

S4-1**The nutrition supplements for training support**

Tatsuya DOI

Otsuka Pharmaceutical Co., Ltd. Saga Nutraceuticals Research Institute

The suitable nutritional supply during the exercise training period is indispensable in improving performance. However, there have not been enough studies that provide sufficient evidence to establish a direct function (and quick action) of nutrient in improving performance. Therefore, it seems appropriate to state that the function of nutrition is rather indirect. Nutrition works by enhancing the effects of exercise training, and improving the safety of exercise training, leading to improve exercise performance.

According to the latest sports nutrition research, the ingestion timing of nutrient is very important to enhance training effects. Thus, the use of nutrition supplements during training periods becomes useful tool in meeting optimal timing of nutrient ingestion.

In this presentation, I will be introducing the use of isotonic drink to achieve training safely, and the use of protein supplement to improve training effects on muscle.

In the use of nutrition supplements, the following items should be given some attention. (1) A nutrition supplement is not to be used as a meal substitute. (2) Any nutrition supplement should be used based on the regular diets of individuals. (3) Suitable nutritional supply should position as a part of training.

key words: nutrition supplement, training support, ingestion timing

S4-2**Reconsideration about Vitamins**

Masaru INAGAKI

Yamanouchi Pharmaceutical Co., Ltd.

So-called "Supplement" in Japan means Dietary Supplement, which is literary supplementary food used on eating habits, and that is, unlike the medical supplies whose purpose of use are diagnosis, medical treatment, etc. of the illness, utilized for the purpose of supply of the nutrients which tends to be insufficient in a lifestyle, for health maintenance and improvement, and also for the positive purpose of disease prevention is.

There are carbohydrates, protein, fat, minerals, and vitamin in a nutrient, and once the nutrient ingested as food is decomposed by digestion, it is absorbed and distributed inside the body, and then a respectively specific required compound is synthesized in each cell, and so normal life activity is maintained.

Vitamin is defined as "a essential organic compound which is indispensable for life maintenance, and cannot be synthesized in required quantity in a self-body", and we must ingest vitamin. Especially in athletes, since energy metabolism is more active, the required quantity of the vitamins which participates in this metabolism increases. In addition, vitamins also play an important functional role as antioxidants. Let's take vitamins into reconsideration from the vantage points of bi-functional activities that are essentially in energy metabolism and as antioxidant, especially coenzyme Q10.