

Timing & distribution of protein intake: effect on muscle protein synthesis

Designed by @YLMSSportScience

Methods



24 healthy trained males (assigned to three groups) undertook a bout of resistance exercise followed by ingestion of 80 g of whey protein throughout 12 h recovery as either:

PULSED

8×10 g
every 1.5 h



INTERMEDIATE

4×20 g
every 3 h

BOLUS 2×40 g every 6 h

Results



20 g of whey protein consumed every 3 h was superior to either PULSE or BOLUS feeding patterns for stimulating muscle protein synthesis throughout the day



8x 10g

4x 20g

2x 40g

Conclusion & implications



1 THE TIMING AND DISTRIBUTION OF PROTEIN INGESTION IS A KEY FACTOR IN MAXIMALLY STIMULATING RATES OF MUSCLE PROTEIN SYNTHESIS THROUGHOUT AN ENTIRE DAY

2 During the 12 h recovery period after a single bout of resistance exercise 20 g of whey protein ingested every 3 h was the optimal feeding pattern for promoting enhanced rates of muscle protein synthesis in the present study



Reference
Areta et al. Journal of Physiology 2013