

# SPORTS MEDICINE

## PHYSICAL FITNESS AND REHABILITATION

### Their importance "within" and "outside" the realm of sport

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This article is different from those normally published in this medical journal. Do not misinterpret the word sports. Sports Medicine should interest not only "sports doctors", viz. those doctors connected professionally with sports clubs to look after the physical welfare of the athletes and players, or those doctors who use their free time to relax by taking an active part themselves in some sporting activity. The fruits of sport medicine are beneficial also outside the field of sport; all non-sportsmen indistinctly, of whatever age group, can reap such fruits. National health programmes and physical rehabilitation programmes contribute in great measure towards the health, the physical fitness, the mental well-being and, therefore, the economy of a community and country.

This article purports to be an appeal to Maltese medical graduates whatever be their speciality in actual practice, and, of course, particularly to those connected professionally with the various clubs and sports associations on the island to take an active interest in *sports medicine* to shake off that lethargy and apathy to all that is not financially gainful; to emulate our counterparts of other nations

by organising ourselves into a constituted body of "sports medical officers", and thus qualifying for enrollment with the "*Federation Internationale De Medicine Sportive*" (F.I.M.S.); with the prime intent of: 1) fostering the welfare and betterment of Maltese athletes and competitors; 2) aiding scientifically the Maltese sportsmen to compete internationally with a relative measure of success; and 3) improving the prosperity — physically and, indirectly, economically — of the Maltese people as a whole through courses of physical fitness and rehabilitation.

In these last years Maltese sport has made big progress, gauged, of course, by Maltese standards. The introduction of "Physical Education" as a compulsory subject in both public and private primary and secondary schools should be regarded as a very important milestone in the annals of Maltese sport. One must not fail to mention and give full credit to the *Malta Olympic Committee*, who with the help, especially financial, of the *Olympic Solidarity Movement*, is leaving no stone unturned to propagate sport in Malta and to put it on a sound basis both technically by providing experienced coaches and scientifically through "sports medical officers." Moreover, now the shorter work

week and the longer holiday periods allow the working man and woman to give more of their time to sport. Sport is now woven into the fabric of modern life and provides a counter-weight to the often excessive comforts and indulgences of today.

Obviously sport offers enough health problems which deserve their own medical speciality. *Sports Medicine* is a relatively new branch of medicine; notwithstanding, thanks to intensive international interest and research work, this sapling has grown up and spread considerably; it is already yielding very good fruits as is evidenced by the ever-increasing breaking of records in the various disciplines of sport.

*Sports medicine* is now internationally considered a serious speciality. Regular facilities are available for post-graduate training and education. Many medical schools offer special courses in sports medicine; chairs of sports medicine exist also in universities of many countries, where research work in this field is constantly carried out. This subject, moreover, is being taught also to physical educators and coaches. The non-specialist doctor, the "amateur doctor," who carried out his work with a sports club as a hobby, to run away from his patients into the midst of an active young vigorous crowd, is now gradually being replaced by fully qualified "sports doctors."

*Sports medicine* is a branch of medicine that deals with the physiology of the human organism when subjected to stress; it teaches the adaptation and the reactions of the human machine to varying degrees of physical exercise; it indicates the pleasures and pitfalls of games and instructs what should be done to encourage the widest possible participation in sports together with the least danger of injury. The Council of Europe at the 225th meeting of the Ministers' Deputies held on the 26th October 1973 gave the following definition to sports medicine: "An application of the art and science of medicine from a preventive and therapeutic point of view to the practice of sports and physical activities in order to utilise the opportunities afforded by sport for maintaining or improving health and

to avoid possible dangers."

It is an absolutely erroneous idea to associate sports medicine only with "professional athletes" and with those taking part in high-level competitive sport. With the means at its disposal there is no doubt whatsoever that it greatly helps competitors to reach "peak performance" and to enable them to give 100% during competitions; but, on the other hand, it caters also for "Sport for All." Its benefits can be reaped by all age groups of both sexes and from all walks of life. Sports medicine welcomes one and all who wish to acquire, preserve and improve one's physical and mental health. It is consequently a great asset to improve the quality of life in general. Sports medicine, therefore, through its great contribution towards the physical fitness and rehabilitation of a large number of people must be considered one of the factors contributing to economic development.

