



---

## MORBIDITY TRAUMATOLOGY IN SPORTS PERFORMANCE

Teodora DOMINTEANU<sup>1</sup>

---

### Abstract

*Sports activities competition held in conditions of employment overall, in the desire to achieve the best performance, situated sometimes to limit individual possibilities or obtained through a collective effort of maximum stress, can generate due to several causes, a wide range of injury and sometimes even death.*

**Keywords:** *trauma, morbidity, sports performance*

**JEL classification:** *I12, I120*

---

### Introduction

Competitive sports bears alike the highest virtues, but also the most troublesome excesses. Framed in a society in flux, concerned about its future, the object of all kinds of stakes, sport has become undeniable vector of promotion and social athlete of the country they represent.

Consequently, competition generates modern individual stress levels, totally unknown some time ago. The champion was remarkably adapted to the new conditions imposed by the sports practice.

### Problematic

Pursuing perfection, on the way that leads to success, the champion undergoes a long and difficult training, sometimes very hard, often exhausting, both physically and mentally. He dedicates performance to obtain high ranking in all seriousness, competence and patience but the official competition schedules overloaded abnormally reduced time between recovery. Due to the growing importance of competitions, the body no longer manages to compensate for the inevitable fatigue caused by exercise. Consequently, the champion quickly loses its ability to surpass himself.

According to coaches, olympic performance is not linked exclusively training techniques, being at the same time, a matter of organizing recovery techniques.

Severity of injuries that occur during the practice of different sports is determined not so injury resulting, and especially the fact that traumatized athletes are forced to give up competitive activity for a long time.

---

<sup>1</sup> Associate Professor Ph.D., The Bucharest University of Economic Studies, Department of Physical Education and Sport, E-mail: tdominteanu77@gmail.com



Sometimes, though trauma itself has no gravity in terms of medical consequences of late (sequels), forcing the permanent abandonment of sports activity, which causes unpleasant consequences, such as: inferiority complex, a serious handicap as social person and for the club to which he belongs, with an important impact on national sports representation.

The issue of recovery and health maintenance attention athlete can not be solved entirely by specialists and technicians in the field. This action is the broad participation and collaboration of all responsible factors involved in the phenomenon of sports movement and above all, athletes who are directly interested in maintaining or recovering after injury in the best conditions.

Sports medicine has become a specialized content, means and ends well defined, becoming a leading figure in preventive medicine, medicine of the future.

Traumatology pathology issues still dominate the various branches of sport. I do not mean trauma itself, which in addition to a recovery of a certain quality, poses no particular problem with the population unsporting, but the pathology specific sports activity, pathology professional looking overload, which gradually reduce exercise capacity in reach this level and especially to shorten the longevity of sports, and sometimes be the onset of degenerative pathologies.

In other words, sports medicine can interfere in:

- medico-biological selection for sport;
- control medical specialty sporting initially and periodically;
- guides the medical training process;
- supporting biological effort, speeding up recovery after exercise;
- recovery from injury and illness caused by sport;
- developing nutritional differentiated by sport and sports events;
- general education in sports.

### **Causes of injuries in professional sports**

Although the appearance and location of the injuries are varied, depending on the branch of sport practiced, the causes are more limited and conditional fundamentals that are part of any sport, regardless of its specificity.

In order of importance, these factors are related to the athlete, his teammates or opponents, competition and state organization that athlete, his teammates or opponents, competition organization and state of the surface on which runs the competition, the coach's competence and quality arbitration, weather conditions.

1. *Physical and mental health of the athlete*, and the low level of its technical training, generates most accidents. Thus, tiredness and lack of prior warming causes more trauma to the musculoskeletal tendon (clacaj, muscle hernias) and ligaments (sprains). They can meet both intensive training and during competitions, especially towards the end of their time, attention and concentration begin to fall.

Old trauma not fully recovered, can cause relapses, as is the case with shoulder dislocations, sprains of the ankle and knee joints reactions.

Attempts overtaking by making maximum efforts that go beyond physical



possibilities of the moment, the athlete can have unpleasant or serious injury. In this regard, statistics show that accidents account for 45% beginners, advanced 36% and only 19% to athletes consecrated.

Finally, executions due to poor technical training periods carried out improperly or incompletely, causing many and varied accidents during competitions. Among poor technical executions include: cladding in rugby or american football; jumping for the ball and then landing flawed in basketball; stripping the ball in football; landing in gymnastics; outlet incorrect in wrestlings; rejection the ball back in volleyball; technical execution or incorrect speed downhill skiing; dodge in boxing.

2. *Lack of coordination and collaboration of teammates in the game*, especially hardness struggle, overcoming the limits of sportsmanship, may be injured by violence (more or less intentional), incorrect technical executions, before an illegal attack player, etc.

