



Art &

SCIENCE

OF TRIATHLON

2014 INTERNATIONAL COACHING SYMPOSIUM

A ONE-OF-A-KIND EDUCATIONAL OPPORTUNITY FOR TRIATHLON COACHES

Science and Practice of High Intensity Training for High Performance Triathlon:

Should Anyone be Doing LSD or “Recovery” Workouts?

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Learning Objectives

- A Brief (100+ Year) History of High Intensity Interval Training
- Long Slow Training – Fact or Fiction for Endurance Athletes
- Anaerobic Intervals for the Aerobic Beast
- Training Intensities of Elite Endurance Athletes
- Science and Application of Recovery Optimization

Primary Learning Objective

- Provoke thoughtful discussions on whether training slow is optimal if you want to compete fast.

Competitive Endurance Athletes Feel the Need for Speed

- Start to finish as quickly as possible.
- Marino Vanhoenacker (2011)

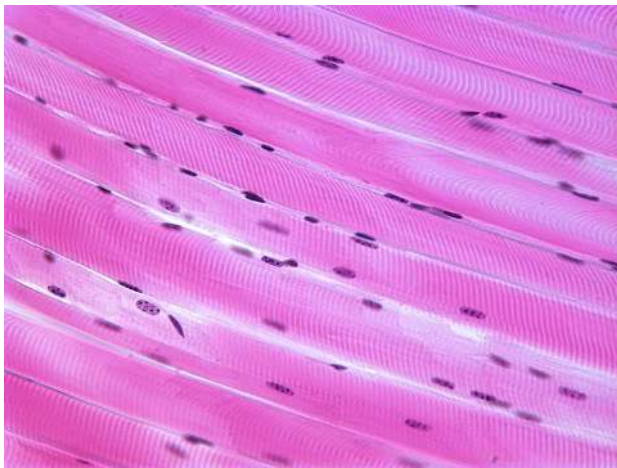
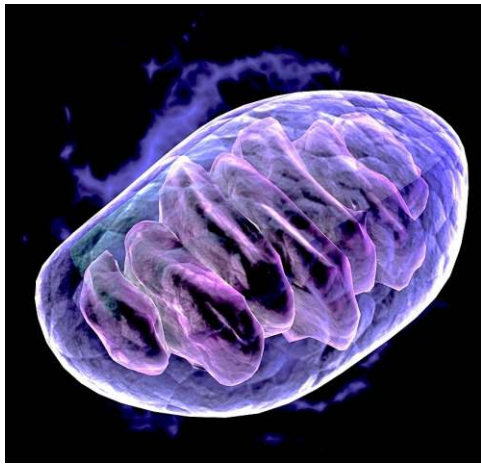
Swim 46:49 - 1.374 m/sec

