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Acute changes in MRI and knee function after extreme triathlon.

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No disclosures



Introduction

- Extreme triathlon races push the body to its physical limit
 - The competitors imposes overloads on the musculoskeletal system, especially to their knees
 - Are there knee function alterations or new structural damage happening after this races?



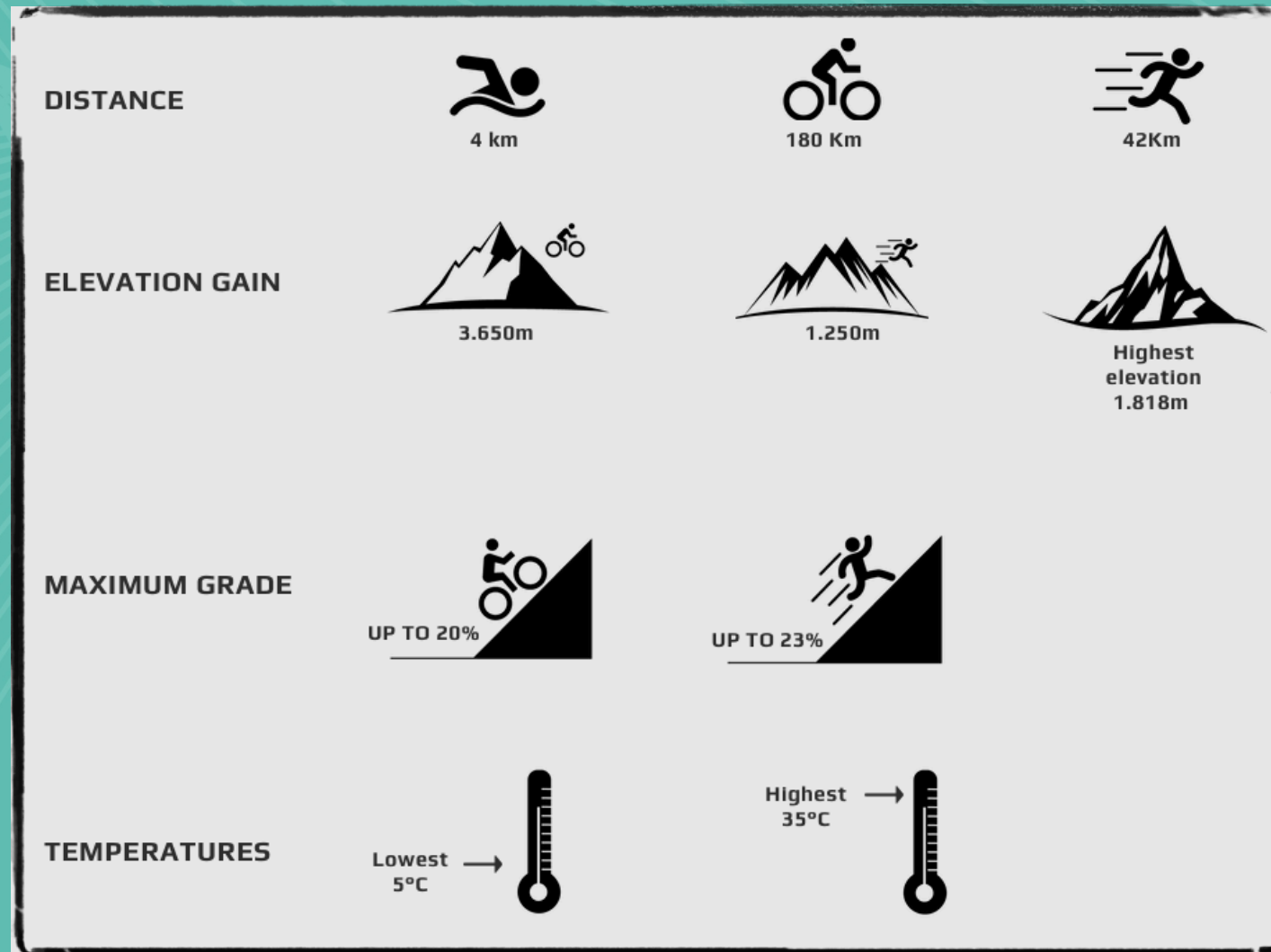
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THE RACE - (FODAXMAN™ 2019)

Place: Santa Catarina



FINISHERS:

51 ATHLETES

STUDY PARTICIPANTS:

