Go High or Hot – perspectives on preparing for Tour de France via pre-altitude or heat-training camps

Lars Nybo[1] and Carsten Lundby[2]

[1] Department of Nutrition, Exercise and Sport, University of Copenhagen, Denmark
[2] Inland Norway University of Applied Sciences, Lillehammer, Norway

High altitude training camp as preparation for major cycling events have a long history in exercise physiology and is still common practice in elite cycling. However, prolonged heat acclimatization training may offer an attractive alternative to induce hematological adaptations (augmented hemoglobin mass; Hb-mass). The Hb-mass effects and derived impact on oxygen delivery is indeed of relevance for aerobic exercise performance and a key factor to consider, but the additional acclimatization effects (e.g. sudomotor adaptations for improved thermoregulatory capacity and respiratory adaptations to abate arterial desaturation during altitude exposure) are also relevant to consider in preparation for a grand tour as the ability to resist heat stress and altitude exposure may be decisive in selected stages. The present perspective will provide insight in the relevant physiological mechanisms, considerations on practical implementation as part of pre-Grand Tour preparation considering both cross-talk/conflict and time course for adaptations (and decay) to high altitude or heat-training.