WHAT IS THE CORRELATION BETWEEN FATIGUE AND BLOOD ANTIOXIDANT LEVELS? HOW CAN MEASURING THEM HELP ENHANCE TRAINING?

**O2SCORE: OPTIMIZING TRAINING**

When we engage in a physical effort, the production of free radicals increases and, depending on our recovery rate, antioxidant production also increases to eliminate them. These changes can be used to manage recovery, combat fatigue, optimize training, manage recovery and increase performance.

How fast is an athlete recovering after physical effort? The system developed by O2Score makes it possible to measure blood antioxidant levels in a rapid and practical way, helping athletes manage their training and recovery in order to reduce the risk of injuries and to improve their performance.

During sports training, the consumption of oxygen increases and triggers a series of biological reactions. To determine whether the body has been overworked during training, EPFL’s Laboratory of Physical and Analytical Electrochemistry (LEPA) has developed electrodes and an analysis system that can measure the level of the systemic antioxidant defense system in a drop of blood. The electrodes are produced by printing carbon nanotubes, and the speed of measurement means that the system is particularly well suited to the repeated measurements required to manage training and recovery more effectively.

The system is already used by competitive athletes, and studies are under way to develop the most suitable usage protocols and to apply the approach to other related areas, including nutrition and the control of stress and anxiety.