Bike - 4:15:37 - 26.29 mph

Run - 2:39:24 - 6:05 min/mile

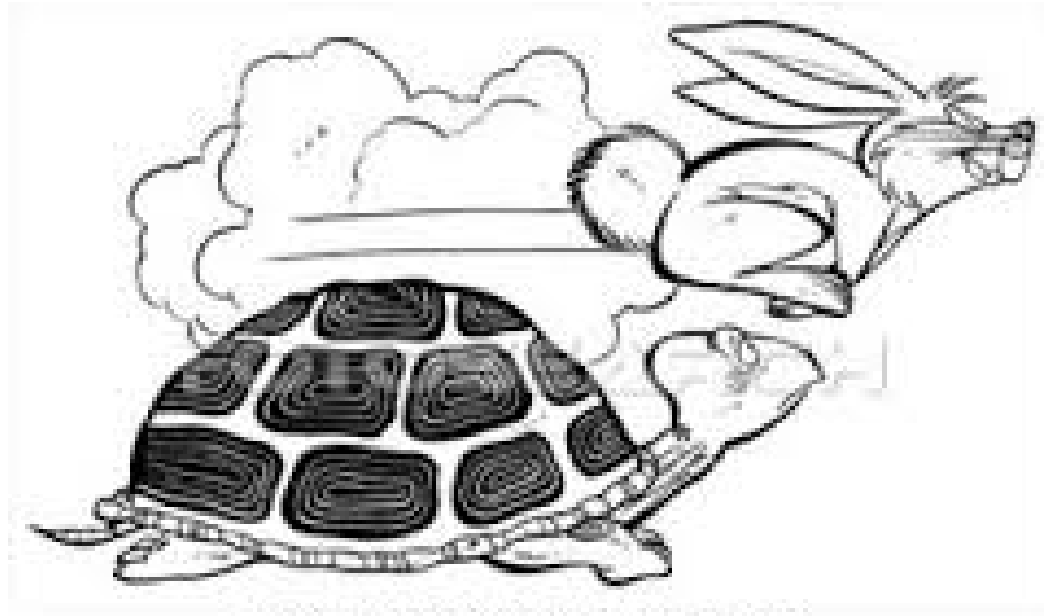


LSD works

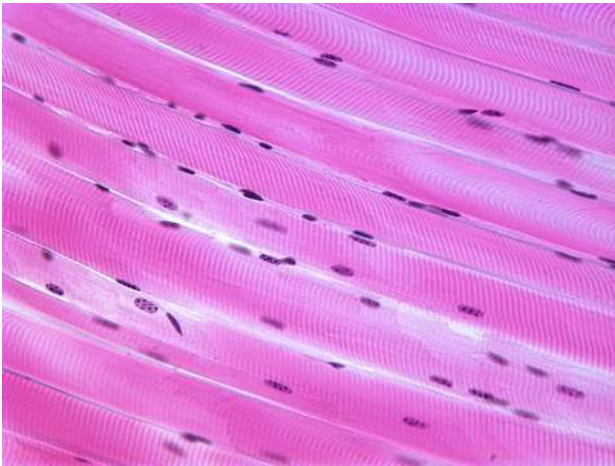
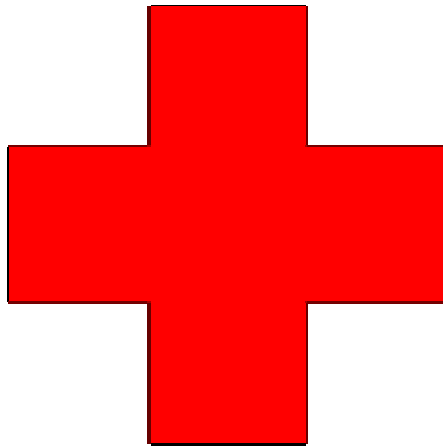
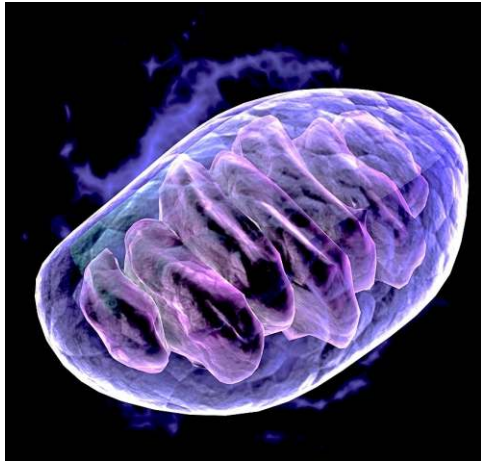


Long Slow Training: Fact or Fiction for Endurance Athletes

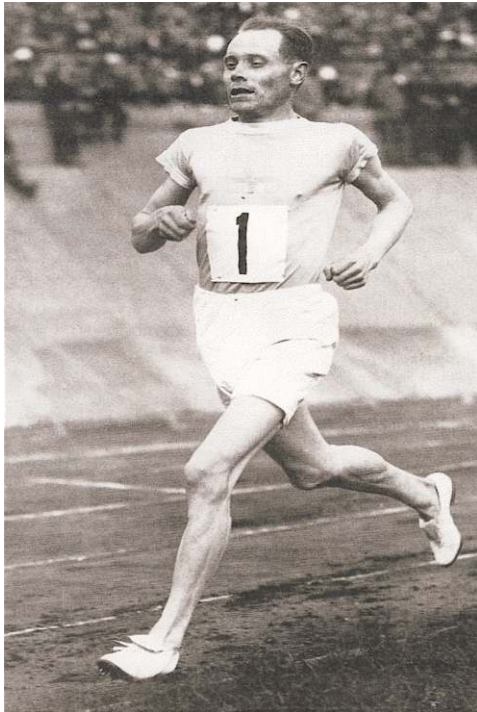
- Specificity of training?
- Tortoise vs Hare Paradox



