

Nutrition for Extreme Environments: the hot, the cold, the high and the low.

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More and more often modern-day athletes face extreme environments in training and/or racing due to the ever-rising global temperatures and pollution. On average, these challenges of heat and pollution were not nearly as much of a factor 20 to 30 years ago, but have significantly impacted global Games such as Tokyo 2020 Olympics/Paralympics, as well as the projected Los Angeles 2028 Games. Many endurance athletes also purposely implement altitude and heat stress into their training programs to enhance training adaptations in preparation for competitions. Extreme environments can test an athlete's physiological and psychological systems maximally. Consequently, they provide excellent opportunities for nutrition/hydration interventions to provide significant impact, either through enhancing adaptations during training and/or as an acute intervention to enhance performance during a competition. This presentation will highlight the physiological demands, and associated evidence-based nutrition/hydration interventions in various extreme environments, with particular emphasis on altitude, heat and the emerging topic of pollution. Where possible, actual real-world data and experiences will be presented alongside the associated published literature.