9 ATHLETES



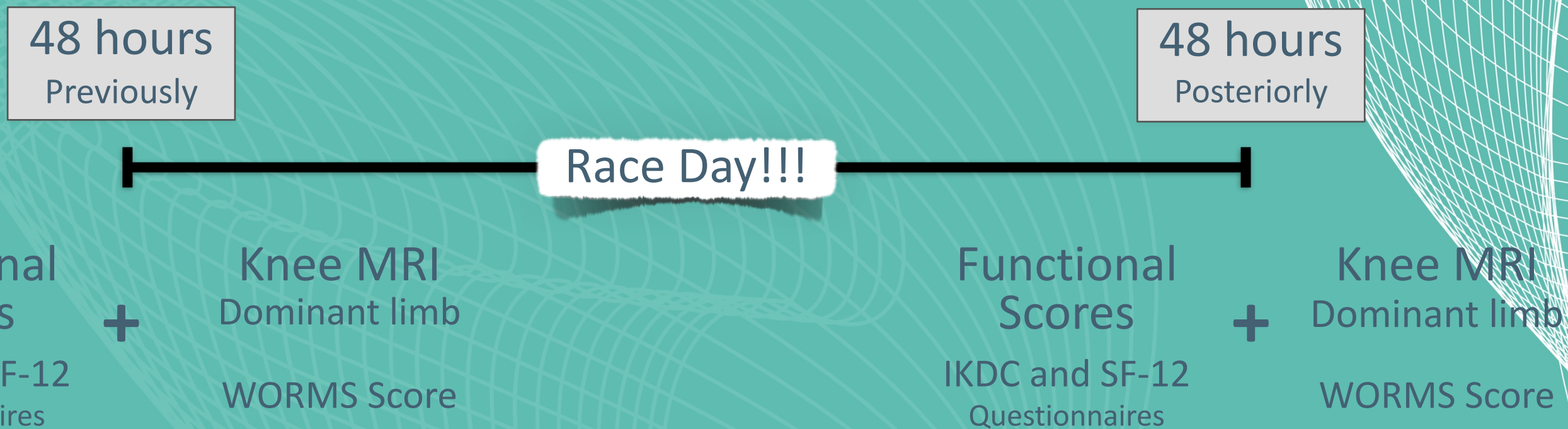
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Methods

9 finishers, without knee symptoms or surgeries were submitted to:

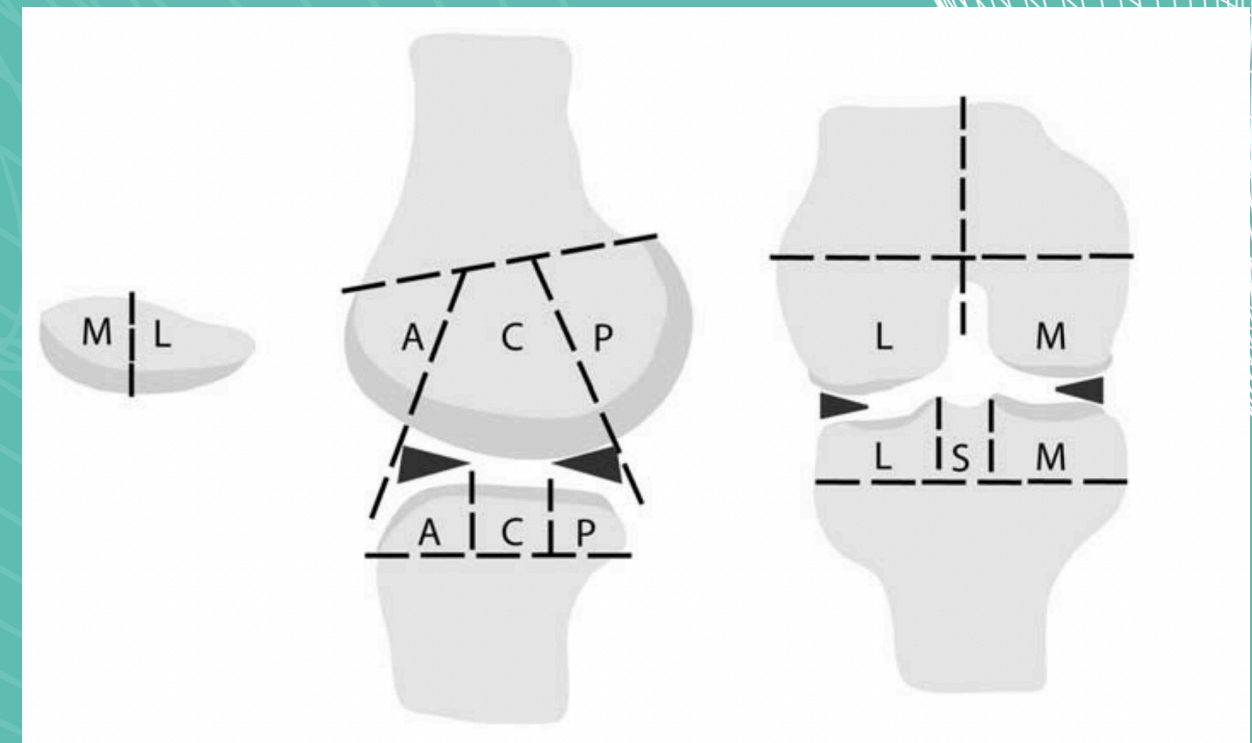


The WORMS Score

(Whole-organ Magnetic Resonance Imaging Score)

Images were scored with respect to 14 independent articular features:

- Cartilage signal and morphology
- Subarticular bone marrow abnormality
- Subarticular cysts
- Subarticular bone attrition
- Marginal osteophytes
- Medial and lateral meniscal integrity
- Anterior and posterior cruciate ligament integrity
- Medial and lateral collateral ligament integrity
- Synovitis
- Loose bodies
- Periarticular cysts/bursae



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Statistical analysis

All data expressed was a mean \pm standard error. For comparison between groups, a test of significant difference was performed by wilcoxon test.

A value of $p < 0,05$ was considered as statistically significant.



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Pre x Pos race evaluation:

Functional



No Statistical difference

IKDC (p=0,061) SF-12 (p=0,968)

Structural



No Statistical difference

WORMS (p=0,317)



Conclusion

- The limited number of 9 subjects probably is underpowering our study (Error type II)
 - Despite this, we found that there wasn't new injuries among the competitors
 - We hypothesized that being a well trained athlete could prevent new injuries on the knee during long distance triathlon races



References

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