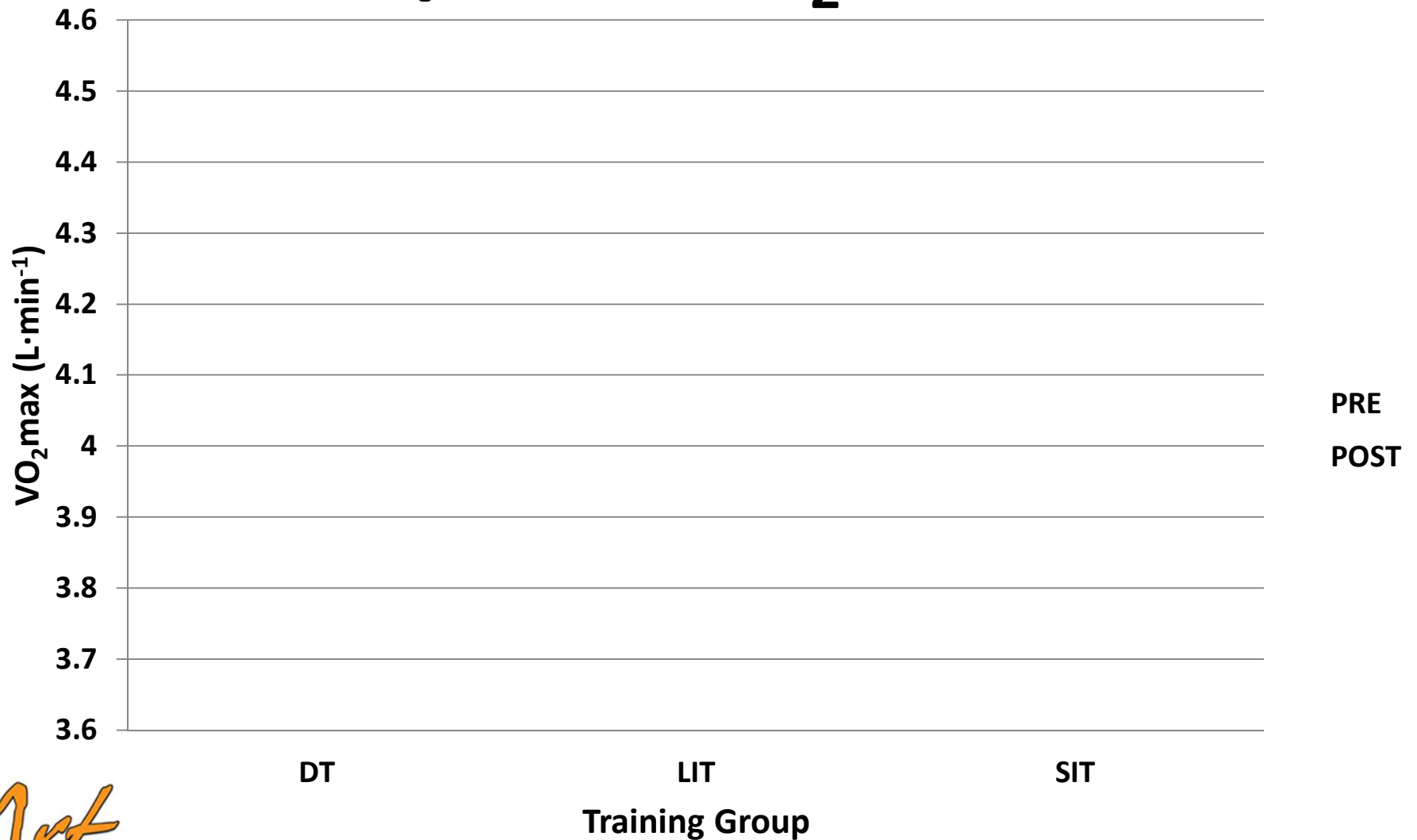
LSD works but



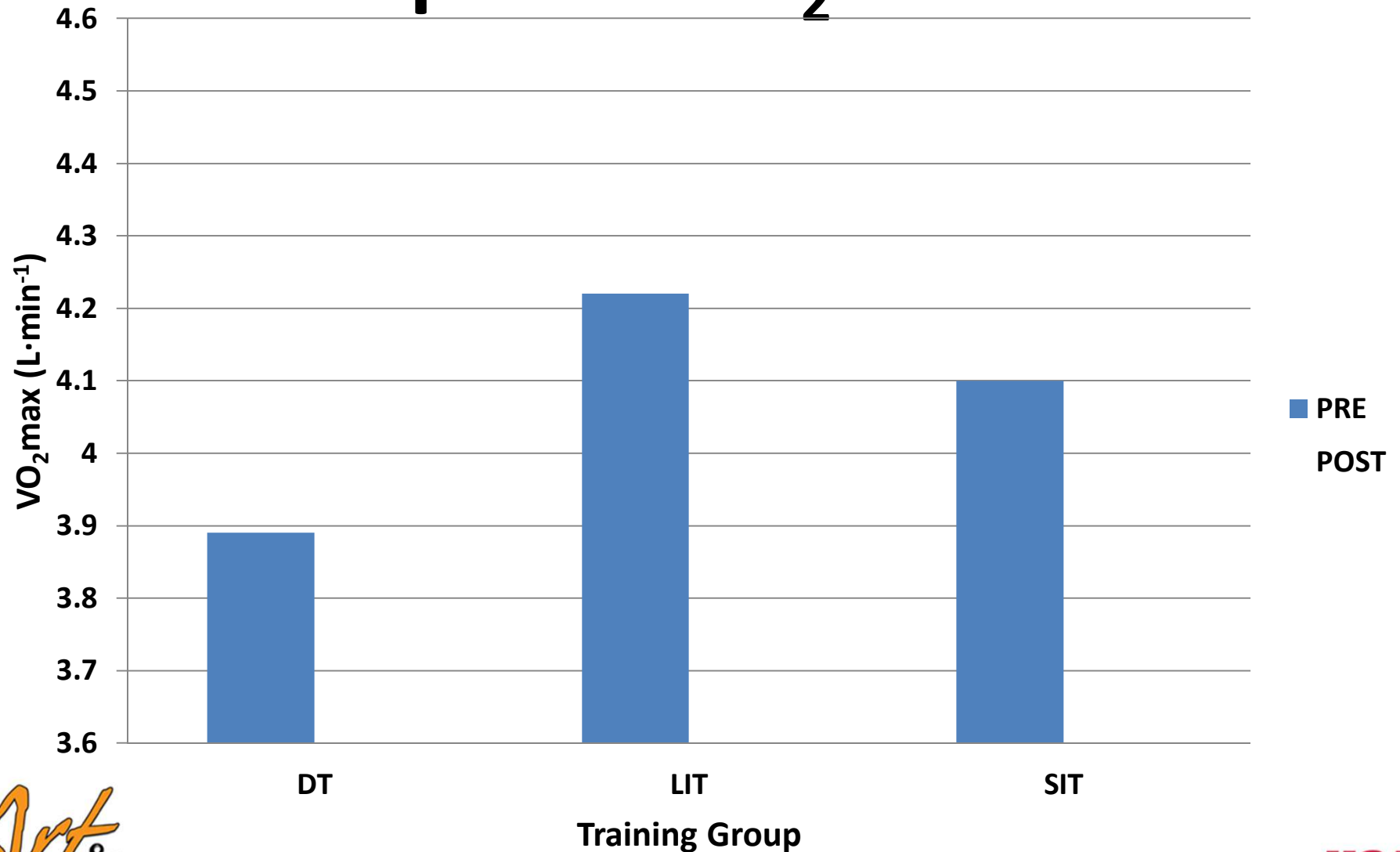
Anaerobic Intervals for the Aerobic Beast



