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Energy requirements of Paralympic athletes

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Along with the rapidly growing number of Paralympic athletes, there is an increased need for nutritional support in this population. Compared to non-disabled athletes, Paralympic athletes may differ with regard to body composition, physiological responses to exercise, and training load and habitual physical activity patterns. Therefore, Paralympic athletes have their own specific nutritional needs. So far, the energy requirements of Paralympic athletes have been based primarily on prediction equations of resting metabolism combined with estimates of exercise energy expenditure.

In a recent collaborative project between the Netherlands and Norway (ParaNut), we applied the gold standard doubly labeled method to assess energy expenditure in a large cohort of Dutch and Norwegian Paralympic athletes. The doubly labeled water method was combined with indirect calorimetry measurements at rest and during exercise. As such, this project generated comprehensive data on the total daily energy expenditure and its components in Paralympic athletes competing in various sport disciplines. This information also allowed to evaluate the nutritional intake of the Paralympic athletes in light of their energy requirements. Furthermore, based on this data, the energy availability of Paralympic athletes was assessed.

During this presentation, the latest insights regarding the energy needs and energy availability of Paralympic athletes will be shared. This information forms the basis for new dietary guidelines and nutritional strategies for Paralympic athletes. The presentation is therefore of interest to professionals working with Paralympic athletes, as well as physiology and nutrition scientists.

Topic: Physiology

Presentation: Invited

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