romania

Abstract

The present paper studies sport traumas and their recovery through kinetotherapy. Accidents occur quite often in sporting practice from constant tries of surpassing oneself by effectuating certain maximum efforts that go beyond the current physical possibilities of the athlete. In sporting practice there have been accidents by overstressing and traumatizing through mechanical shocks different parts of the body. The paper approaches essential aspects of the traumas in cause, the conditions of the humeral scalp articulation, the elbow, knee and ankle articulations as well as the method of the kinetotherapy approach. In this paper, we wants to present treatment plants we obtained a shorter period of inactivity of the athlete's trauma, based on a fair mixture of treatment.

Keywords: sport traumas, kinetotherapy

Introduction

A lot of accidents take place in the sporting activity due to overstressing and traumatizing the body by mechanical injuries of the shoulder, elbow, fist's articulations and the articulations of the inferior limb, especially of the knee and the ankle. A bad slide or movement can produce cricks or fractures of the calcaneus and the metatarsal bones. Falling down on the hands can produce cricks of the fist and fractures of the hand bones, of the arm bones, contortions of the shoulders and fractures of the scapular centurion bones (Arseni, S., Stanciu, M., 1970).As long as the training process and the specific physical training are not done adequately, the execution of certain technical procedures can cause, in time, serious afflictions of the arm that executes the hit, or of the inferior limbs that execute the body's movement on the field.

Sports practice, requite the elaboration of certain kinetotherapy programs that are based on recovery necessities, on methodic, physiological and anatomical principles, taking into account that the specific aspect of each segment's pathology represents one of the motivations for choosing this theme.

It is common knowledge that most sport traumas occur due to not fully mastering the specific technique of each sporting branch and that, especially in the sporting activity, the technique comes close to perfection. In performance sport activity accidents and implicitly the appearance of traumas have one of the following causes:

1. Pathological exhaustion
2. Overstressing
3. Over training

Pathological exhaustion represents a state of physiological discomfort accompanied by unpleasant sensations and a decrease of physical, psychological and mixed delivery. During effort this exhaustion can lead up to cachexy, thus abandonment. Preventing these border manifestations of overstressing the body can be done, primarily, by training (physical, psychological, metabolic) then by means of recovery, primarily addressed to the biological sub layers affected by effort (Dragan.,I., 1994).

Overstressing represents the acute form of pathological exhaustion, consisting of the discrepancy between stress and body's capacity to answer on the spot.

Over training represents the clinical form of the chronic pathological exhaustion, consisting of a profound affliction of the whole organism. Professor Georgescu M. distinguishes three types of athletes that reach over training: the ones that have reached sporting form (as a result of certain methodic mistakes in preparation) usually over stressing the body before reaching the sporting form, proposing the term fatigue, the ones that cannot justify the installation of fatigue (in reality, the association of certain diverse, powerful and stressful factors) and the ones to whom the role of SNC is confirmed and represents the affliction with the most cases.

In sporting activities can be avoided and their effect on the traumatized organism can be minimal in the situations in which the specialists has certain knowledge regarding: the production mechanism of these traumas; the training's average factor method; the training field's preparation as well as the used objects' preparation; the specific physical methods in the sporting activity.

Research hypothesis

In this research we started from the premise that within the kinetotherapy and physical exercises recovery regarding traumas, the objectives of each and every specific kinetotherapeutical treatment are extremely important and that through the elaboration of complex treatments with the tight cooperation between the kinetotherapist and the sporting specialist one can obtain a shorter period of sporting inactivity when talking about a trauma.

Material and method

The paper approaches the essential aspects of the pathological traumas in question, the scalpel and humeral articulation afflictions and the afflictions of the ankles. The motile structures have been used in the medical gymnastics programs and their effort dosage and deployment to what their intensity and complexity are concerned, have bared in mind the characteristics of the respective sport that the athlete is performing, with all its fundamental, preparative and competitive aspects.

The research has been done by selecting and studying the subjects that have suffered certain traumas during practice. The research comprised a number of 4 athletes with ages between 22-24 years old who have suffered local traumas to the shoulder and ankle.