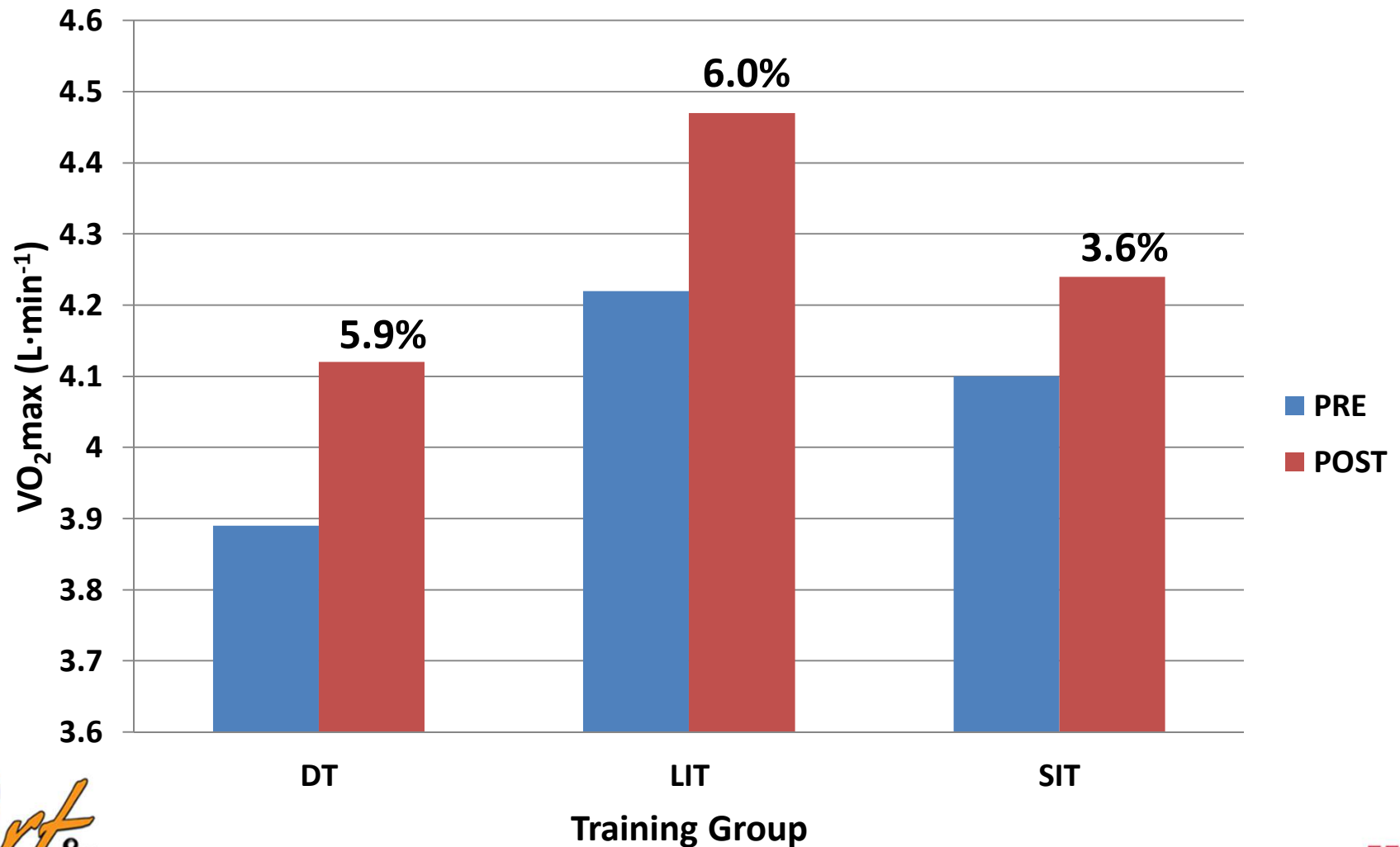
Aerobic High-Intensity Training Improves VO_2max



