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MEASURES TO PREVENT INJURIES IN THE PERFORMANCE RUGBY

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ABSTRACT. The paper contains information about accident prevention in rugby, and describe these methods so as to be useful for those who want to combat injuries. Injuries are described in order to give information about how these injuries manifest according to their severity and frequency. This paper contains information regarding the common injuries in the rugby game, and methods of preventing injuries in this contact game. Injuries are presented in order of their severity and frequency and the prevention methods are presented in the order that are used as planned and their way of use.

Keywords: *injury, prevention methods, performance sport, rugby, fractures, sprains, strains, dislocation.*

REZUMAT. ***Măsuri de prevenire a accidentărilor în rugby-ul de performanță.*** Lucrarea conţine informaţii despre prevenirea accidentelor în jocul de rugby şi descrie aceste metode astfel încât să fie folositoare pentru cei ce doresc să combată accidentările. Accidentările sunt descrise pentru a putea oferii informaţii despre cum se manifestă accidentările în funcţie de gravitatea şi frecvenţa lor. Această lucrare conţine informaţii privind accidentările frecvente din jocul de rugby precum şi metode de prevenire a accidentărilor din acest joc de contact. Accidentările sunt prezentate în ordinea frecvenţei şi gravităţii lor, iar metodele de prevenire sunt prezentate în ordinea în care se folosesc conform planificărilor şi modului de folosire.

Cuvinte cheie: *accidentări, metode de prevenire, sport de performanță, rugby, fracturi, entorse, întinderi, luxații.*

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Introduction

Rugby is a team sport, of combat, of total commitment, being allowed the direct contact with the opponent, with rich motor content, part of those mixed sport games categories, which are played with both hand and foot.

An essential feature of the current rugby game is the total physical commitment, the games bear a strong imprint of the contact battle, held on individual and collective confrontation, between attack and defense, physical training being essential. It is carried a bluntly physical fight until the natural resource depletion of the opponents, which implicitly leads to less serious or serious accidents.

Contrary to expectations, rugby is situated at the number of cases of injury behind football and handball, according to a ranking compiled by specialists.

Table 1. Ranking injury in sport

SPORT	Number of cases	15-24years %
Football	420,581	39,5
Soccer	229,088	37,8
Volleyball	150,845	36,9
Rugby	130,567	36,8
Ice Hockey	116,871	20,4
Gymnastics	36,001	17,6
Judo	23,065	17,2
Box	19,675	16,6
Wrestling	13,633	13,4

(Sourse: National Safety Council, 2014 - Injury facts, edition. Itasca, IL)

The most common accidents and injuries in the training and competitions of Rugby are: sprains, dislocations, meniscal injuries, bruises, wounds, bleedings, tearing of muscle fibers, fractures, cerebral concussions.

Sprains are articular injuries that occur through forced movements, which are unexpected, surpassing limited joint mobility, or directed toward abnormal movement direction. It is an exaggerated stretch of the ligaments, sometimes with the rupture of these. These injuries are caused by tough contacts with the opponent during direct battles with the opponent, because of falling, fighting in the scrum and spontaneous, violent plywood.

The most common sprains are: ankle sprains, knee sprains, joints of spine sprains, finger sprains, wrist sprains, sprains of the shoulder, elbow sprains.

Sprains are dislocations of the extremities of the joints under the influence of mechanical forces, which by the displacement of the bone, stretch or tear of the contention tissues of the joint.

In rugby game the most frequent dislocations are at the level of: spine, leg (femoral head, ankle joint, patellar luxation, the knee joint), upper limb sprains (clavicle, humerus, elbow, hand and fingers).

Meniscal injuries of the knee

The meniscuses are fibro-cartilaginous formations, of semilunar shape, located in pairs inside the knee joint as a wedge between the tibia plateau and femoral condyles. These are connected by strong fibrous connections to bones, joint capsule and ligaments. They are pretty common in rugby, because of knee twist in direct battles with the opponent during the game. The main lesions of the meniscus are:

- loosening, breakage, the wrench of the links from joint elements;
- the sprains of meniscus are serious injuries with the locking of the knee, the periarticular muscles enter into contracture, the joint swells and it produces a sustainable slight hidrosteoarthritis.

Bruises, wounds, contusions and bleeding may occur in the rugby game, following harsh contact during the game, because of the field, because incorrect behavior of athletes (students), unjustified roughness and brutality, breach of discipline, and because of their possible overestimation, due to an insufficient educational work with them.

Contusions are lesions of the soft tissues of the body, caused by violent blows or kicks, which fail to produce a discontinuity of the tegument (skin, mucous) common in the rugby game.

The most common fractures in Rugby are at the level of the clavicle, forearm, shoulder blade, arm fractures, ulna or both, hip fractures, femur fractures, leg fractures, broken ribs, spine fractures, fractures of the tarsus.

Spine fractures occur mainly at the level of cervical spine due to an incorrect binding at the level of forefront in bulk. The rule of the game has changed in this aspect, introducing three times and decreasing the distance binding contact. The fractures of the spine are also common at beginners and properly unprepared players for these posts.