*Sports medicine* achieves its aim through three main functions, viz:—

- 1) Preventive medical,
- 2) Therapeutic, and
- 3- Rehabilitation.

#### Preventive measures:

As in industrial medicine so also in sports medicine — and possibly more in the latter field where the hazards are by far greater; — the maxim "Prevention is better than cure" rules the roost. These preventive measures are to be directed:—

a) **to the athlete himself:** the duties of sports doctors nowadays go far beyond a simple medical examination or just a check-up of an individual to certify his fitness or otherwise for a definite discipline of sport. Competitors, even ordinary sportsmen in some countries, must subject themselves to repeated medical examinations also during and after training sessions, and prior to the actual competition itself. These examinations are then corroborated by laboratory tests and by appropriate instruments and apparatus. Heart response to submaximal loads of exercise is a valuable measure of changes in fitness. Records of the results of all these

tests in all individuals are to be properly kept. Some of the instruments most commonly used in this regard and to measure training progress are:- electrocardiographs, bicycle - ergometers, spiro - ergometers treadmills, and telemetric equipment specially useful for training control.

b) to his "tools": in many cases this implies good knowledge of Biomechanics. In skiing, for example, having automatically released skis, the use of special helmets in motorcar racing, and special types of gloves in boxing.

c) to his "work-place": controlling the hygiene and the safety precautions for all types of sport installations; and finally

d) to his "methods of work" and the conduct of sport. A sports doctor forms an integral part of a team. It is no exaggeration to state that he is becoming to an athlete and to a team as important as the coach. Doctors and coaches must become members of one and the same team. For the improvement of the standard and performance of athletes and teams under their care, the coach and the doctor must work hand-in-hand and co-operate in the application of the knowledge and techniques of sports medicine.

#### Therapeutic measures:

A sports doctor should be encouraged with the modern techniques of traumatology and internal and physical medicine. His duty is not simply to treat the injured or sick athlete, but essentially to *functionally rehabilitate* him in the *shortest possible time*.

A sports doctor should be quite versed in the art of mobilizing joints; he must keep a careful watch on the preservation of the strength of the muscles; it is incumbent on him to avoid at all costs the development of unwanted and most harmful scar tissue and adhesions.

#### Rehabilitation:

The clients of sports doctors are not only athletes and top-athletes. The

benefits of sports medicine can be availed of also outside the arena of sport to rehabilitate non-sporting citizens of all ages and walks of life. By national health and physical rehabilitation programmes sports medicine contributes in great measure to the adjustment and rehabilitation of the physically and mentally handicapped.

Dr. Gunter Erbach, State Secretary for Physical Culture and Sport of GDR, thus expressed himself:—

"In growing measure sports medicine has contributed to the fact that it has been possible to apply means and methods of physical culture to prophylaxis, treatment and recovery in circulatory diseases, to heart and circulation disorders, to the early rehabilitation of cases of cardiac infarction, diabetes, pulmonary and renal diseases, to conditions resulting from spinal poliomyelitis and paralysis, and to sport for the aged."

To emphasise still further the importance of sports medicine towards the physical welfare of citizens and, indirectly, to the economy of a country, I shall end my article by reproducing the resolution (73) 27 of the *Committee of Ministers of the Council of Europe* to its 17 member States, of which Malta form part. The *Committee of Ministers* recommends that the governments of member States:

A) encourages the practice, teaching and research in the field of sports medicine;

B) encourage or propose measures in the fields of physical, health and safety education to advertise sports and other suitable physical activities for their beneficial effects on health, and in educational measures take account of the advisability of undergoing a medical examination before engaging in such activities, especially in the case of "Sport for All" movements and veteran athletes who wish to resume competitive sport after a period of inactivity;

C) encourage the inclusion in the curricula of physical education and sports training centres of instruction in sports medicine, especially in regard to developmental and exercise physiology and first-aid treatment of sports injuries;

D) encourage the establishment of sports medical centres where the need exists and the resources are available according to the individual conditions in member States;

E) make use, in establishing such centres, of the existing means for the exchange of personnel and information between the member States of the *Council of Europe*.

According to the *Council of Europe*

sports medical centres are functional units "to provide medical supervision in all branches of sport, with the aims of providing the best possible health of all persons taking part in sports or physical activities, to make the best possible use of sport, and to promote the adoption of healthy attitudes which afford effective prevention of the diseases of modern civilisation.