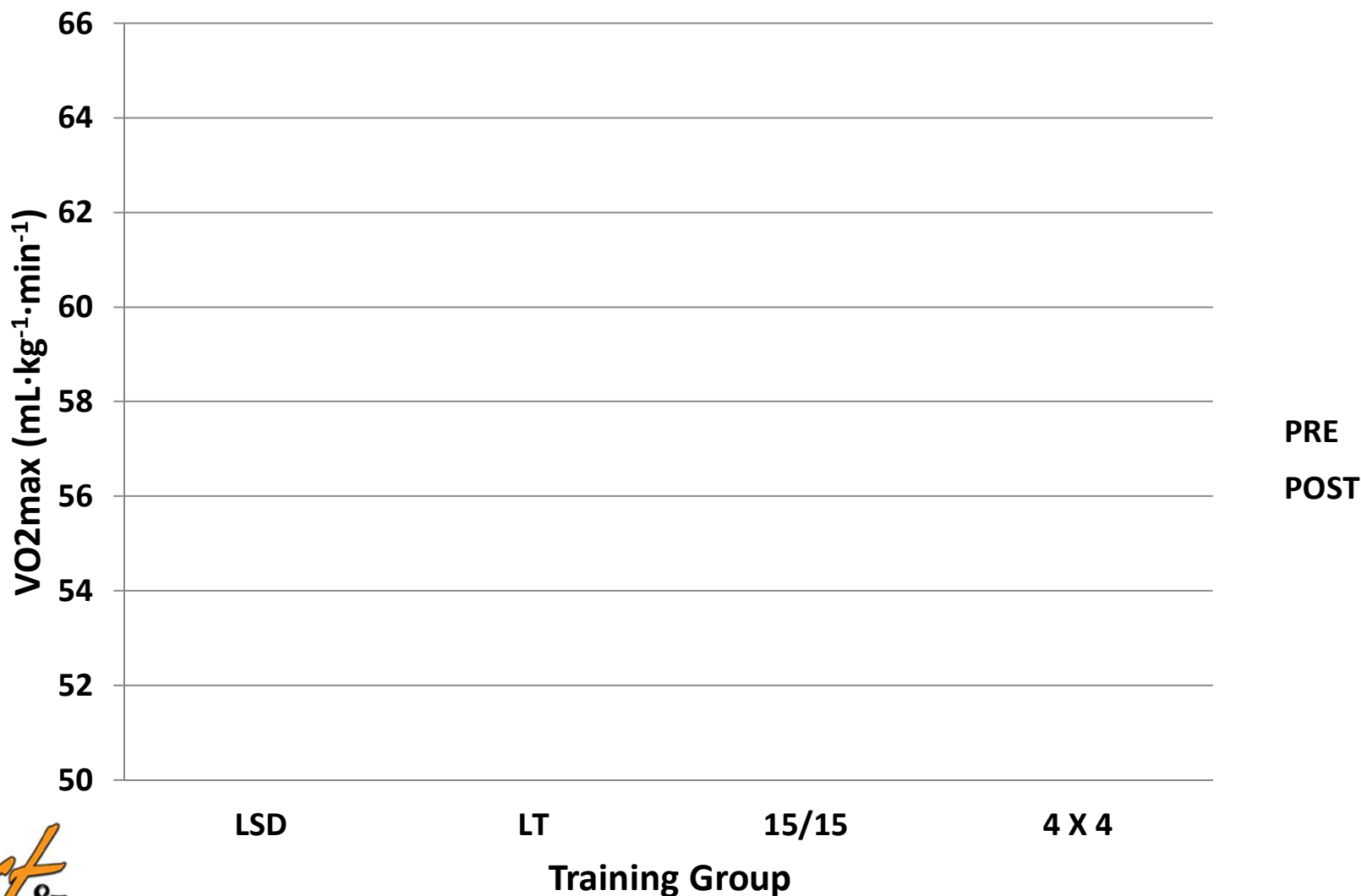
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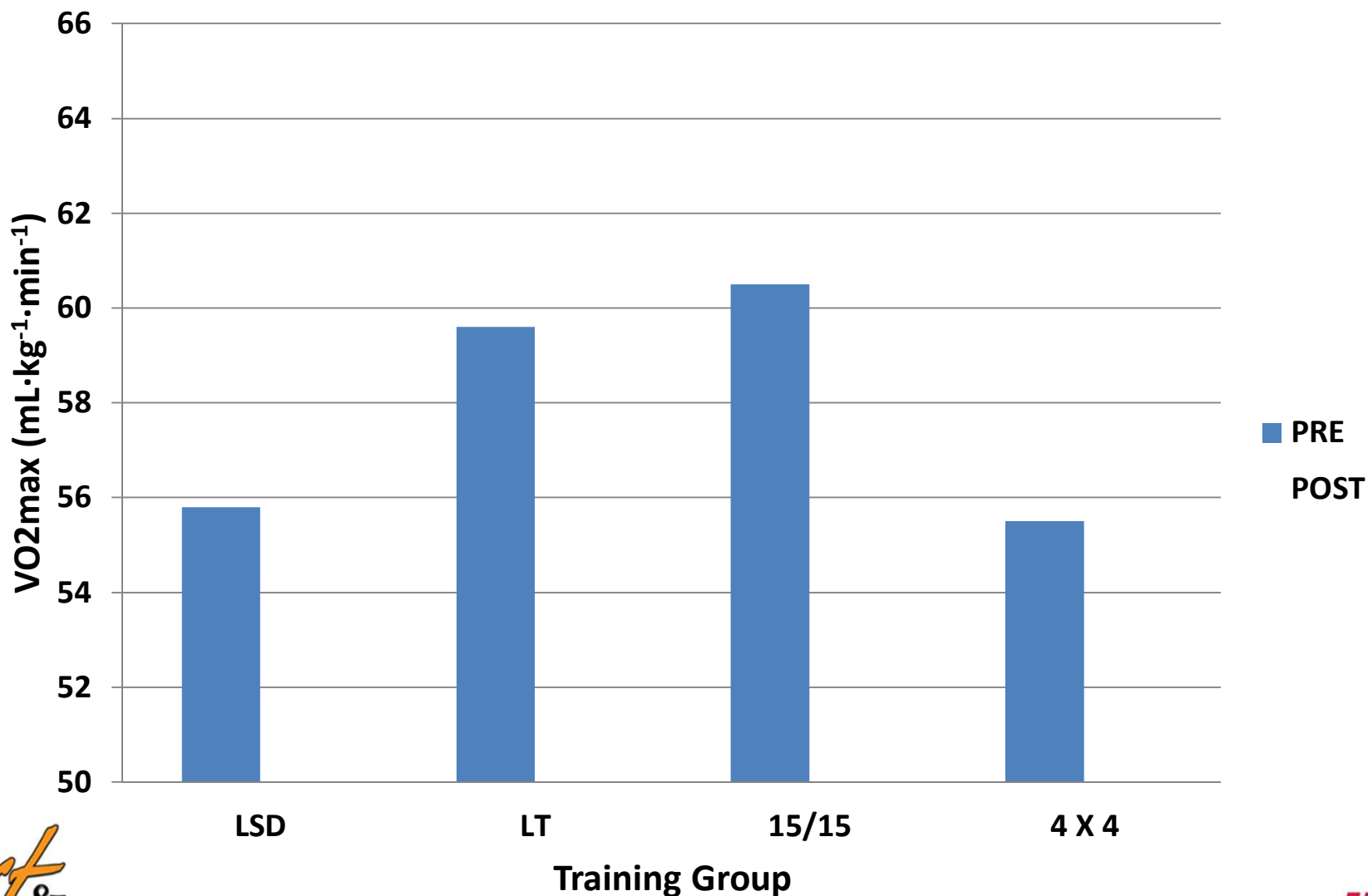
