Flywheel vs Traditional:

Maximizing Hypertrophy

Norrbrand et al (2010)

Greater eccentric overload

Greater and earlier hypertrophy has been reported with flywheel resistance training (FRT).

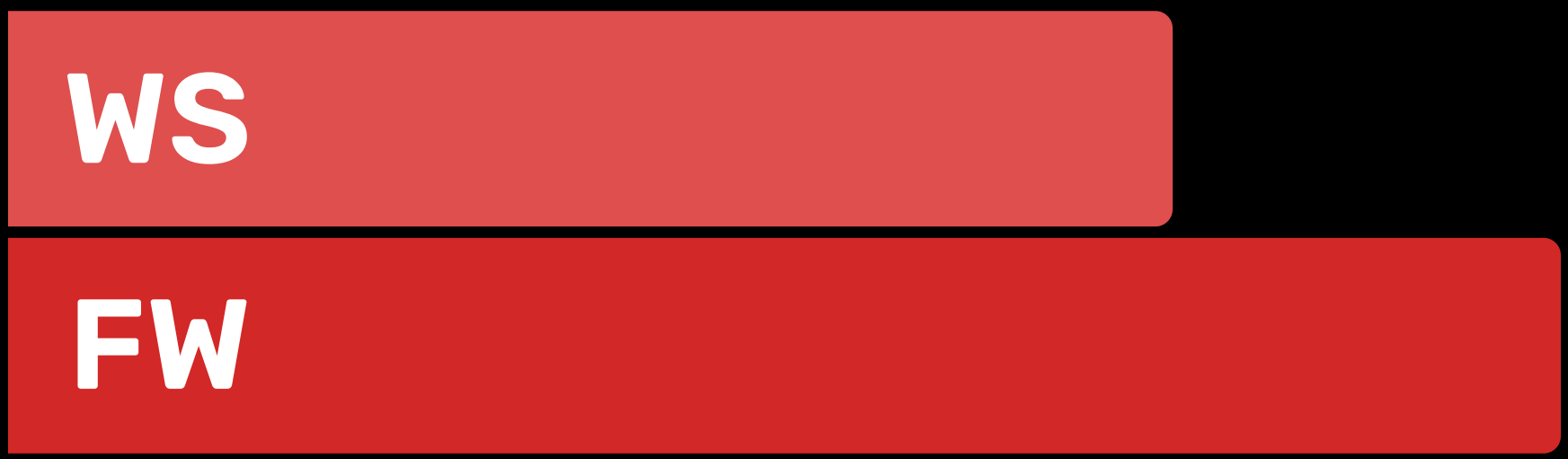
It was thought that given the gravity independent qualities of FRT, this type of training might provide a greater eccentric (ECC) overload and as a result potentially greater hypertrophy.

Program

Subjects were allocated to a knee extension weight stack (WS) group or a knee extension flywheel (FW) group. Muscle activation (EMG) of the two types of loading were compared.

Outcomes

Group FW produced greater ($p < 0.05$) overall normalized angle-specific EMGECC of vastii muscles compared with the WS group.



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Take Home Message

The authors suggested that the greater muscle activation with FW as compared to traditional strength training, “particularly during ECC muscle actions, is indicative of greater mechanical loading, resulting in more robust stimulus giving rise to signals promoting enhanced protein synthesis and eventually leading to greater muscle hypertrophy.”