SIX KEY INSIGHTS ON HYDRATION FOR ATHLETES

IMPACT ON PHYSICAL PERFORMANCE

A sweat loss equivalent to 2% of body weight leads to a noticeable decrease in physical and mental performance.

"A loss of sweat equal to 2% of body weight causes a noticeable decrease of physical and mental performance. Losses of 5% or more of body weight during physical activities may decrease the capacity for work by roughly 30%."

The effects of Hydration on Athletic Performance

SYMPTOMS OF DEHYDRATION

Severe symptoms of exertional heat stress include tachycardia, hypotension, hyperventilation, vomiting, diarrhea, seizures, and coma.

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REDUCTION IN BLOOD VOLUME

Dehydration may cause a reduction in blood volume, decreased skin blood flow, decreased sweat rate, increased core temperature, and increased rate of glycogen use.

"Dehydration may cause a reduction in blood volume, decreased skin blood flow, decreased sweat rate, decreased heat dissipation, increased core temperature and an increased rate of glycogen use."

The effects of Hydration on Athletic Performance

EFFECT ON MUSCLE GROWTH

Dehydration can increase cortisol levels, which reduces testosterone levels, an essential hormone for muscle growth.

"Athletes in a dehydrated state had an increased level of cortisol, which competes for certain enzymatic receptors in the body reducing the level of testosterone, the primary hormone required for muscle growth."

The effects of Hydration on Athletic Performance

PREVALENCE OF HYPOHYDRATION

Over 50% of athletes arrive at training in a hypohydrated state.

"Une majorité (plus de 50%) des athlètes dans les sports professionnels, universitaires et scolaires arrivent aux entraînements hypohydratés."

Fluid replacement for the physically active - Journal of Athletic Training

INCREASE IN CORE TEMPERATURE

Core temperature increases by about 0.15°C to 0.20°C for each 1% loss in body weight due to sweating during activity.

"La température centrale augmente d'environ 0,15°C à 0,20°C pour chaque perte de 1% du poids corporel due à la transpiration pendant l'activité."

Fluids and hydration in prolonged endurance performance - Pubmed