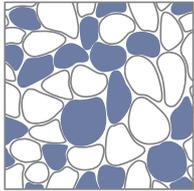


# MUSCLE TALENT SCAN

A fast, non-invasive technique to estimate muscle fiber type distribution with NMR scans instead of biopsies

## BACKGROUND



Human skeletal muscles are composed of a mixture of fast and slow fibers.

Born sprinters have predominantly fast fibers, endurance athletes have relatively more slow fibers.



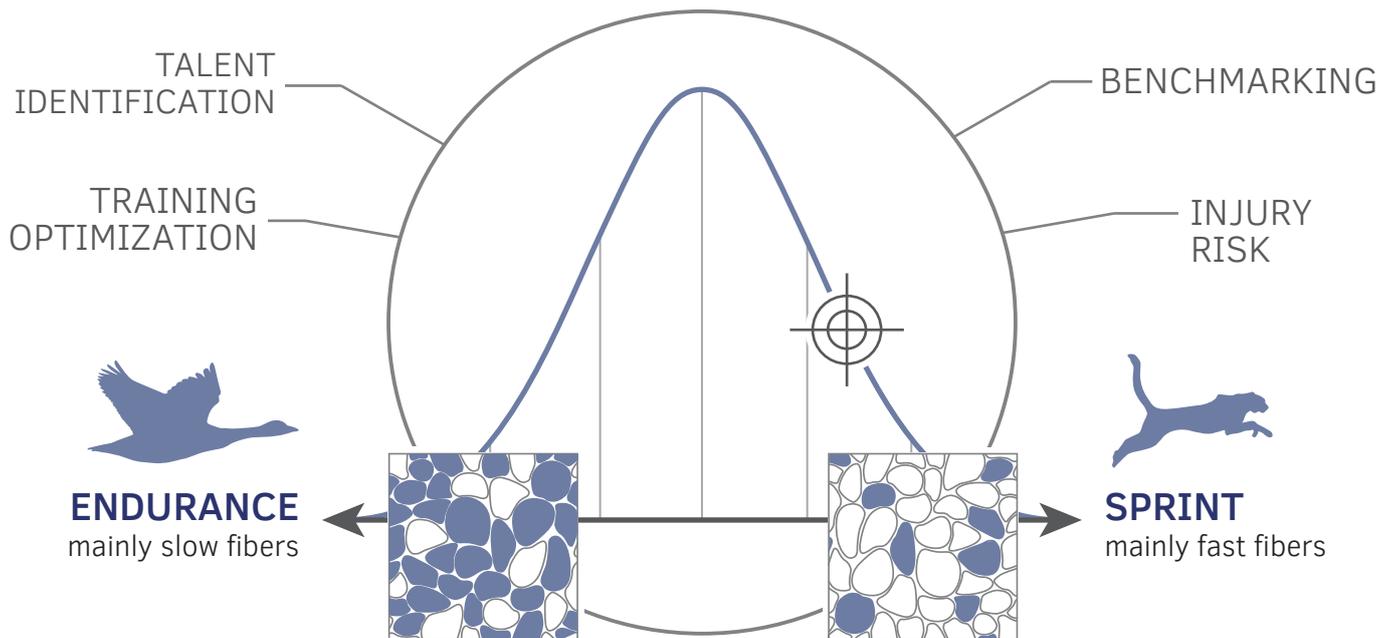
This fiber type distribution is a crucial factor in various sport disciplines.

However, it is rarely measured because it used to require an invasive, painful and complicated muscle biopsy and analysis.

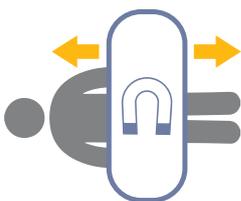
## THE PROJECT

Using NMR spectroscopy scans (carnosine levels), the ratio between **fast and slow muscle fibers** in the athlete's body can be accurately estimated.

Comparing these results with a **large collection of data** from both athletes and the general population can reveal a genetic endowment for endurance or sprinting activities.



## ADVANTAGES



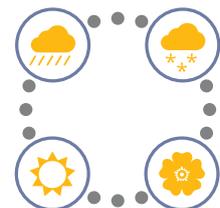
### Non-invasive, quick and painless

An NMR scan takes about 20 minutes and is fully painless with no radiation exposure.



### Essential information

Insight in slow or fast typology optimizes sport scientific guidance of athletes.



### Testing at rest

No day-to-day variation due to fatigue. No risk of injury during testing.

## OUR GOALS



### Worldwide availability

Finding a way to bring this scanning technique and data interpretation to clubs, hospitals, training centers,...



### Exploring new applications

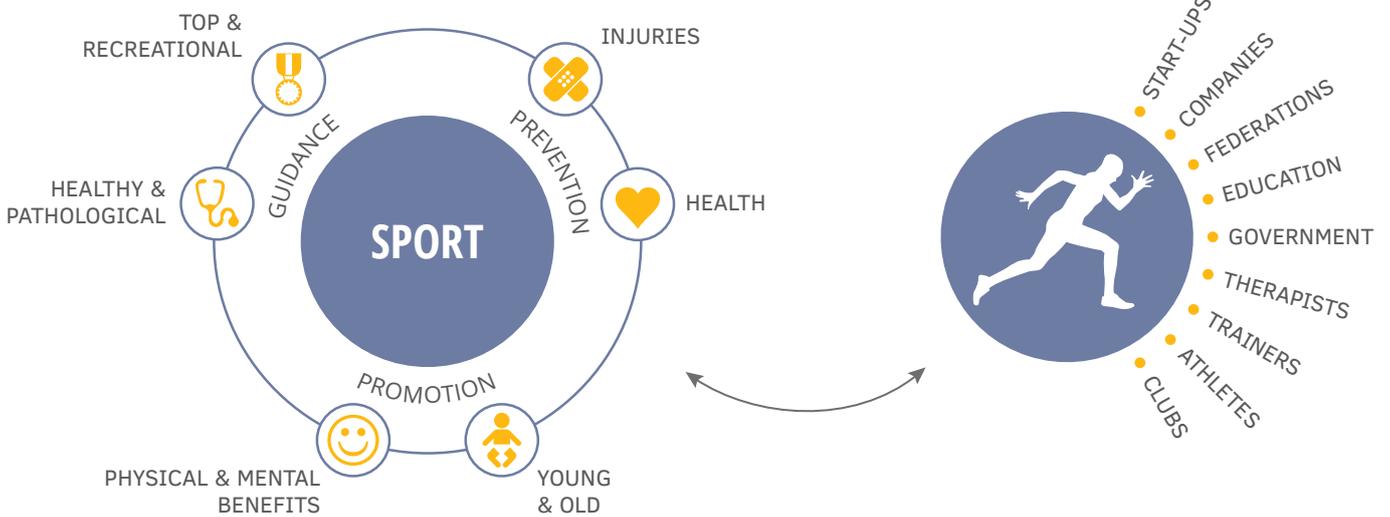
Extend the current reference database and find new sport medical applications.



### Set up a business model

Find a way to finance development, implementation and marketing costs.

## VICTORIS CONSORTIUM



We create new **SPORTS PRODUCTS** and **SERVICES** by facilitating the **TRANSFER** of **KNOWLEDGE** that results from **MULTIDISCIPLINARY RESEARCH**

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## KEY PUBLICATION

"A new method for non-invasive estimation of human muscle fiber type composition"

PLOS ONE, July 2011 - DOI: 10.1371/journal.pone.0021956

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