- 2 – scalpel and humeral periarthritis
- 1 – ankle cricks of the I degree;

Each athlete had a chart where, besides the usual data and objective evaluation methods that is articular and muscular testing; one has also listed subjective data that appreciated spontaneous pain, temperature, color and vasomotor afflictions.

The first and second case present a study regarding the initial testing after the accident took place and the final testing after applying the recovery program and comparing the amplitude of the healthy limb to the traumatized one.

The exercise program proposed through a thorough selection of the most efficient physical exercises has allowed a shorter period of recovery anticipated by the materials found in the studied bibliography (Baciu,C. 1981, Bratu I., 1977, Cordun, M.., 1999, Kiss, I. 1999, Sbenghe,T., 1981).

The research results

The athlete, F.C., 24 years old, diagnosed with scalpel and humeral periarthritis during a handball game, through a forced extension of the arm when effectuating an erroneous throw,

has come into the eye of the trainer and the kinetotherapist. After effectuating the articular balance one has established the objectives and the means of recovery when talking about recuperation. The results obtained by the athletes, are presented in tables 1 and charts

Table 1. Comparative values of the healthy limb to the traumatized (evolution of the affected right shoulder's amplitude)

Effectuated movement	Healthy limb (left)	Affected limb (right)	
		Initial testing	Final testing
abduction	180°	135°	155°
Flexion (antiduction)	180°	140°	165°
Extension (retroduction)	55°	40°	45°
Internal circulation	90°	70°	80°
External circulation	90°	45°	75°

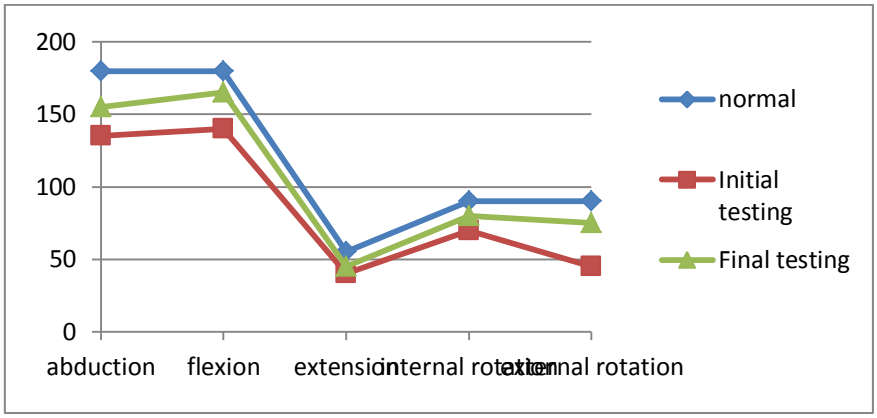

Figure.1 . The amplitude value chart of the affected right shoulder

Tabel 2 Comparing the average duration of returning to practice, competition and obtained individual duration

The trauma's name	Its forms and characteristics	The average duration of the trauma	When can the subject return to practice Competition	Duration in days. Obtained individual duration
scalpel and humeral periarthritis	No fracture: The shoulder's deformation, blocking movements, pain, functional impotence, the head is no longer situated in the glenoid cavity	15 days	10 days practice 30 competition;	9 days practice 28 days competition

The athlete, I.M., 20 tears old diagnosed with scalpel and humeral periarthritis during a tennis game through the hyper extension of the arm and elbow when executing a smash has come into the eye of the trainer and the kinetotherapist . After effectuating the balance one has established the objectives and the means of recovery when talking about recuperation.