3. *Status faulty sports equipment and materials*: the bar too rigid or fixed samples high jump, pole inelastic or breakable (athletics), parallel elastic, trampoline too hard mattress wide enough and bare ground (gymnastics), mattress filled or surface protection inhomogeneous or perfect unstretched (wrestling), that test skis unsuitable, poorly polished or unreliable connections (skiing), etc.

4. *Organisation of the competition flawed and inadequate condition of the land*, are also contributing factors to accidents sports.

Among the shortcomings organizational mention: bumps runways, size irregular spaces competitively color too narrow playing field too soft or frozen, with potholes and stones, paved with cement or parquet too polished, rough or slippery slopes profile inappropriate or ice covered with scabs, trampoline jumping incorrectly executed or calculated.

5. *Lack of competence of the coach* can have serious consequences. Thus, order the athletes to compete in several athletic events in too short time or in the same competition, can foster serious injuries, such as muscle tears, sprains and even fractures. Failure to comply with training and sporting indulgence of a personal life, can result in erroneous executions and maintenance of unprincipled rivalry between players leads to intentional blow, with unpredictable consequences.

6. *Arbitration exercised improper* or unskilled for the level of competition, those incites the athletes who desire to achieve superior results at all costs, resorting to strikes intentional or studs, misconduct and illegal executions or poor technical.

7. *Microclimates and adverse weather conditions* can influence the quality of sports tournaments and injury occurrence that happens in football, skiing and all sports, especially outdoor activities.

Of all accidents recorded at specialist clinics, the sports trauma account for about 20%.

The constituent of the musculo-skeletal structures are becoming more subject



to increasing forces, sometimes leading to adaptive changes, other changes that no longer constitute a normal structure, leading to the installation condition. Due to the ever increasing high performance athletes, and thus due to the preparation of increasingly intensive it can be seen that a wide variety and large changes also acquires characters of affection.

To achieve an overview on the correlation between disease orthopedic-trauma generated by sports, the frequency of illnesses linked by sport in question, the specifics of each disease and sport that generated them, these issues are extremely necessary for proper diagnosis and prescription of appropriate treatments.

Direct trauma disorders are the most common sports traumatology, without taking into account a far greater minor bruises that can not be counted disorders.

Their symptoms is most often in swelling, bruising and, of course, the pain, as a subjective problem, more or less intense. They can accuse also an embarrassment or even a functional impotence of the segment or region; therefore, this condition benign and simple activity can out of the activity for a shorter or longer period of time.

Trauma can sometimes complicate local inflammatory phenomena, causing cellulite processes more or less extensive. They also can cause bruising to perform well or may become infected, causing temporary paralysis breaks even if the region is nervous about formation.

Direct trauma treatment consists of immediate local refrigeration, and further, cryotherapy (ice applications on the affected area) with antiphlogistic properties. This treatment can be maintained until the resorption of edema, hematoma, a decrease pain sensitivity threshold lowering congestion and local.

Subsequently, if its necessary, can help the physiotherapy means as: short waves or cold environments, lowering the threshold sensitivity, affecting resorption and facilitate healing. These can associate several sessions of roentgen-inflammatory therapy. Meanwhile, the athlete goes on general physical preparation, and the special, after assessment, an individualized program to total healing.

Classifying injuries after their shape and appearance, it is found that sprains account for about 23% of all cases treated outpatient, contusions 15%, arthritis posttraumatic 12% muscles trauma 10%, lesions menisci of the knee joint 8%, sequelae of posttraumatic painful or neuromuscular deficit 6%, 4% fractures and dislocations 2%.

The statistics consulted emerges that sports accidents differ in relation to the specific sports activity carried out, is more common in certain sports. Thus, football is ranked first, accounting for about 30% of all injuries, followed in order by athletics 13%, gymnastic 11%, rugby 10%, volleyball 8%, skiing, basketball and wrestling 5%, handball and boxing 3%.

In other sports, such as canoeing, fencing, accidents do not exceed 2%, and in other sports, sporting accident frequency is negligible, being less than 1%.



Therefore, we can say that the presentation and interpretation of the most common injuries, the first places in accident statistics are conclusive and the causes that determined them.

*Football* accidents addresses the lower and upper limbs, face and head in general. The most common accidents occur in various segments of the lower limbs and especially the knees. Sports injuries are sprains specific to this game, tears meniscus, calf or forearm fractures. Also, longer found oleocraniene and rotula bursitis, and even concussions or fractures of the spine due to collision between players or game rendered dangerous opponents.

*In athletics*, accidents are varied in shape and location, depending on the specific sample of this sport. Thus, when sprinters are more common sprains ankle and muscular injuries, such as ruptures of muscle fibers or ruptures aponeurotic fibers (muscle hernias). Metatarsal bones are prone to fractures and especially microtrauma muscles. Jumpers suffer from tenosynovitis triceps sural (Achilles tendon), periostitis shin and ankle sprain. Pitchers often have epitrohleite humeral and elbow sprains, and rarely dislocations of the elbow or shoulder and humeral fractures. Runners fences can injure the ankle, showing sprains, fractures of the tarsal bones and even bone fractures leg.

