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

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### 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





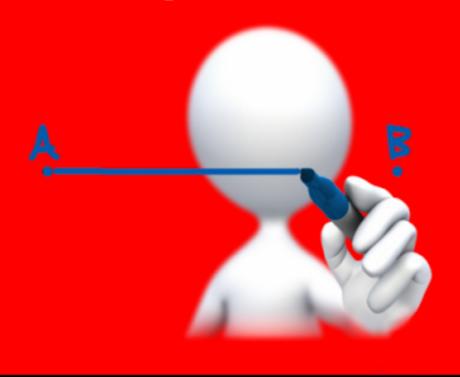
20 g of whey protein consumed every 3 h was superior to either PULSE or BOLUS feeding patterns for stimulating muscle protein synthesis throughout the day

# 8x 10g



2x 40g

## Conclusion & implications



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