Tabel 3.Comparative values of the healthy limb to the traumatized one

of the evolution of the affected right shoulder and right elbow's amplitude

Effectuated movement	Healthy limb (left)	Affected limb (right)	
		Initial testing	Final testing
Abduction	180°	120°	165°
Flexion (antiduction)	180°	125°	170°
Extension (retroduction)	55°	30°	45°
Internal circulation	90°	70°	80°
External circulation	90°	40°	60°

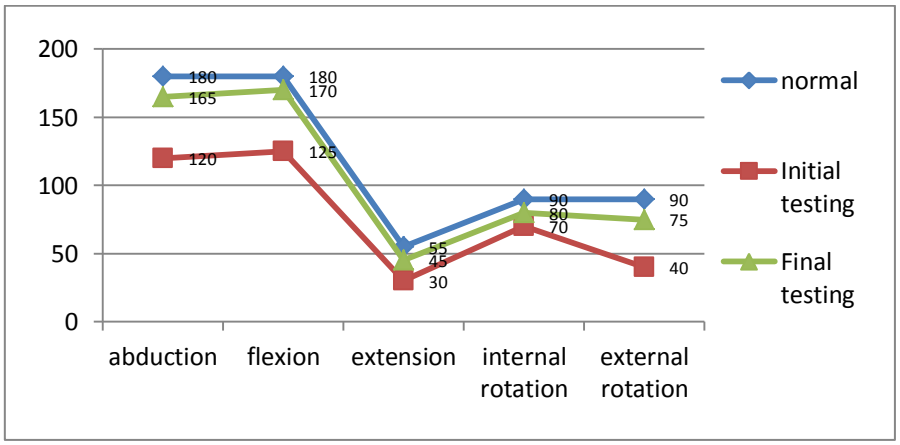

Figure 2. The amplitude value chart of the affected right shoulder and right elbow

Table 4. Comparing the average duration of returning to practice, competition and obtained individual duration

The trauma's name	Its forms and characteristics	The average duration of the trauma	When can the subject return to practice Competition	Duration in days. Obtained individual duration
scalpel and humeral periarthritis	No fracture: The shoulder's deformation, blocking movements, pain, functional impotence, the head is no longer situated in the glenoid cavity	15 days	10 days practice 30 competition;	8 days practice 28 days competition

The medical recovery program for the two athletes that have suffered traumas at the level of the shoulder that is scalpel and humeral periarthritis of the shoulder comprised kinetotherapeutical physical exercises that have also been applied after the decrease in pain intensity following the enhancement of the shoulder's articular mobility, the enforcement of the muscles and has been structured in 3 stages.

- The collaboration between the sporting specialist and the kinetotherapist made it possible to completely realize the recovery objectives and to maintain the obtained results as a result of applying the recuperation program.
- The complex applied program in collaboration with the kinetotherapist consisted of associating physical exercises with kinetic methods that have lead to a more rapid and safer recovery procedure to what normal amplitude and movement to the articular shoulder level are concerned.
- The recovery program allowed a functional gain, the final functional factor being 96%.
- The average duration of the disease is of 15 days. After that, one can begin the recovery program, while the normal practice can begin after 10 days. In the study case in question one has gained 1 important day of practice and 2 days of competition in the first athlete and 2 days of practice and 2 days of competition in the second athlete.

The athlete, B.E., 22 years came to the recovery precinct to follow a treatment after an accident, a crick of I degree, at the right ankle by landing erroneously after a jump during a handball practice.

Table 5.Table of comparative values of the healthy limb to the traumatized one

Effectuated movement	**Healthy limb**	**Affected limb**	
		Initial testing	**Final testing**
Dorsal flexion	25°	10°	20°
Plantar flexion	45°	30°	40°