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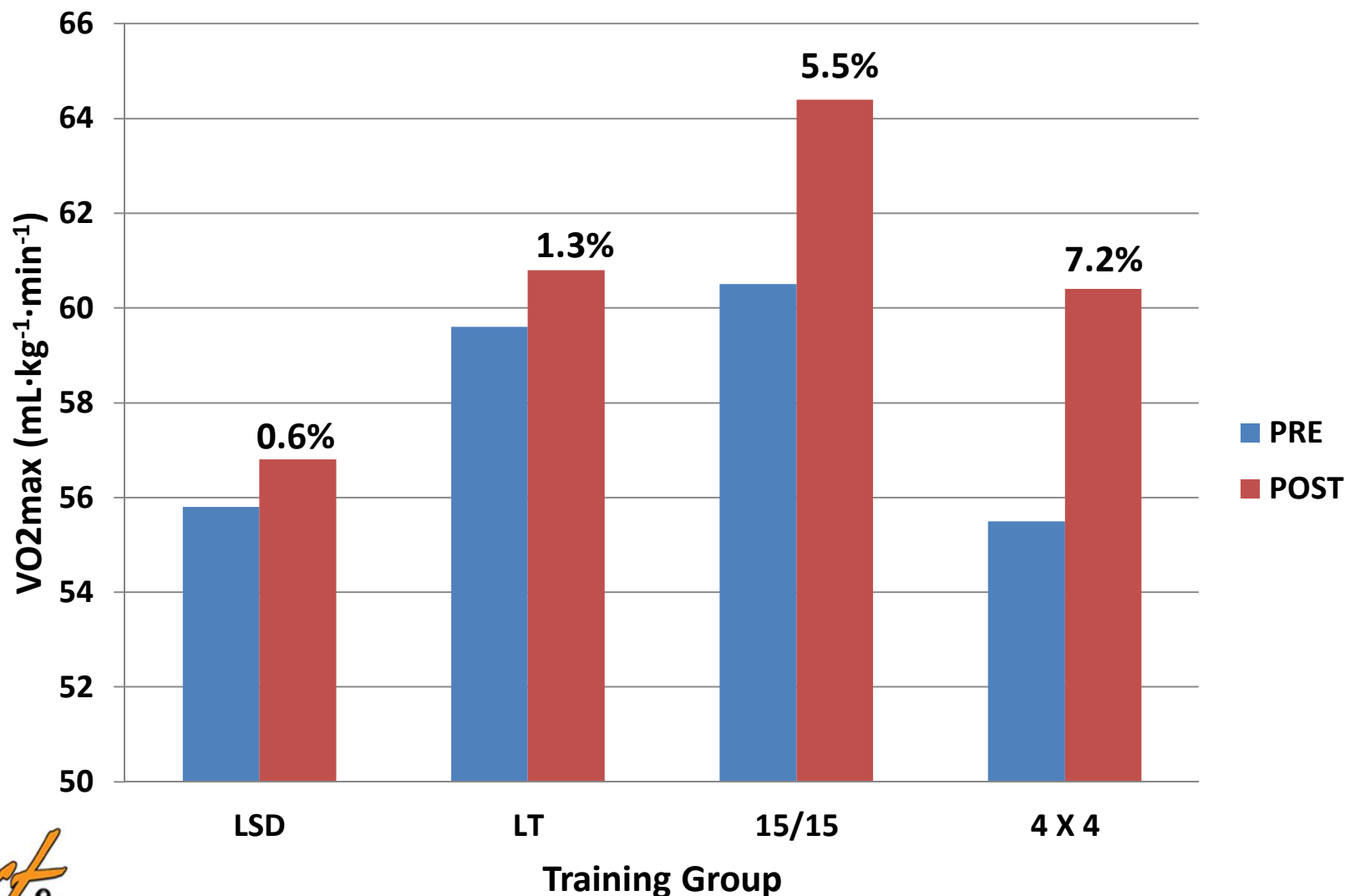
High-Intensity Intervals Improve VO₂max More Than Moderate Training



