



# THE SCIENCE BEHIND THE SWEAT

LES MILLS  
**GRIT**

# RESEARCH PROVES LES MILLS GRIT WILL GET YOU FIT FAST

**Our research shows that high-intensity interval training (HIIT) will:**

- create significant changes in participants' fitness and body composition
- lower the risk of cardiovascular disease
- allow participants to break through fitness plateaus.

For those who are already fit and active, HIIT enables them to keep getting fitter.

And for athletes, it can reduce training time while still improving competitive performance.



LES MILLS GRIT



# HIIT PRESCRIPTION

LES MILLS GRIT offers a safe, evidence-based, practical application for high-intensity interval training.

Offering a seriously challenging and effective workout in just 30 minutes, doing LES MILLS GRIT twice a week will deliver real results fast.

LES MILLS GRIT



**STUDY 1** – Six-week intervention on the effect of HIIT / LES MILLS GRIT on a fit and active population.

**Pennsylvania State University, US.**

**GROUP 1 – NO GRIT**

- 3 x 60-minute cardio\*
- 2 x 60-minute BODYPUMP

**GROUP 2 - LES MILLS GRIT**

- 2 x 30-minute LES MILLS GRIT
- 2 x 60-minute cardio\*
- 2 x 60-minute BODYPUMP

\*Cardio could be a combination of:

