



## Definition and limits of the traumatology of sports\*

by Professor Giuseppe La Cava

The concept of traumatism, originally understood as the local and general effect produced by the impact of an injuring agent upon a living body, has been gradually extended to include all violent injuries which may occur in the course of everyday life, even through an *intrinsic* dynamic action, without the intervention of a specific injuring agent: a sprained knee, where the intrinsic muscular action suffices to cause the injury without the intervention of an outside injuring agent, is in fact a trauma.

Moreover, the *violent* (viz *single, intense, and sudden*) character of the traumatic agent is not an indispensable element for the definition of a trauma: a slight, but repeated mechanical action (micro-trauma) causes cumulative effects, which come within the sphere of traumatisms.

In accordance with these conceptions, we consider *traumatism* as “*the effect on organic tissues of a mechanical action, extrinsic or intrinsic; single or repeated*” (La Cava 1958).

Sports traumatology should not be extended to all traumatism that may occur during sports, but limited to the study of *typical sports injuries* which, owing to their frequency, to their pathogenic mechanism closely connected with the technique of each discipline and their clinical features, justify the

individualisation of this branch of the traumatology (La Cava, 1949); the typical nature of these injuries depends not so much on the frequency with which it occurs in a sports discipline, as on the close pathogenic connection with the mechanics of the movements in the same.

The aim of this analytical study is not merely theoretical if we want to prevent these injuries, improving the technique or equipment in the different sports disciplines.

As a matter of fact, the morphofunctional study of the gloved fist and of the pathogenic mechanism of fractures in the boxer's hand have given information useful for a better boxing technique.

The same applies to the use of sports equipment: the greater frequency with which typical leg fractures occur in skiers is obviously connected with the increasing use of shoes in which the foot is firmly fixed, thus making it subject in case of falling to the same movements of the ski: the same may be said for the increased frequency of distortions of the knee in footballers since the adoption of studs, which give the foot a better grip on grassy ground and so on.

It follows that in studying such injuries, we ought to consider not only the clinical features, but above all the pathogenetic mechanism in connection with the technique of each sports discipline; hence the necessity for detailed

\* The Journal of Sports Medicine and Physical Fitness, No 4/73, official journal of the Fédération Internationale de Médecine Sportive.

knowledge of the biomechanics of each sport; otherwise we would never be able to understand why an injury occurs, and, consequently, there would be no possibility of preventing it<sup>1</sup>.

Sports traumatology so conceived, is a subject still in full development, but its slow evolution is undoubtedly due to the lack of special centres for the study and treatment of injured athletes, who are therefore lost in the mass of common cases. The setting up of special centres for the treatment of the athlete will certainly favour the identification of typical sports injuries and give an efficient guide to their prevention.

*GLC*

<sup>1</sup> The General Assembly of F.I.M.S., at its meeting of Thursday 7th February in Melbourne, during the XX World Congress of Sports Medicine, has unanimously approved the following resolution: "The F.I.M.S. stresses the importance of the study of biomechanics as the foundation upon which may be developed not only better physical performance but also the avoidance of injuries.

The International Federation of Sports Medicine therefore seeks to encourage the study and the teaching of biomechanics in all aspects of sports medicine".

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### **Olympism in Zaire**

Every two years the Zaire NOC organises the Zaire Games, a great example of sports propaganda. The NOC's Secretary General, Mr. Kaundu Kabangabanga, has sent us a valuable report on the third edition of these Games, which will appear in our next number.