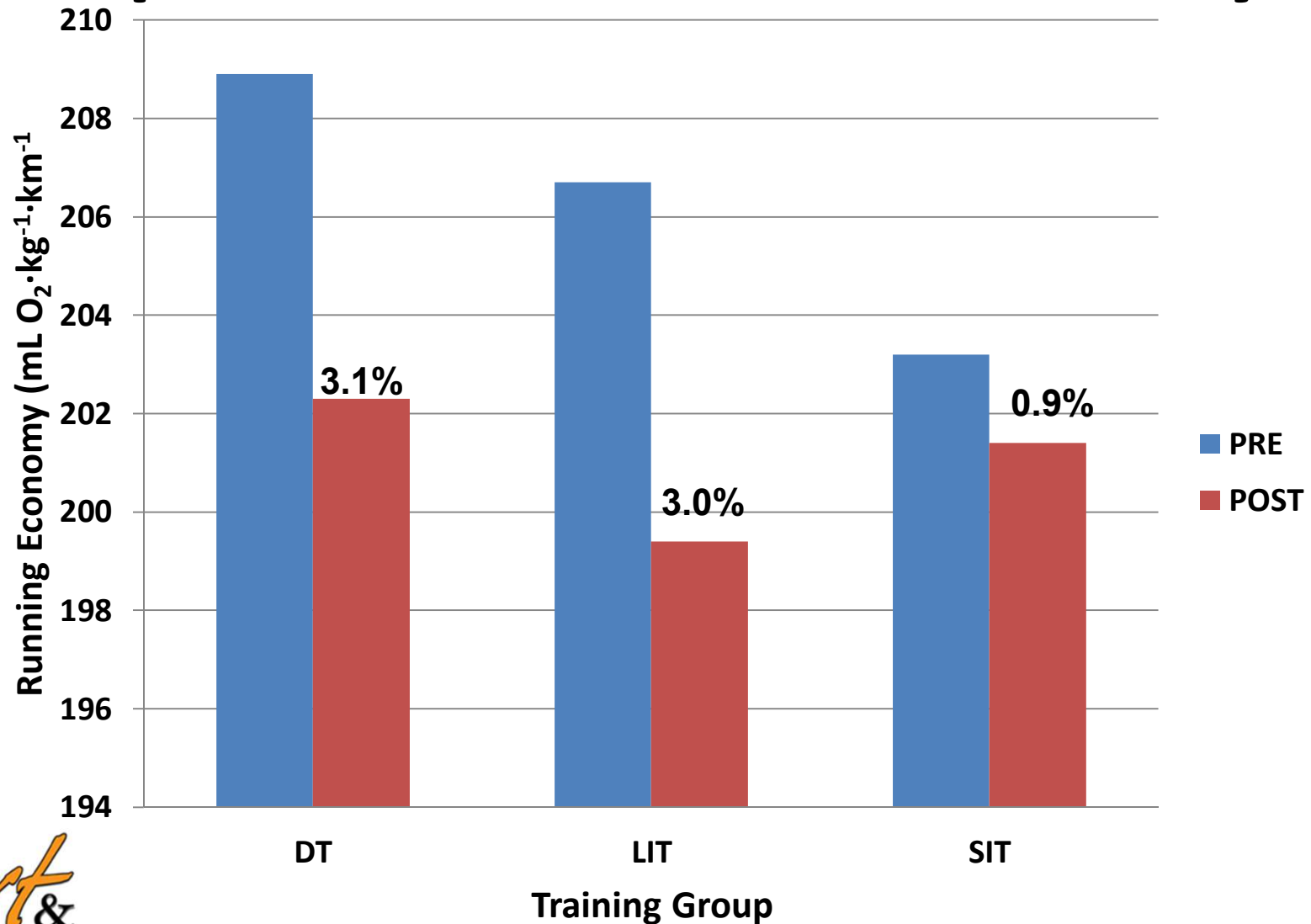
High-Intensity Intervals Improve VO₂max More Than Moderate Training