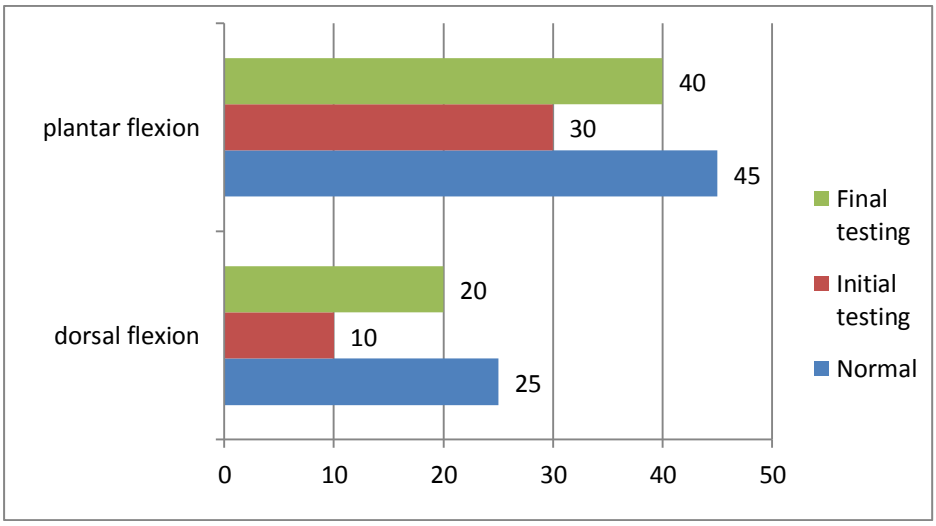

Figure.3. The value chart of the affected leg

Table 6 Comparing the average duration of returning to practice, competition and obtained individual duration

The trauma's name	Its forms and characteristics	The average duration of the trauma	When can the subject return to practice Competition	Duration in days. Obtained individual duration
Crick of the I degree	Pain with the late appearance of the edema; Relative functional impotence	Average duration of the disease 7 days	15 days practice 15-30 days competition	14 days practice 20 days competition

The athlete, E.R., 23 years old came to the recovery precinct to follow a treatment for a crick of I degree to the left ankle by sliding the inferior left limb on the field.

Table 7.Comparative values of the healthy limb to the traumatized one

Effectuated movement	Healthy limb	Affected limb	
		Initial testing	Final testing
Dorsal flexion	25°	10°	25°
Plantar flexion	45°	20°	40°

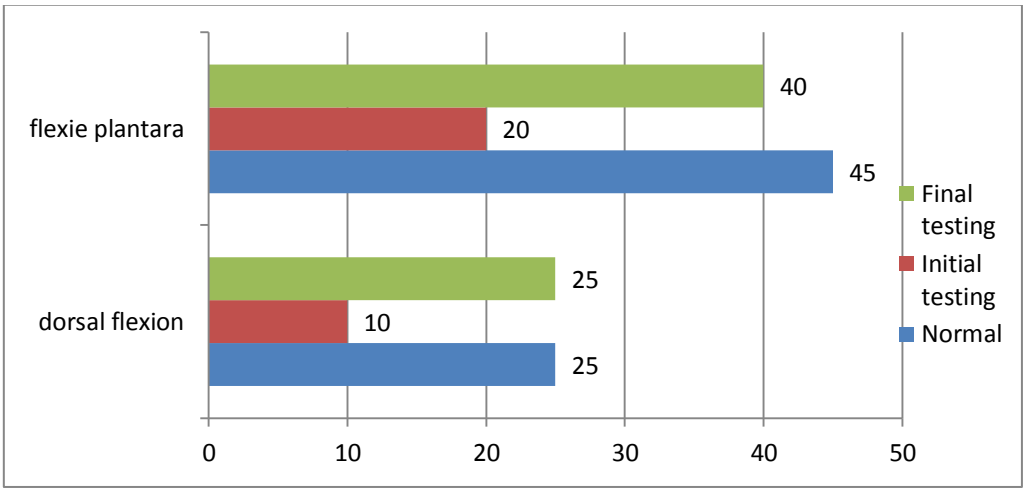

Figure.4. The value chart of the affected leg

Table 8.Comparing the average duration of returning to practice, competition and obtained individual duration

The trauma's name	Its forms and characteristics	The average duration of the trauma	When can the subject return to practice Competition	Duration in days. Obtained individual duration
Crick of the I degree	Pain with the late appearance of the edema; Relative functional impotence	Average duration of the disease 7 days	15 days practice 15-30 days competition	16 days practice 23 days competition

The recovery program included specific means as in massages and physical exercises meant to reach the following objectives: regaining the articular stability and mobility; invigorating the muscularity; correcting the serious crick traumas (different types of flat feet). From the personal observations we have managed to reach several conclusions:

- Ankle cricks are frequent and they are a result of articular and muscular traumas that can produce disorders of coordination and motility.
- The recovery must be done both in the recuperation centers and home.
- By applying certain individualized programs, the followed parameters have evolved favorably, bearing in mind the existence of all articular modification that might have delayed or even pin down the success of the recovery treatment.
- In recuperating ankle cricks, kinetotherapy in its different forms remains the main means of recuperation.
- The final functional gain in ankle cricks was 93%.
- The association of physiotherapeutic means with adequate physical recovery exercises has allowed the total recuperation and the return to sporting activities.

