



# **Innovative solutions for Health**

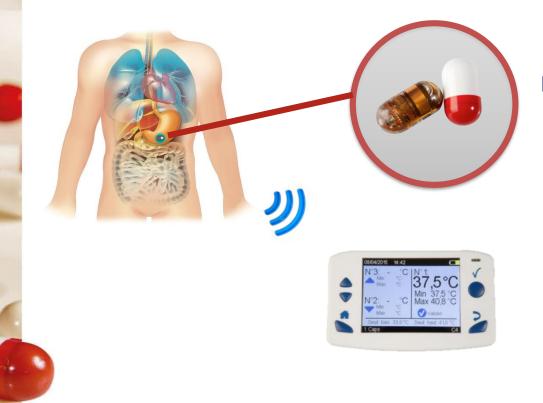




e-Celsius<sup>®</sup> Performance is an ingestible capsule that continuously monitors and records core body temperature.

The pill **wirelessly** transmits the gastro-intestinal temperature to a monitor e-Viewer<sup>®</sup> Performance.





### Key benefits:

- Easy to use
- Improve comfort and avoid stress
- No need to wear continuously the monitor thank to the embedded memory in the capsule
- Only solution for continuous core temperature monitoring in real condition
- One monitor may managed up to 3 capsules



### Non medical use cases





#### **Ergonomy:**

- Temperature control for fireman, rescue divers, ...
- Temperature monitoring for soldiers



### Sport performance:

- Training/recovery process optimisation
- Heat stroke prevention
- Jet lag control



## Clinical research with healthy people:

- Chronobiology
- Physiology
- ...



### Hyperthermia / heat stroke prevention





FDJ pro cycling team, Team Time Trial - World Road Cycling Championship, (Richmond 2015)

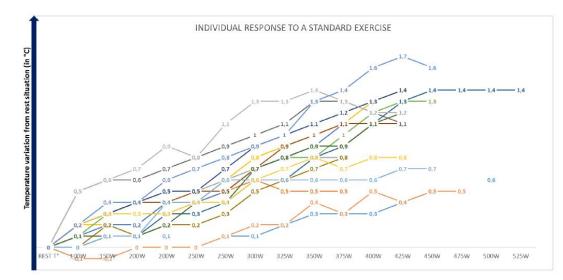
Long duration exercises performed in the heat induce rise in core temperature that could range from hyperthermia to heat stroke.

- Performance assessment/optimization
- Health protection
- Equipment assessment



### **Thermoregulation process efficiency evaluation**





2017. Pre season test event with a pro cycling team

In the context of sports performance, thermoregulatory responses are very different among individuals. This takes the form of differences in thermoregulatory triggering mechanism thresholds and physiological responses (Heart-Rate drift, ...).

- Performance optimization
- Process individualization
- Evaluation of the individual thermoregulatory capacity
- Specific/individual acclimation training program

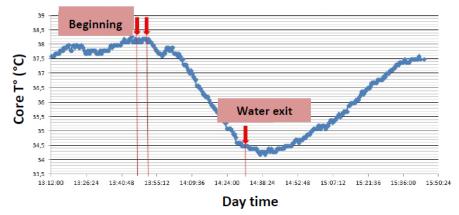




# Hypothermia prevention



#### Core temperature kinetic during swimming training in cold water (9.2°C). P.J Pourantru, Miribel, 11/10/16



The monitoring of core temperature in all sport situations, which are likely to involve hypothermic risks, allow to study individual coping skills in critical environment.

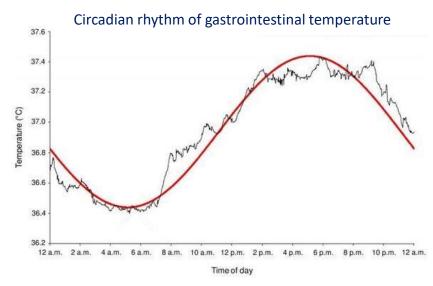
- Health protection
- Equipment assessment
- Specific/individual acclimation training program



### **Circadian rhythm identification**







Circadian synchronization is an important factor for elite athletes. The time needed to recover a jet lag an the impact of a recovery protocol on the body clock are individual dependent.

- Individual assessment
- Process individualization
- Performance optimization

