HEAT TRAINING
for improved performance in temperate conditions

Reference: Saunders et al. IJSNEM 2019

1. In recent years there has been a noticeable shift in trying to use heat acclimation to provide an added benefit to performance in cool conditions.

2. The mechanisms remain unresolved, but could be linked to a variety of ergogenic responses, such as cardiovascular, thermoregulatory and cellular adaptations.

3. For example, an increase in plasma volume resulting from chronic bouts of exercise in the heat may decrease blood viscosity, which has been shown to have positive effects on endurance performance.

4. Adaptations from training in hot conditions may also allow athletes to train at any given speed with a lower heart rate and core body temperature, both factors being associated with improved exercise economy.

5. Accordingly, heat acclimation may provide a stimulus for enhancing performance in non-thermally challenging environments by improving VO2max, lactate threshold and exercise economy.

6. It has also been suggested that heat acclimation may preserve or enhance performance at altitude.

PERIODIZATION

1. A 1 to 2-week heat acclimation regimen with the controlled heart rate approach can be used as part of the training program 4-6 weeks prior to competition, providing a constant stimulus for adaptation and minimally affecting regular training.

2. This could then be supplemented with regular passive heat exposure during the weeks prior to competition, or a short (2-4 days) re-acclimation period the week before competition.

3. This is suggested because a re-acclimation regimen, when undertaken within a month of the original acclimation protocol, leads to a faster (re)induction of adaptations.

4. Whilst exercise-heat exposure during the taper may help maintain the benefits of heat acclimation, it may also interfere with the goal to reduce overall training load.

5. Passive heat exposure (e.g. sauna or hot bath) following training session in a cool climate may thus be preferred during the taper.

6. Given the risk of losing some of the exercise adaptations, maintaining some ‘easy’ exercise sessions in the heat during the taper period may help better maintain adaptations prior to competing in the heat.