**LES MILLS  
BODYATTACK**

**LES MILLS  
RPM**

**LES MILLS  
BODYCOMBAT**

**LES MILLS  
BODYSTEP**

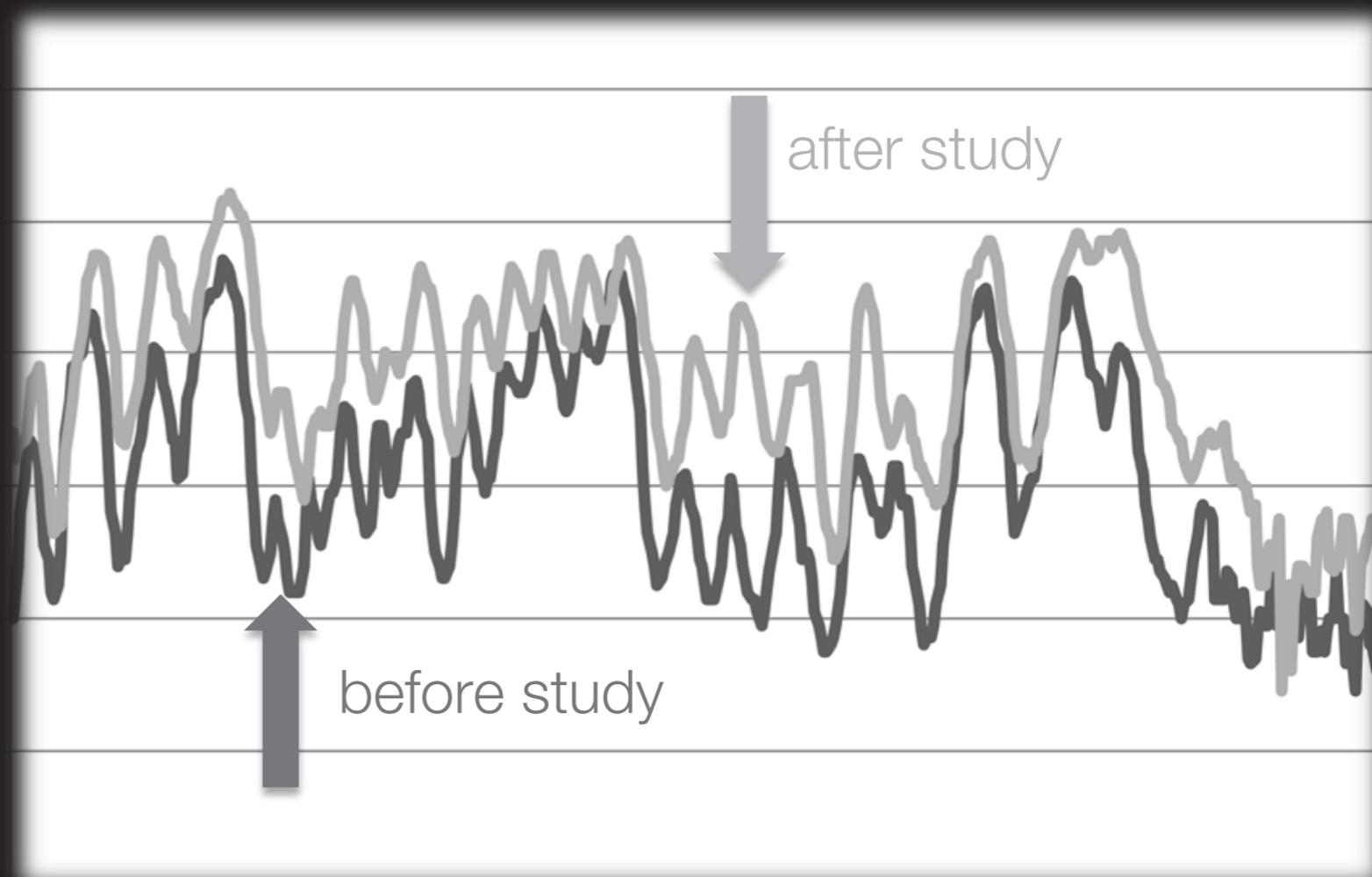
# THE RESULTS

	Triglycerides decrease	Oxygen consumption increase (VO2 max)	Body fat decrease	Back strength increase	Waist circumference decrease
Group 1 No LES MILLS GRIT	3.1%	1.7%	0.8%	8.4%	1.0cm
Group 2 LES MILLS GRIT	14.5%	6.4%	2.1%	21.9%	2.7cm
DIFFERENCE	-11.4%	+4.7%	-1.3%	+13.5%	-1.7cm

# THE RESULTS

We also recorded a change in intensity when participants returned to their regular workouts.

heart rate during RPM intervals



## PRACTICAL APPLICATION

HIIT / LES MILLS GRIT twice a week will give an already fit and active population awesome results.

**STUDY 2** – Six-week intervention on the effect of HIIT / LES MILLS GRIT on elite athletes.

**Pennsylvania State University, US.**

Female college – level soccer players changed their off-season training from seven hours of traditional training to two hours of soccer-specific training, two hours of strength training and two LES MILLS GRIT workouts.

