

american **FITNESS**®



EARN
AFAA-NASM CEUs:
THE SCIENCE OF
EXERCISE
RECOVERY

+
WHY AFAA'S
5 QUESTIONS
MATTER

BUSTING
4 FOOD MYTHS

CHANNEL YOUR
INNER ANIMAL WITH
MIKE FITCH
KING OF THE BEASTS

WINTER 2017



Q+A

YOU ASK, WE ANSWER

BY MATT BRZYCKI

STRATEGIES TO INCREASE MUSCLE SIZE, STRENGTH AND RACING SPEED.

ARE LOW REPS REALLY BEST FOR INCREASING MUSCLE SIZE?

According to weight-room lore, doing low reps with a high load increases muscular size, and high reps with a low load improves definition or tone. But there's little scientific support.

In a recent study, 18 male subjects (average age 23.3) were matched for baseline strength and split into two groups: One did 25–35 reps per set, and the other group did 8–12 reps per set. Both groups did 3 sets of seven different exercises for all of the major muscles and trained three times per week.

After 8 weeks, both groups experienced significant size increases in the biceps, triceps and quadriceps. There were no significant differences between the groups. In other words, both low reps and high reps increased muscular size to the same degree.

REFERENCE:

SCHOENFELD, B. J., ET AL. 2015. EFFECTS OF LOW- VS. HIGH-LOAD RESISTANCE TRAINING ON MUSCLE STRENGTH AND HYPERTROPHY IN WELL-TRAINED MEN. *JOURNAL OF STRENGTH AND CONDITIONING RESEARCH*, 29 (10), 2954–2963.

HOW EFFECTIVE IS IT TO ATTACH CHAINS OR ELASTIC BANDS TO A BARBELL?

Elastic bands and chains vary the resistance gradually as an exercise is being performed. With bands, the resistance varies as the band lengthens and shortens;

with chains, the resistance varies as links are raised and lowered to the floor.

In one meta-analysis, researchers pooled data from seven studies that involved 235 subjects (average age 21.2). Improvements in maximum strength were significantly greater in subjects who did exercises with either elastic bands or chains, compared to those who did exercises without them. This was especially true for subjects who had been lifting for at least 2 years or were classified as “trained.”

REFERENCE:

SORIA-GILA, M.A., ET AL. 2015. EFFECTS OF VARIABLE RESISTANCE TRAINING ON MAXIMAL STRENGTH: A META-ANALYSIS. *JOURNAL OF STRENGTH AND CONDITIONING RESEARCH*, 29, (11) 3260–3270.



CAN 10-20-30 TRAINING IMPROVE RACE TIMES??

The numbers “10-20-30” refer to three consecutive intervals adding up to 60 seconds, with each interval requiring an increased effort. For running, this would

involve 30 seconds at an easy pace (30% max), 20 seconds at a moderate pace (60% max) and 10 seconds at 90–100% max. (Note: In practice, the sequence used is 30-20-10.)

In one study, 160 recreational runners (average age 48.3) were divided into two groups: One did 10-20-30 training twice per week and endurance training once, while the other group did endurance training three times per week. Here, 10-20-30 training consisted of five 60-second intervals, then 2 minutes of recovery, with the entire cycle repeating three or four times.

The result: After 8 weeks, the 10-20-30 runners significantly improved their time in a 5-kilometer run by 38 seconds, while the other group experienced no change. **AF**

REFERENCE:

GLIEMANN, L., ET AL. 2015. 10-20-30 TRAINING INCREASES PERFORMANCE AND LOWERS BLOOD PRESSURE AND VEGF IN RUNNERS. *SCANDINAVIAN JOURNAL OF MEDICINE & SCIENCE IN SPORTS*, 25, (5), E479–89.

MATT BRZYCKI is the assistant director of campus recreational fitness at



Princeton University. He has more than 33 years of experience at the collegiate level and has authored, co-authored and edited 17 books.

HAVE A QUESTION FOR OUR EXPERT? SEND IT TO AMERICANFITNESS@NASM.ORG.