THE NATURE AND CAPACITY OF AN EXERCISE BIOCHEMIST

Characteristics

An exercise biochemist is a scientist who can, in principle, be employed at a research level (i.e., generating new knowledge) or a non-research level (i.e., applying the existing scientific knowledge).

In the first case, an exercise biochemist can be employed at a research institution (university or research center), studying the effects of acute or chronic exercise on biochemical parameters such as carbohydrates, lipids, proteins, nucleic acids, metabolites of the aforementioned substances, hormones, minerals etc. He/She uses complex methods of biochemical analysis, specialized reagents and high-tech instruments such as biochemical analyzers, photometers, auxiliary devices for chemical laboratories and computers. The results of his/her studies are published in scientific journals and are presented at scientific conferences, thus offering new knowledge about the biology of humans and animals, knowledge that can be utilized in the direction of health promotion and athletic performance enhancement.

In the second case, an exercise biochemist may be employed in a sports organization or a center for the scientific monitoring of athletes, where he/she will monitor the training and performance of an athlete by conducting appropriate biochemical tests on biological samples (mainly blood), using the same instruments as those mentioned above. He/She then assesses the results of the biochemical tests and correlates them with previous test results of the athlete, taking into account the phase of training and the athlete's history. He/She notifies scientists from other disciplines (such as physicians, exercise physiologists, coaches and nutritionists-dietitians), who are responsible for the scientific support of the athlete, of the results of the biochemical tests and collaborates with them to achieve the desired improvement in the athlete's fitness and performance, while protecting the athlete's health through prevention of excessive fatigue, nutritional deficiencies and injuries.

Certification

There is no procedure for certification of the capacity of exercise biochemist in Greece (or internationally, as far as we know). Thus, at least at present, this capacity is deduced from a person's professional or research activity to the extent that this falls within the above description of responsibilities. In this direction, the Society adopts the following criteria for characterizing one as an exercise biochemist.

1. A basic degree in Physical Education and Exercise Science, Biochemistry-Biotechnology, Medicine, Biology, Chemistry, Pharmacy or related biomedical fields and
2. (a) A doctoral degree in the field of exercise biochemistry or (b) research activity in exercise biochemistry, including at least 5 articles published in journals indexed in the Science Citation Index, or (c) a managerial or related position in a recognized laboratory of exercise biochemistry for at least 10 years or (d) a combination of b and c.

The Society will award the title and certification of exercise biochemist following the examination of an application and relevant documentation, submitted by the applicant, by an expert committee and approval by the Society's Council. Certification is valid for five (5) years, and can be renewed following a new application. The Society reserves the right to modify the criteria in accordance with the progress made in sports science and relevant objective conditions.

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