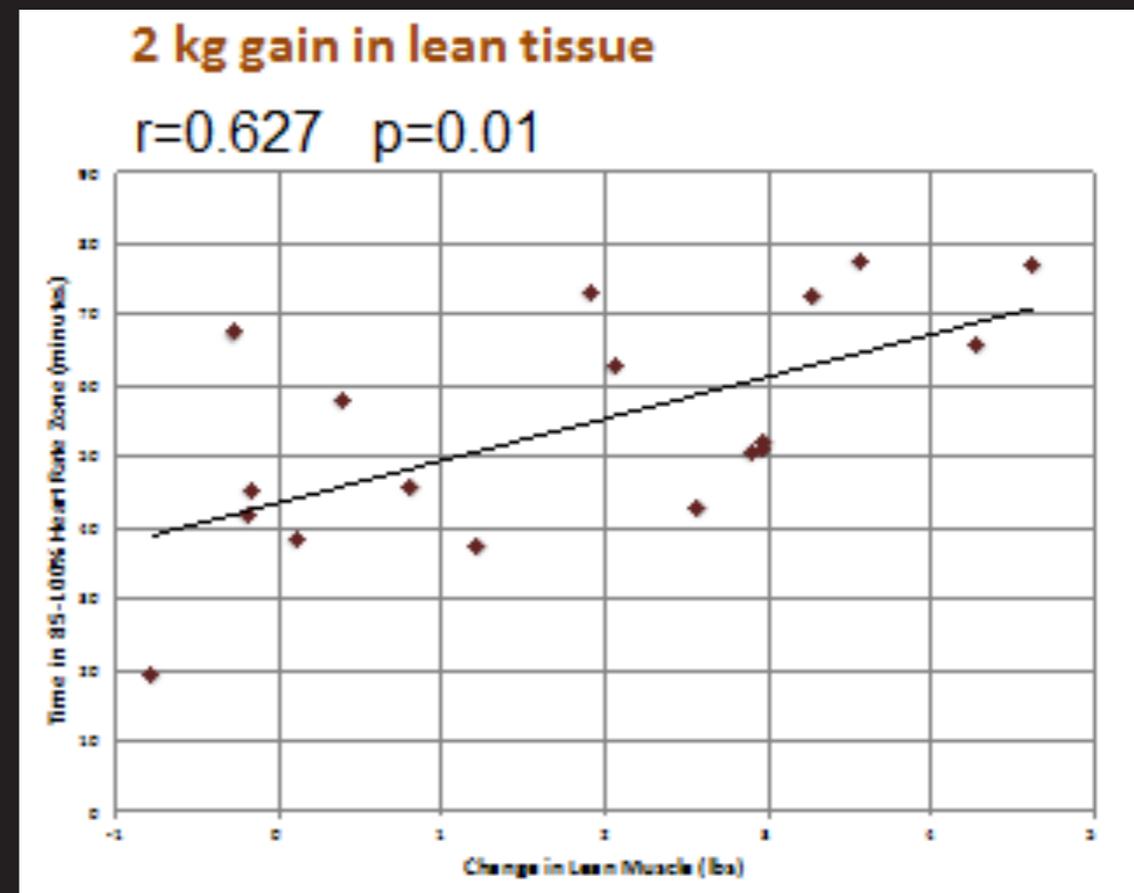
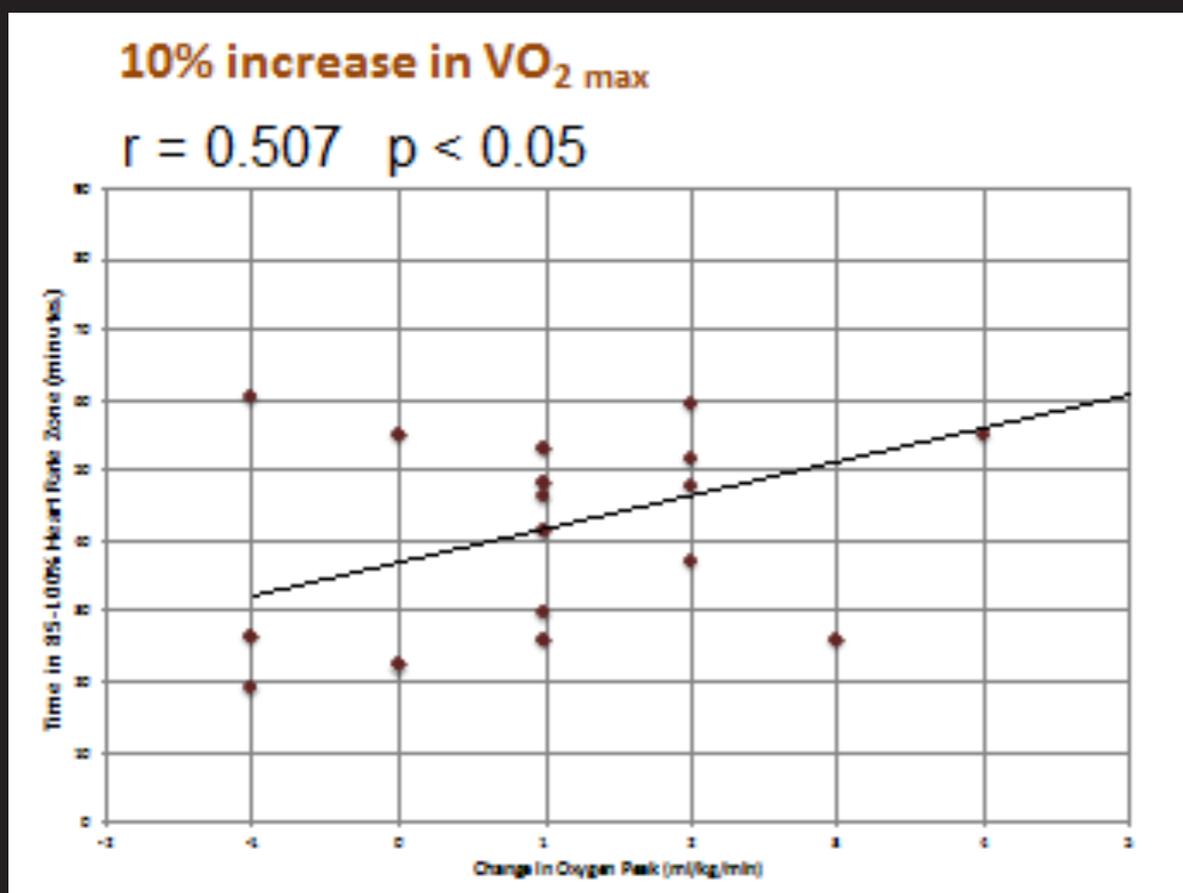
# A NOTE ON SOCCER PERFORMANCE

Soccer performance is defined by distance covered, time spent at high intensity, number of sprints, and number of touches on the ball.

These variables are correlated with VO2 max and lean body mass.

- Helgerud, et al 2001; Balsom et al 1994, Tomlin & Wenger 2001, Krstrup et al 2005, Bangsbo 2006

# THE RESULTS



Both lean body mass ( $r = 0.63$  and  $p = 0.01$ ) and  $VO_2$  max ( $r = 0.51$  and  $p = 0.05$ ) increased as a result of time spent in the 85-100% heart rate zone.

# PRACTICAL APPLICATION

HIIT / LES MILLS GRIT is an extremely time efficient training method for an athletic population.

LES MILLS GRIT also offers variety to training and therefore may reduce the risk of overuse injuries that may accumulate from more traditional training methods (e.g. distance running).

# FULL STUDIES

## STUDY 1

Gottschall J, The Addition of High Intensity Interval Training Reduces Cardiovascular Disease Risk Factors and Enhances Strength in Active, Healthy Adults, Open Journal of Preventive Medicine, 2014, 4, 275-282

<http://www.scirp.org/journal/PaperInformation.aspx?PaperID=45870>

## STUDY 2

Cook R, Time In 85-100% Heart Rate Zone Increases Lean Body Mass And V02max In NCAA Division I Soccer Players, Volume 3, Issue 1, April 2014, Journal Of Fitness Research

<http://fitnessresearch.edu.au/journal>