1. Conclusions

The entire research in which the post traumatic recovery programs, articular evaluation, prophylactic measures have been included, have become the core element of this research the results obtained in the end have confirmed that through cooperation between the sporting specialist and the kinetotherapist, one can shorten the athlete's recovery period. The results obtained within this paper give us the right to assert that the hypothesis has been confirmed.

Kinetotherapy has proven to be very good for athletes, the latter being receptive to this means of treatment and to the sporting specialist/kinetotherapist cooperation. In any case it has proven to be convincing as there have been fast accumulated advantages and rapid progress.

The recovery program comprised immediate methods and means, associated with the permanent education of avoiding misunderstood gestures and with the regular continuation of the recuperation program.

References

1. *ARSENI C., STANCIU M.,(1970).Discopatiile vertebrale lombare, Ed. Medicală, Bucureşti, pp.56-58.*
2. *BACIU C., (1981) Anatomia funcţională şi biomecanica aparatului locomotor, Editura Sport- Turism, Bucureşti, pp.103-106.*
3. *BACIU,C.(1981) Patologia şi semiologia aparatului locomotor. Editura Sport-Turism, Bucureşti, 89-92..*
4. *BRATU I., .(1977) Gimnastica pentru prevenirea şi corectarea deficienţelor fizice,Ed. CNEFS Bucureşti.*
5. *CORDUN, M., (1999) Kinetologie medicală. Editura Axa, Bucureşti.*
6. *DRĂGAN,I. (1994) Medicina sportivă aplicată .Ed.Editis , Bucureşti.*
7. *DUMITRU,GHE.(1994) Suferinţele musculare ale sportivilor.Editura Mondograf, Constanţa.*
8. *KISS, I.(1999) Fiziokinetoterapia şi recuperarea medicală, Ed. Medicală, Bucuresti.*
9. *SBENGHE,T. .(1981) Recuperarea medicală a sechelelor posttraumatice ale membrelor. Editura Medicală, Bucureşti.*

SWIMMING INITIATION THROUGH GAMED OF MOVEMENT

ENOIU RAZVAN SANDU
Faculty of Physical Education and Mountainous Sports, "Transylvania" University, Brasov
razvan.enoiu@unitbv.ro

Summary: *the research was based on using games within the swimming initiation process in preschool pupils; thus, one has accomplished more efficiently the accommodation with the water and the development of the motile ability in the water. The research comprised 2 groups: control and experiment, each of 12 children and has been done during the months of March-June 2016. The results of the research regarding motile abilities have been statistically significant in favor of the experiment group for the following tests, for $\alpha=0.05$. The most important progress between the two groups has been done in the following aspects: the number of rings taken from the bottom of the pool 2750, the distance done through sliding on the chest 1195 m, the distance done through sliding on the back 1500 m, the height from where the jump was done 74583 cm, the number of respiratory cycles done 3583. The results confirm the hypothesis highlighting the fact that the dynamic games contribute significantly to the initiation process of swimming in preschool pupils.*
Key words: *games of movement, initiation, preschool children, swimming*

Introduction

The specific of swimming training, determined mostly by doing an organized activity in a totally unusual environment, water, as well the characteristics that the physical and psychological development can imply, all impose quite a great attention on the way in which the teacher, coach or instructor selects the exercises, leads and conducts a swimming lesson.

Swimming requires a good physical condition, a correct technique and certain moral and willed characteristics such as: courage, perseverance, etc., all being done by respecting the basic physical rules adapted to the environment (Badau A. et all, 2016, p.14).

In conformity with the principle of active and conscious participation, the initiation presumes the existence of a certain conscious attitude of the children towards the instruction process, overcoming the fear of water, which represents a limitative element in learning to swim.