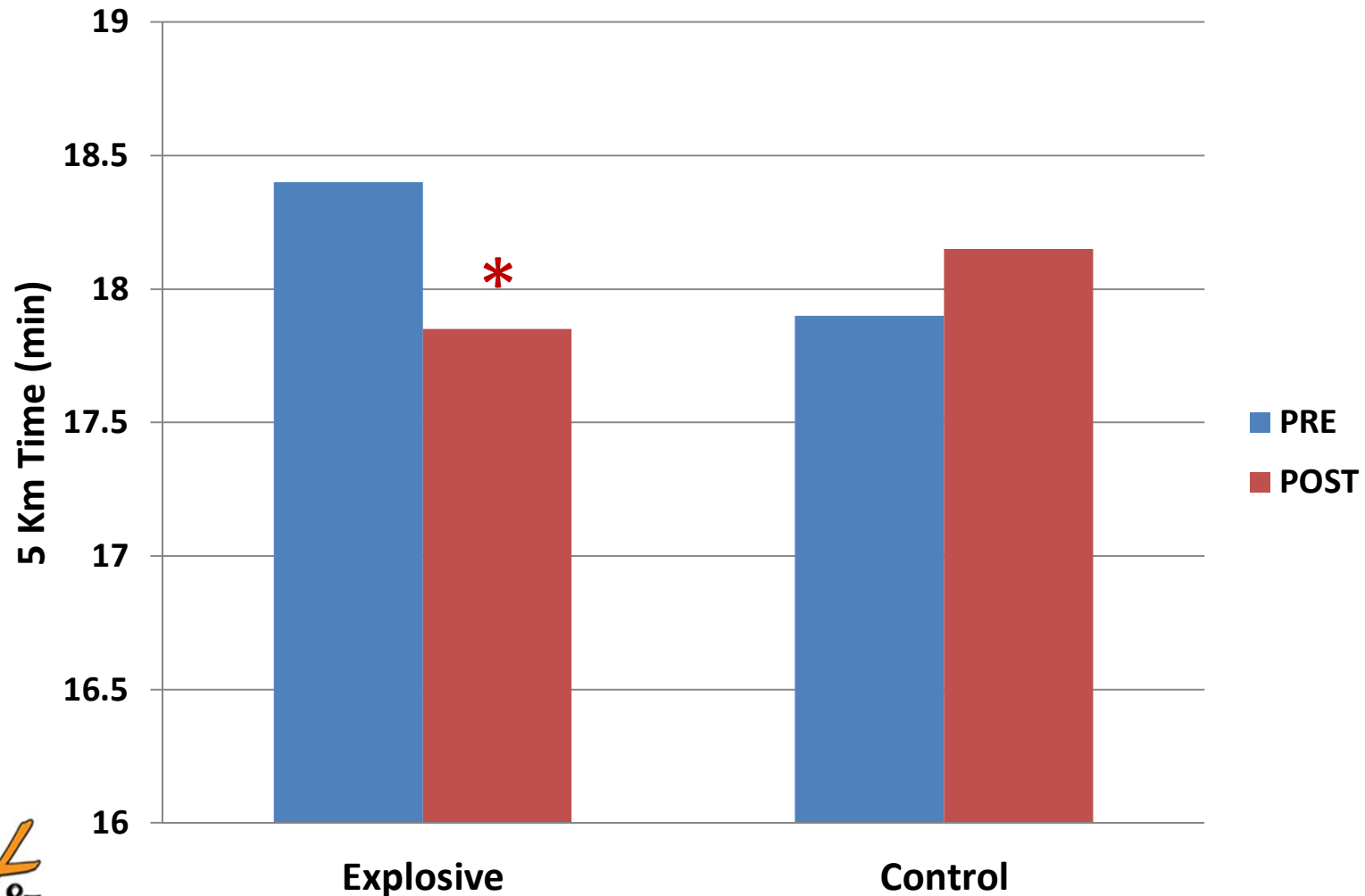
High-Intensity Intervals Improve VO₂max More Than Moderate Training



Aerobic High-Intensity Training Improves Movement Economy



High-Intensity Sprints & Plyometrics Improve Performance



Training Intensities of Elite Endurance Athletes



Fear of High-Intensity Training?

- Are we afraid to do higher volume of high intensity training?
- Is the key to High Intensity training in the recovery?

J U S T I N B I E B E R



R E C O V E R Y

Where do we go from here?



A Brief (100+ Year) History of High Intensity Interval Training

- 1912 – Hannes Kolehainen
- 1920-1928 – Paavo Nurmi
- 1948-1954 - Emil Zátopek
- 1956 - Vladimir Kutz
- 1950's - Franz Stamfl

Science

- 1959 - Reindell H., Roskamm H.

Where do we go from here?



Thank you!

Questions?