In these cases the victim is immobilized on a stretcher using the collar, and handled by doctors.

Tears of muscle fibers, muscle contractures, muscle cramps, tendon injuries are also accidents in the game of rugby injuries after hard physical contacts and great effort of the players, as well as an insufficient general and special physical training depending on the periodization of the training.

Concussions are very serious injuries that require specialized interventions. Returning to play in the rugby game being certified by neurologist specialized doctor and sports physician specialist.

Measures to prevent accidents through specific exercises for flexibility and applies an appropriate and comprehensive stretching program to reduce the risk of injuries. It is believed that poor flexibility can contribute to the appearance of lesions, but was not yet defined an optimum flexibility in the rugby game. Any lack of flexibility should be pursued as well the asymmetries, since they can increase the risk of musculoskeletal injuries and relapses.

Strength training is vital in the game of rugby being an essential quality in this protector purpose: a stronger muscle is able to absorb weight and tension force before succumbing muscle or musculo-tendinous junctions. Any shortage of muscle force, asymmetry or imbalance can cause musculoskeletal injuries such as pain and lesions of the patelo-femoral, subsequent to decline fibers of the oblique vastus medialis and pain and dysfunction of the shoulder in the case of decreasing of the force the head stabilizers.

As in other sports as well in rugby are important protective effects of aerobic exercise on cardiovascular functions, as their value for improving maximal oxygen consumption.

Other factors that prevent accidents in rugby are the analyses of kinetic chain function, proprioception, and high level sport-specific skills, hygiene and sports nutrition.

Also it is very important to follow the planning and periodization of the training.

The planning process is a way to proceed methodically, scientifically and is used to help athletes to reach high levels of training and performance. Is the most important instrument available for the rugby coach for conducting a well-organized training program on the annual calendar period, pre-competitive period (training) competitive period, transition period.

A planned and organized training program eliminates the hazard and the approach with lacks of objectives.

The intensity of the exercise will gradually decrease and finally will be made mobility movements (stretching). Also, these exercises will cause that the increased heart rate during the exercise to gradually return to normal. Returning is a very important process that should last as long as the warming: at least 15 minutes.

Important factors in accident prevention in training and competitions in the rugby game, rebuilding and recovery after effort in the game due to a special request of the effort, the heating and stretching are important factors in preventing

accidents, and also the importance of compliance of the planning and periodization of the training in order to prevent considering the program drawn up by RRF, both internally and internationally and of the team goals.

Another important factor in preventing accidents in rugby are heating and stretching. Important in rugby is the overall warming that addresses to the major muscle groups, in which the functional possibilities of the body should be brought to a higher level and the specific heat as well, which properly perform specific muscle groups at the levels of the departments namely: forwards the backs.

Stretching is performed after a preliminary heating of the entire musculature (through aerobic exercises or jogging). This gradually increases muscle tone, lengthens and strengthens muscle fibers and peri-articular tissues (tendons).

Stretching exercises performed after a proper method have more effect on the body than simply improving flexibility. These increases physical and mental relaxation ability, reduce the risk of injury to joints, muscles and tendons, reduce tension and muscle pain after exercise, improves mobility by stimulating the production of synovial fluid (joints) and the elements that enter in the composition of connective tissue;

Restoration involves not only rest (active, passive, the variant of the rest periods between exercises between workouts, between competitions) but also the variation of the effort in the diurnal, weekly, monthly, yearly, cycle.

Scientific support of the role of specific exercises in preventing specific injuries is still insufficient. However, recovery in the preventive medicine has found enthusiastic application in the American sports medicine practiced by doctors (specialists in physical medicine and rehabilitation) profiled by specialization.

Also of great importance in preventing accidents in rugby is proper nutrition and hygiene of the equipment and of the bases of activity of their work.

In the rugby activity, rational nutrition is one of the factors contributing to performance. Its failure often compromise the results of the game.

Related to the hygiene of the rugby's equipment, it should contain binding, boots, leggings, shorts, shirt, and optional equipment according to previous injuries and relapses may include: helmet made of textile and sponge, shoulders and chest shield, made of textile and sponge, metal free knee protectors, ankle protectors, armbands for the protecting of ears, silicone made dentures.

Conclusions

Curious rugby lags behind football, soccer, volleyball, due permissive regulation and incentive. Rugby is spectacular and effective, the contacts are tough but everything is within regulation.

Most frequently accidents and injuries in rugby are: ankle sprains, knee sprains, sprains spinal joints, sprains finger, fist sprains, shoulder sprains, elbow sprains, they are due to contacts tough opponent, fighting in scrums and spontaneous violent edges and plywood.

Fractures of the clavicle are as frequently like, forearm, shoulder, leg fractures, and fractures of the cervical spine are rarely occurring during incorrect binding in scrums at the line I.

As accident prevention measures need special physical training adequate force development concomitant with the flexibility specific muscle groups.

Other factors that prevent accidents in rugby are: compliance process planning and periodization of training, stretching exercises use both the end and the end of training warming.

Recovery and to make asset recovery, proper intervals of rest between exercises and competitions exercise program, a healthy diet and proper medication.

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