



Sport and puberty

by Professor Giuseppe La Cava

President of the "Fédération Internationale de Médecine Sportive", Professor Giuseppe La Cava contributes regularly to the "Olympic Review". An eminent orthopaedic surgeon, he is professor of sports medicine at the National Physical Education institute in Rome and a member of the IOC Medical Commission. He has published over a hundred works on sports medicine, a book "Medicina Sportiva Pratica" (see "Olympic Review" No. 76-77), and is editor of the "Journal of Sports Medicine". This article aims to explain the resolution recently adopted by the FIMS in Lausanne, which can be consulted on page 224 of this issue.

In the last few years, the average age of competitors in sport's events, national and international, has been decreasing quite fast: everyday sport's news announce victories and records broken by very young people, whose physique is yet in full development. While it is true that body structure at that age is particularly favourable to the performance in some sports, as for example, swimming, it is also true that the extreme and prolonged efforts required in the preparation to top competition fall on a cardio-circulatory apparatus which, being in its developing phase, is very sensible to that stress.

PLAS (personal communication) has, during the last ten years, observed quite frequently the appearance of cardiac troubles in adolescents undergoing *interval training*, troubles which were not observed by him in the past. ANDREW and collaborators (Journal of applied physiology 2-1972), in a wide research among very young people undergoing intense training, found that they lacked the typical cardiac hypertrophy, which is the mark of adaptation to effort in adult athletes.

In fact, puberty, by itself, is for the organism a stress which may cause troubles; if, during this period, the individual undergoes training to its extreme limits, the stimulation which

puberty exercises spontaneously on the endocrine glands is summed with that caused by motor activity; by consequence the functional load of a fast physical development is added to that of the training: it is a vicious circle, with cumulative action, whose negative effects sometimes appear prematurely, but, more often, later on: we all know that the stars of sport do not sparkle for too long: as a matter of facts, young athletes too soon specialised in a sport discipline disappear soon from the scene.

The precocious choice of a sport's specialisation can have many motivations but is probably also connected with the evolution of current sport towards that "philosophy of success", characteristic of the modern man: a victory in sport no longer means an individual achievement, but has become the symbol of superiority of the collectivity to which the athlete belongs: the consequence is the spreading of professional sport as a means of achieving fast a high social and economic position.

The precocious choice of a sport's specialisation is therefore often made by relatives or by trainers, through a mere objective criterion, with a professional aim and without considering the negative aspects of it and the conse-

quences the choice can have on a physique under full development.

At this age the cartilages responsible for growth are still fertile, and they react to the mechanical action of the movement; if this latter is abnormal, or concentrated in a limited sector of the body, the consequence can be the appearance of body anomalies, such as *scoliosis*, specially in individuals having a tendency to it; neither can we disregard the microtraumatic effect of repeated, intense movement on the articular cartilage.

Before and during puberty only an athletic basic preparation, carried out gradually and progressively, is, from all points of view, the best method for obtaining, later on, the maximum results in any sport discipline.

According to these principles, the Executive Committee of FIMS, at its meeting on 20th October 1973 in Lausanne, "observing that the age of participants in high performance competition (particularly in some sports) is becoming progressively lower, unanimously" has called "the attention of all sport organisations to the potential dangers of sustained extreme efforts, the damaging effects of which have been noted" in "young people who are not sufficiently mature to sustain them".

G.L.C.