*In gymnastics*, accidents occur by hitting or dropping the device through a faulty landing, causing bruises, sprains and fractures of arms and legs: sprains ankle fractures of the calcaneus or metatarsal bones. Drops with hand support have as consequences of wrist sprains and fractures of the wrist or the forearm (radius in particular). The fall in fixed bar or landing wrong on this unit produce concussions and sometimes fractures of the spine, of which the most serious is cervical spine fracture with fragments displacement and severing the spinal cord.

*In rugby*, trauma can be particularly serious, requiring surgery or orthopedic conditions and treatments lengthy hospitalization. Meet sprains of ankles and knees, fractures collarbone, sprains shoulder and elbow fractures of the lower leg or forearm, and even fatalities, due to complex lesions serious with traumatic shock or internal bleeding (by rupture of the spleen, kidneys or liver).

*In volleyball*, trauma most fracvente occur mostly in the legs, finding sprained ankle fractures of the medial malleolus and rarely the upper limbs, which meet sprains and dislocations of fingers, twists of the wrist or fracture of the radius, with support by dropping his hands.

*In skiing*, musculoskeletal injuries usually interested (especially the legs), fractures form (approx. 15%), sprains, fractures or dislocations muscular (62%), bruises or wounds (25%).

*In basketball*, injuries are minor, meeting abrasions and superficial wounds (collision), sprains elbow, ankle or knee (with hemo or hydrolysis) and sometimes tears or tendon disinsertion achilean.

*In fights*, accidents locates the head, shoulder, spine, elbow and knee, consisting of sprains or dislocations glenohumeral, sprains or dislocations of the elbow, sprains knee, tearing the meniscus or dislocations of the kneecap, clacajul



muscle dorsal paravertebral or dezinserția top the quadriceps femoris and even rib fractures.

*In handball*, most trauma are bruises, superficial wounds, fractures and torn meniscus.

*Boxing* injury occurs with a wide variety, especially in terms of premises coup, lesion appearance and severity of trauma. The face may submit simple contusions or bruises, wounds, contusions of the skin or mucous membranes (especially in the arcades and nasal or buccal mucosa) nose broken bones, teeth or jaw. Hand and finger sprains may fist and wrist sprains and broken bones of the thumb metacarpal. Indirect trauma, by falling in the ring can cause concussions and fractures of the skull base, sometimes deadly.

### Conclusion

We must show that, once again, prevention remains the foundation of resolving this condition, meaning primarily remediation outbreaks, the principles of hygiene training and athletic lifestyle. A great error is committed when local anesthetic infiltration and recommends the continuation or resumption of premature effort, amid setbacks incomplete, both cases having a serious negative visibility for the athlete and his return, if not immediately, certainly in time.

In some special cases (total muscle tears, tendon rupture, particularly tendon achilean) required emergency surgery to repair (the same applies in some fractures).

It follows that the contribution of sports medicine can not be identified performance on the ground that the doctor sport is not intended to directly influence the performance, but only the biological condition of the athlete, especially when his specifications are strictly observed by sports and coach.

It should be noted that, and sports medicine, like other sciences has limitations (some knowledge), which added biological limits generally do as physicians have often position cautious in forecasting a performance, much more as biological factor (the one that belongs to him entirely) is only one, that condition sporty performance.

### REFERENCES

1. Dobosiu, C., Baci, Cl., Tomescu, D. (1958). *Traumatologie sportiva*, Ed. C.F.S., Bucharest;
2. Dominteanu T. (2008) *Îndrumar pentru lucrări practico-metodice, înot terapeutic*, Ed. Printech, Bucharest;
3. Dragan, I. (1982) – *Sports Medicine*, Edit. Sport Tourism, Bucharest;
4. Dragan, I. (1994) - *Applied Sports Medicine*, Edit. Editis, Bucharest;
5. Duma, E. (1997) – *Deficiencies physical development*, Edit. Argonaut, Bucharest;
6. Dumoulin, J. (1966). *Le Electrothérapie*, Librairie Maloine, Paris;
7. Popovici, A., Dragan, I. (1992) - *Physical development in sports medicine and physical*



- deficiencies*, Edit. Sport-Tourism, Bucharest;
8. Radulescu, Al., s.a (1967,1968). *Traumatismele osteoarticulare*, Ed. Academiei vol.I si vol. II, Bucharest;
  9. Robanescu, N. (1968). *Reeducarea neuromotorie*, Ed.Medicala, Bucharest.
  10. S Benghe, T. (1987) - *Kinesiology Therapeutic and prophylactic recovery*, Edit. Medical, Bucharest;
  11. \*\*\* (1972) - *Sport abroad*, Center of Scientific Research and Technical Documentation, no. 91, Bucharest;
  12. \*\*\* (1972) - *Sport abroad*, Center of Scientific Research and Technical Documentation, no. 92, Bucharest.