

# **Not all Endurance Sports require the same nutrition advice and support: RUNNING**

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The majority of studies examining the impact of nutrition tend to implement cycling ergometry as the mode of exercise, due to ease of measurement of power, safety and availability. Although, there are some similarities in bioenergetics between cycling and running, there are also some profound differences and contextual considerations that need to be made when giving nutrition and hydration recommendations to runners. Indeed, there are some major biomechanical, bioenergetic differences when considering a weight-dependent endurance sport such as running versus a weight-supported cyclical “power” endurance sport such as cycling. These mainly include the time under tension and the force per contraction cycle (and associated muscle damage), the more dynamic / explosive mechanics of running (and the bouncing it causes on the GI system) and the sustainable training and competition durations and training volumes. Consequently, there are various differences and approaches to sports nutrition/hydration advice that are unique to running, which the presentation will cover. This presentation will focus on various nutrition/hydration and supplement considerations specific to middle to ultra-distance running athletes [from ~800m to the ultra-marathon events (>50km)]. First, we will cover the bioenergetic and biomechanical demands of these running events, and how they link to nutrition and hydration interventions. The key nutrition and hydration concepts covered will include: middle-distance ergogenic buffers, fueling and hydration during prolonged racing (with considerations for both the marathon and ultra-marathon events) and energetic considerations around health [Relative Energy Deficiency in Sport (REDs)], and specifically bone stress injuries in runner] and performance (body composition periodization in runners).