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Maximising performance in triathlon: Applied physiological and nutritional aspects of elite and non-elite competitions.

[Bentley DJ](#), [Cox GR](#), [Green D](#), [Laursen PB](#).

Health and Exercise Science, University of New South Wales, Australia.

Triathlon is a sport consisting of sequential swimming, cycling and running. The main diversity within the sport of triathlon resides in the varying event distances, which creates specific technical, physiological and nutritional considerations for athlete and practitioner alike. The purpose of this article is to review physiological as well as nutritional aspects of triathlon and to make recommendations on ways to enhance performance. Aside from progressive conditioning and training, areas that have shown potential to improve triathlon performance include drafting when possible during both the swim and cycle phase, wearing a wetsuit, and selecting a lower cadence (60-80rpm) in the final stages of the cycle phase. Adoption of a more even racing pace during cycling may optimise cycling performance and induce a "metabolic reserve" necessary for elevated running performance in longer distance triathlon events. In contrast, drafting in swimming and cycling may result a better tactical approach to increase overall performance in elite Olympic distance triathlons. Daily energy intake should be modified to reflect daily training demands to assist triathletes in achieving body weight and body composition targets. Carbohydrate loading strategies and within exercise carbohydrate intake should reflect the specific requirements of the triathlon event contested. Development of an individualised fluid plan based on previous fluid balance observations may assist to avoid both dehydration and hyponatremia during prolonged triathlon racing.