

HIGHER TRAINING FREQUENCY IS IMPORTANT FOR GAINING MUSCULAR STRENGTH UNDER VOLUME-MATCHED TRAINING



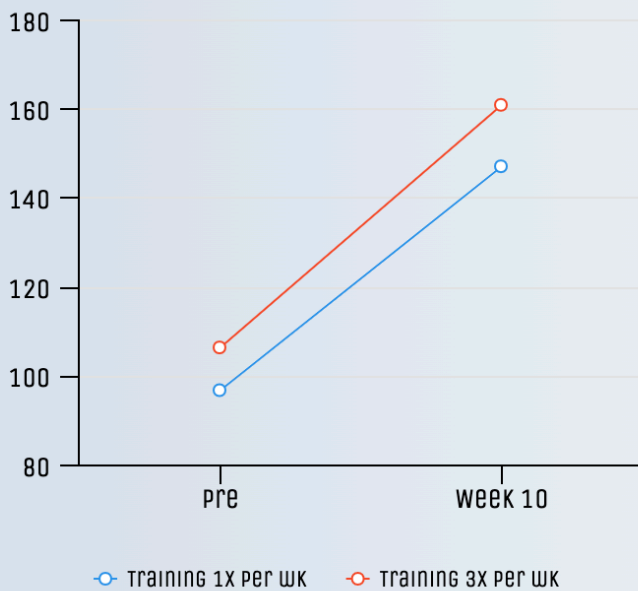
Study Objectives

To compare the effect of volume-matched strength training programs with different frequency and subsequent detraining on muscle size and strength.

Measurements

During a training period of 11 weeks, untrained subjects (age: 22.3 ± 0.9 years, height: 173.1 ± 4.8 cm and body mass: 66.8 ± 8.4 kg) performed knee-extension exercise at 67% of their estimated 1RM either one session per week (T1 group: 6 sets of 12 repetitions per session; $n = 10$) or three sessions per week (T3 group: 2 sets of 12 repetitions per session; $n = 10$).

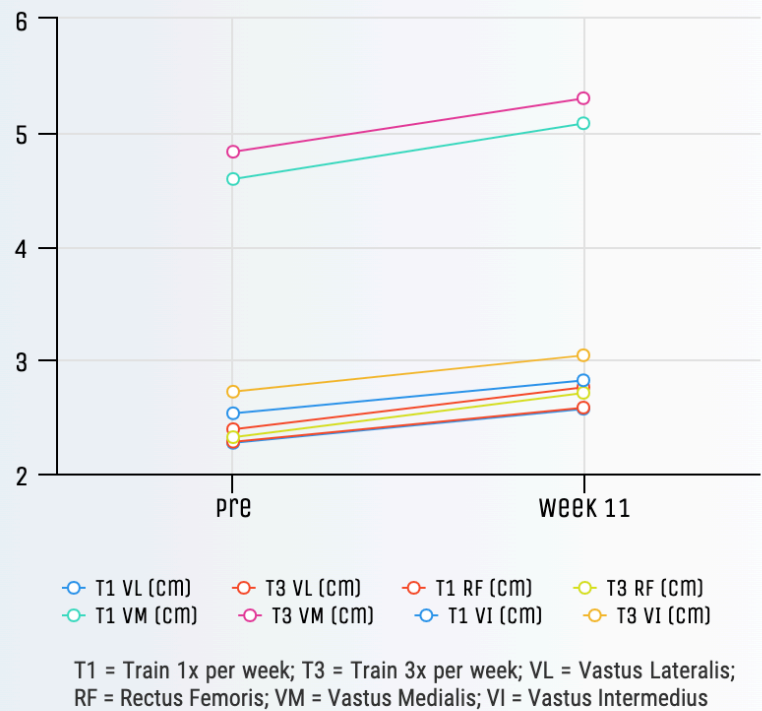
Results



Compared with the baseline (pre), both groups showed significant improvements in estimated 1RM [T1: 12–53% T3: 15–53%, $P < 0.01$ for both groups]. No significant difference was observed between the groups (pre; ES = 0.59, 95% CI: -1.45 to 0.33).

Conclusions

These results suggest that training 3x per week with 2 sets are recommended for untrained subjects to improve muscle strength while minimising fatigue compared to 1x per week with 6 sets.



Compared with the baseline (pre), both groups showed significant increase in thickness of all the quadriceps muscles after 6, 9, and 11 weeks of training and even after the subsequent 3-week detraining ($P < 0.01$).