



# ULTRA SPORTS SCIENCE

## Hydration in ultra endurance

It is essential to understand the link between water and salt present in our organism and unfortunately messages to the general public are often a source of error and / or misinterpretations and applications.

### For athletes and coaches

Hydration is a gentle balance between water and body salt. If you do not respect this balance and particularly during ultra-endurance races this can lead to exercise associated hyponatremia, a potentially deadly illness.

Education on proper hydration is therefore important to prevent exercise associated hyponatremia.

In the event of hyponatremia, specific care and treatment is urgently required.

Exercise associated hyponatremia is defined as a blood sodium level of less than 135 mmol/L. The main reason is due to overconsumption of fluid and inappropriate secretion of a hormone called anti diuretic hormone, which retains more fluids in the body, making the fluid retention worse. It can occur during physical activity or within 24 hours.

Mild symptoms are often non-specific: nausea, lightheadedness but more often headache (severe headache), vomiting and / or disturbance of consciousness which are linked to a cerebral edema starting from where this notion of death by swelling of the brain.

The weather can also be important as well as the altitude, as it decreases the feeling of thirst. However, the main reason is overdrinking and overconsumption of fluids! The correct drinking advice is drinking according to thirst!

Please note: All "sports" drinks are hypotonic with respect to blood plasma (the concentration of sodium of these drinks being on average 10-38 mmol / L) and this means, they cannot protect against hyponatremia, especially if they are overconsumed.

Warning / no self-medication especially not taking NSAIDs: ibuprofen, ketoprofen, diclofenac, naproxen, piroxicam... they are involved as a risk factor in the development of hyponatremia because they cause urinary retention in the kidneys which would further dilute the sodium.

### **HIGHLY RECOMMENDED FOR ALL:**

Having first aid training is an essential recommendation

Know how to prevent emergency services

Advice about drinking to thirst!

## L'HYDRATATION



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