



NUM 14 - JULY 2024

# **BIOPARHOM**

SPECIAL EDITION
OLYMPIC AND PARALYMPIC GAMES



bioparhom





#### **D-15 to the Olympic Games** D-48 to the Paralympic Games

Optimize Sports Performance with 7-Métrix!

With the 2024 Olympic Games just around the corner, we're delighted to bring you this special issue dedicated to sport.

At Bioparhom, we know that sporting excellence relies on cutting-edge tools to optimize performance. The Z-Métrix, our top-of-the-range BIA device, plays a key role in improving the physical capabilities of top-level athletes.

In this issue, find out how Z-Métrix is precise and clinically validated impedance transforming the approach to performance and bringing invaluable optimization. added value to every athlete. You can also This unique tool offers athletes and their inspiring equipped practitioners, illustrating the use composition and hydration status, allowing and benefits of Z-Métrix in their daily them to: practice.







### **Bioparhom** and **Z-Métrix**

#### PARTNERING ELITE ATHLETES TOWARDS EXCELLENCE

For several years now, Bioparhom has been supporting top athletes with the Z-Métrix, a sports meter that revolutionizes performance

testimonials from our coaches a complete analysis of their body

- Precisely monitor changes in muscle and fat mass
- Define personalized training and hydration strategies for optimal performance
- Improve the power-to-weight ratio, a key success factor in many sports disciplines
- Prevent injuries and training overload by identifying body imbalances
- athletes Motivate and retain by providing them with concrete data on their progress

Whether in the office, on the edge of an athletics track or within CREPS, the Zallows sports professionals differentiate themselves and offer their athletes personalized support excellence.

With more than 180 Z-Métrix devices on the sports market, Bioparhom is committed to optimizing the performance of French athletes and helping them achieve their most ambitious goals.

### Testimonials (1/4)

I use the Bioparhom tool alongside Heart Rate variability. These tools enable me to support, among others, an intellectually disabled Paralympic 400m champion athlete.

The feedback from Z-Métrix assessments gives me objective feedback on the evolution of muscle mass as a function of weight training cycles, enabling me to measure the benefits or adapt them.

Given his difficulty in understanding the assessments, the colored figurines used to characterize the results make it easier for him to understand the issues and adapt accordingly.

I also use the metabolic activity index and active cell mass. These 2 parameters are very useful for monitoring overall fitness levels.

Vincent Clarico, Performance Director at Fédération Française du Sport Adapté Former coach of the French 4x100m relay teams (2009-2012)

Coach to Paralympic champion Charles-Antoine Kouakou



As part of our preparations for the Olympic Games, we have been monitoring a Para dressage athlete since 2020.

We stopped monitoring her last summer following an accident which made it impossible to take measurements due to the presence of metal parts in both lower limbs.

Prior to this accident, the rider was monitored on a monthly basis, and then at the request of her fitness trainer, who consulted certain indicators (% muscle mass, fat mass and Bone Mineral Contant) to adapt the intensity of her physical preparation sessions. These indicators also helped the rider and her nutritionist to adapt her diet.

Sophie BIAU Research Engineer, Pôle Développement Innovation Recherche French Horse and Riding Institute

As a dietician specialized in sports, particularly for women, the Z-Metrix is a valuable tool. I look after the nutrition of a lightweight rowing duo. Weight on the scales is the criterion for participation in Olympic qualifying competitions,

But weight says nothing about their body composition and hydration, which are crucial to performance. The Z-Métrix, with its algorithms specific to each body compartment, gives me reliable information and enables me to be really specific and sharp in my nutritional advice, and to prevent REDs in a sport where its prevalence is high.

Maaike Kruseman Dietician ASDD, Doctor of Science MK-Nutrition, Geneva, Switzerland

### Testimonials (2/4)

I'm a consultant in physiology and micronutrition, and have also a diploma in phytotherapy and aromatherapy for 17 years. I've been using the Z-Metrix for 11 years with all the profiles of people I see during appointments. As part of my holistic coaching (overall support) of athletes (all disciplines, from leisure to the highest competitive level), the data collected with the device enables me to establish an inventory and then regular monitoring of the physiology (cellular environment) of each athlete, correlating it with his or her micro nutritional blood tests and clinical and sensory sensations: we then adjust the athlete's lifestyle (mainly diet, hydration and sleep) with the aim of optimizing performance and minimizing or reducing the expression of "functional disorders".

This is how I've been supporting Hélène Noesmoen on a physiological and micro nutritional level for the past 10 years. For her participation in the Olympic Games in Marseille this August 2024 in IQ foil windsurfing, we were able to move forward by meeting the requirements of her discipline in terms of weight and fat/muscle mass distribution, while synchronizing her meals with her training schedule. Hélène is currently world champion in the 2021 discipline and European champion in 2020, 2021 and 2022. Hydration is an important focus of our work, both to limit water retention and to optimize body hydration (intra- and extracellular and overall) before, during and after exercise, while constantly adapting our approach to muscle and tendon protection, by interpreting the various data.

Cellular vitality ("Metabolic Activity Index" on the device) is an essential piece of data that we consider in order to determine the contribution of sleep, sporting activity, diet or, by interpretation, the contribution of infectious episodes specific to top-level athletes and likely to make them more vulnerable. By taking regular measurements, we've been able to bring different levers together, and today Hélène's physiology is adaptable to the most changing, demanding and even extreme contexts. When she switched from the RS: X windsurfer to the IQ foil, we clearly gained new momentum, thanks in part to the z-Metrix.

