

THE USE OF DRUGS IN COMPETITIVE SPORT

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The problem of how best to help an athlete to achieve his maximum output is not a new one, considering that even in ancient times special diets and herbs were prescribed by specialists in athletic training and massage. Moreover, the ingenuous search for a magic philtre, that can transform a man into a hero, is a myth deeply ingrained in the human spirit, and it can only be dispelled by persuasion founded on scientific evidence. Thus the only solution to the problem of *doping*, which is a matter of such concern to team managers and physicians, is to explain to the athletes the damage that such a practice does to their physique through an uncontrolled expenditure of energy, and to their morale by engendering an inferiority complex.

An enormous range of drugs, substances and methods have so far been used in order to push to the utmost the physical capacity of an athlete in a particular performance, from coca leaves to vitamins, coffee, cardiotonics, symphato-mimetics, phosphoric com-

pounds, hormones, oxygen, alcoholic products, kola nuts, salt and sugar. The following instance will illustrate the artful cunning of forms of doping and the absolute lack of responsibility of those who prescribe or use them. According to the manager of a great foreign racing stadium, during the six-day bicycle race in which participants alternate turns of racing with intervals of rest, there are certain competitors who, half an hour before the end of their turn, give themselves shots of morphine; in this way they take advantage of the stimulating action of morphine in the first half hour, and of its soporific action when they lie down on their couch.

Confronted with such facts, we must obviously face the problem seriously organically examining it from two points of view, the medical and the ethical, which may indeed frequently overlap.

With regard to a first group of stimulants ergogenic substances, that is to say, food, opinion is unanimous. It is obvious in fact,

that rational utilization of foodstuffs, even, if artificially enriched (as by vitamins or dextrose), cannot be damaging to health, nor can it be considered unfair practice.

It is more difficult to draw the dividing line between the legitimate and the illegitimate use of pharmacological or chemical substances. The use of these by the athlete may have three purposes:

(1) To help after acute fatigue, a speedy return to normal condition in the case where this has been impaired following an excessive expenditure of energy due to a preceding exertion (phosphoric drugs and their derivatives, oxygen, alkalyzing substances, hormones). In this case we have a justifiable therapeutic action from the medical point of view, and one which is not to be criticized from the ethical point of view because it is performed after the exertion, not immediately before.

(2) To constitute a continuous sustaining therapy for a performing athlete, whose physical balance, however, is in part impaired; that is to say an athlete showing signs of chronic fatigue who must nevertheless continue his performance. This is the situation which is most frequent with many professional athletes. From the *medical* point of view the pharmacological therapy in such a case is not ethically justifiable, because the proper cure is the suspension of the athlete's activity; while from the point of view of sporting ethics, this practice is not subject to criticism, as it does not involve taking an unfair advantage of other competitors.

(3) To improve the performance of an athlete artificially immediately before the event. Such an effect has been looked for in different ways, but

(a) the effect of cardiotonics and analeptics (digitalin, strophanthium, camphor) is actually illusory; I can testify to one case when in the finals of an Olympic competition, an athlete, who anxiously requested a shot of camphor, was given distilled water with the same results;

(b) phosphoric substances, which enter into the metabolism of the working muscle

and from which it is perhaps illusory to expect immediate results;

(c) substances which affect neuro-muscular contraction, such as acetylcholine and eserine, whose experimental effects on animals have not been clinically confirmed;

(d) oxygen, given either immediately before the performance or during intervals;

(e) stimulants such as benzedrine, amphetamine, etc.

It is evident that the substances and methods used for purpose No. 3 are to be considered, irrespective of their therapeutic value, as illegitimate from the point of view of the ethics of sport. In fact, they tend to falsify the human result of the performance, just as it may be falsified by wind velocity or the slope of the track in a race, but with the aggravating factor that the falsification here is deliberate. Of all these substances, the most dangerous, from a medical point of view, are those belonging to the amphetamine group; these indeed only apparently increase the individual's overall output, by causing the rapid and complete consumption of energy reserves through nervous stimulation. Furthermore, while they eliminate the premonitory sensations of fatigue, they do not eliminate fatigue itself or its toxins; thus the natural signal which distinguishes fatigue, a physiological phenomenon, from exhaustion, a pathological one, fails to appear, with frequently tragic consequences.

In conclusion, having considered the moral and physical damage caused by doping, *defined as the use of energy-providing substances other than food, aiming to increase the competitive output in advance we suggest two ways of improving the situation:*

(1) by carrying out an extensive and efficient campaign among athletes and trainers to explain the ill effects of doping;

(2) by making a scientific study of the athlete's food intake, both with regard to quality and to quantity, but above all by trying to work out a method of differentiated dietetics, suited to the various forms of sport, which have extremely variegated energy needs.