



ULTRA SPORTS SCIENCE

Acute kidney failure and muscle destruction (rhabdomyolysis)

For athletes and coaches

The kidney is a vital organ, the sudden shutdown of which can initially cause no symptoms. Muscle destruction (this is called rhabdomyolysis) during an ultra endurance test may come clog up and damage the kidney. Kidney damage is common and often not recognized, so it is important to be vigilant.

The key points:

Exercise rhabdomyolysis is a breakdown of skeletal muscles due to excessive exercise. Its main symptoms include muscle pain, weakness, swelling, presence of a molecule called myoglobin in the urine and an increase in enzyme concentrations muscle and other muscle components in the blood. There may be visible blood in the urine or it may be of a dark, brownish colour. It can cause serious damage to the kidney, although this is rare, but can cause death even in young athletes. It is absolutely necessary to think of the possibility of the presence of myoglobin and consult with a doctor.

Severe cases of rhabdomyolysis tend to occur at the start of a training program, when exercise is excessive and even more so if it is accompanied by heat stress and dehydration. A insufficient acclimatization, inadequate diet and lack of fitness can also contribute to it.

Some people may be predisposed to rhabdomyolysis, possibly due to a disorder latent metabolic rate, hence the importance of a medical consultation with check-ups before considering an event of ultra endurance.

Risk factors may include heat stress, dehydration, latent myopathy, ingestion nonsteroidal anti-inflammatory drugs (NSAIDs) and the presence of infection. So it's all about being aware of it before any event or intensive training.

Be alert for muscle pain, weakness, swelling, color change in the urine. The rhabdomyolysis can occur in different activities that involve excessive, repetitive exercise and unusual things like arm extensions and crouching jumps. But also during so-called activities recreational like a marathon, a long hike or even a grueling session at the start of a new training program.

Be careful in hot weather, take the time to acclimatize and monitor its hydration.

All physical training programs should begin with light to moderate intensity exercise the intensity of which should gradually increase thereafter.

If the destruction of muscle cells can go unnoticed, acute renal failure may appear in the most serious cases and which would be linked to this myoglobin which will have different effects on the kidney to prevent it from function (mechanical obstruction, direct lesional effect, vasoconstriction which reduces the filtration pressure of the kidney)

Warning ! Taking nonsteroidal anti-inflammatory drugs like ibuprofen (Nurofen®, Advil®, Spedifen® ..) or ketoprofen, diclofenac are risk factors for the development of kidney injury and should be avoided!.

Beware of dehydration especially in the event of significant heat during training or the event, but also in case of diarrhea.

HIGHLY RECOMMENDED FOR ALL:

Having first aid training is an essential recommendation

Know how to prevent emergency services

L'AUTO-MÉDICATION



Je ne pratique pas l'auto-médication, même de produits en vente libre.

L'HYDRATATION



Je bois à la sensation de soif et mange salé au goût pour éviter l'hyperhydratation et la déshydratation.