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Resumo	The magnitude of muscle hypertrophy in response to resistance training (RT) is highly variable between individuals (response heterogeneity). Manipulations in RT variables may modulate RT-related response heterogeneity; yet, this remains to be determined. Using a within-subject unilateral design, we aimed to investigate the effects of RT volume manipulation on whole muscle hypertrophy [quadriceps muscle cross-sectional area (qCSA)] among nonresponders and responders to a low RT dose (single-set). We also investigated the effects of RT volume manipulation on muscle strength in these responsiveness groups. Eighty-five older individuals [41M/44F, age = 68 ± 4 yr; body mass index (BMI) = 26.4 ± 3.7 kg/m^2] had one leg randomly allocated to a single (1)-set and the contralateral leg allocated to four sets of unilateral knee-extension RT at 8-15 repetition maximum (RM) for 10-wk 2 days/wk. Pre- and postintervention, participants underwent magnetic resonance imaging (MRI) and unilateral knee-extension 1-RM strength testing. MRI typical error (2× TE = 3.27%) was used to classify individuals according to responsiveness patterns. n = 51 were classified as nonresponders (≤2× TE) and n = 34 as responders (>2× TE) based on pre- to postintervention change qCSA following the single-set RT protocol. Nonresponders to single-set training showed a dose response, with significant time × set interactions for qCSA and 1-RM strength, indicating greater gains in response to the higher volume prescription (time × set: $P < 0.05$ for both outcomes). Responders improved qCSA (time: $P < 0.001$), with a tendency toward higher benefit from the four sets RT protocol (time × set: $P = 0.08$); on the other hand, 1-RM increased similarly irrespectively of RT volume prescription (time × set: $P > 0.05$). Our findings support the use of higher RT volume to mitigate nonresponsiveness among older adults.NEW & NOTEWORTHY Using a within-subject unilateral design, we demonstrated that increasing resistance training (RT) volume may be a simple, effective
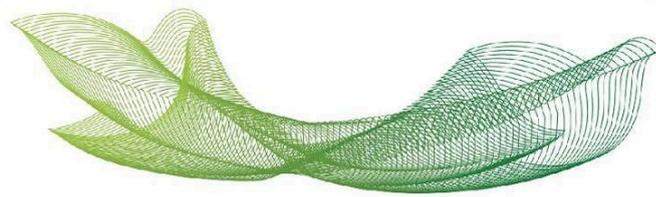
	strategy to improve muscle hypertrophy and strength gains among older adults who do not respond to low-volume RT. In addition, it could most likely be used to further improve hypertrophic outcomes in responders
Fomento	