For her "recovery" phases, we progressed step by step, validating the best for Hélène as time went by. When it came to the hormonal influences specific to women, we had our work cut out for us! We've been working on it. Recently, thanks to this global approach in which the Z-Metrix has become just as indispensable as Hélène's accuracy in her sensations, we have been able to act effectively and make the impact of menstrual hormonal variations comfortable by means of rational and highly specialized micronutrient support: this is possible thanks to innovative tools including the one offered by Bioparhom.

It's a human and sporting collaboration, rich in sensory information objectified by high-tech equipment, which makes it possible to be in Olympic shape! Hélène is a diligent, resourceful, humble athlete who is always in a good mood and knows how to express her full potential. Thanks to Bioparhom for its expertise in developing this equipment!

Myriam Charles- Moreau

Consultant and trainer in physiology and micronutrition. Certified practitioner in phytotherapy and aromatherapy, and mental coach.

### Testimonials (3/4)

As a sports doctor working with professional cyclists, I use Z-Métrix with athletes to monitor their body composition.

In particular, hydration is very important in endurance sports, whatever the temperatures during the various races. Sports hydration and body fat are parameters that are regularly assessed.

I've tried various devices in the past, and when I decided to try out the Z-Métrix, the test was conclusive. I've been using it for 10 years now. I really like its ease of use and repeatability of measurement.

Reading the results is simple and pleasant, and the longitudinal tracking is interesting for athletes. It's a good investment for monitoring high-level athletes.

Dr Jacky Maillot Medical Director, Groupama-FDJ professional cycling team and member of the FC Sochaux-Montbéliard medical staff.





As a research engineer in performance optimization in high-level aquatic sports and disabled sports, I frequently use Bioparhom Z-Métrix, since 2015.

This tool enables me to regularly monitor athletes' state of fitness, particularly when returning to practice after an inflammatory episode or injury. In this way, I can see the overall recovery of the metabolism and discuss with trainers the strategies to be pursued in terms of training intensity and volume.

The second essential point in using the Z-Metrix in my work is the precision with which I can monitor hydration status. During periods of acute training (training camps) or competition, jet lag, training rhythm, altitude, ambient hygrometry, nutrition and hydration become critical points for recovery and performance optimization, and injury prevention.

Together with the staff's doctors and physiotherapists, we can up individualized hvdration recovery and protocols (advice on nutrition and hydration strategies, drainage massages, compression, etc.).

Florence Garnier Research engineer, Sport scientist [S.P.]<sup>2</sup> Ergonomics - Sports and health ergonomics

#### **Testimonials (4/4)**

I've been using the Z-Metrix for a very long time in my private practice for almost all my patients. However, I receive and support many top-level athletes, mainly in soccer, athletics, handball, tennis and swimming.

I use the results synthesis in the "expert" mode. The MAI and Active Cell Mass indicators allow me to inform my athletes about the quality of their invisible training, their ability to recover well, both in terms of nutrition and hydration, as well as sleep. Protein content in relation to muscle mass helps to highlight the importance of protein in maintaining or developing muscle mass.

I also use hydric indicators to check water intake on a daily basis and during training, but also to highlight water retention. IL of stored water is 1kg on the scale! But eliminating 1kg of water is not the same as eliminating 1kg of fat.

The use of simple graphics promotes awareness of body composition and its status. Patients, whether or not they're athletes, often feel the body's signals. Using the Z-Metrix, I can link these feelings with the actions to be taken and the adaptation of behavior (dietary and other: hydration, sleep, relaxation, activity, etc.).

In the case of an athlete, the aim of analyzing the results is to provide nutritional support for training and competition, to optimize performance, while ensuring that the ideal body distribution is maintained or restored.

Marie-Estelle ROBILLARD
Dietician and Sports Nutritionist



With its portable format, we can use Z-Metrix at various exercise sites, training camps and competitions where environmental conditions may differ.

Easy to use, frequent measurements are taken to define the athlete's hydration status and body composition at any given moment.

These measured data enable us to evaluate and monitor the water and nutritional strategies previously defined with the athlete. In addition, measurement of the Metabolic Activity Index, correlated with performance and a clinical evaluation of the latter, is one of the indicators of the subject's state of fitness.

Finally, the presentation and visualization of the results provide a clear, easy-to-understand view of the data, making it easier to communicate to the athlete.

Mathieu JOUYS
Dietician Nutritionist
French Athletics Federation
Performance Optimization Unit



For the past 3 years, we've been using zmétrix at the CNSMDP to monitor ballet and contemporary dancers aged 14 to 25.

Evaluation during the initial assessment of each student, followed by annual measurements, have enabled us to adapt our nutritional advice (hydration, muscular evolution over the years of the curriculum), to detect undernutrition, and to support dancers in amenorrhea or oligomenorrhea.

Aude Da Silva,

Dietician nutritionist at Superior National Conservatory of Music and Dance (Paris) "Conservatoire National Supérieur de Musique et de Danse de Paris"

#### Agenda

#### **JULY AUGUST SEPTEMBER 2024**

2June 29th to July 21st : Cycling Tour de France

July 11th: webinar "Bioimpedance in the follow up of children and pathologies"

July 26th to August 11th : Olympic Games - Paris

August 26th to September 8th: Paralympic Games - Paris

September 7th to 10th: European Society for Clinical Nutrition and Metabolism-Milan (Italia)

## More information about Bioparhom

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395 AVENUE DES MASSETTES - 73190 CHALLES LES EAUX CONTACT@BIOPARHOM.COM - +33(0)9.51.95.08.18

FOR GERMANY: CONTACT.GERMANY@BIOPARHOM.COM FOR REST OF EU: CECILE.MASCARO@BIOPARHOM.COM

Our website : www.bioparhom.com

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