

THE CONVERSATION

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Gym workout advice: protein guidance looks wrong, our findings suggest

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Lebedev Roman Olegovich

Visit a gym regularly and you're bound to hear a conversation along the lines of: "I've just started my new whey protein shake. It says one scoop post-workout on the tub, but I take two just to make sure."

Until now, sports nutritionists would have said you're wasting your money. All the research has indicated that you need only one scoop (20g-25g) of high-quality protein whey or egg white to maximise the growth effects of a weight-training workout. Taking more has appeared to offer little if any additional benefit. This is why the dose recommended on the tub is usually one scoop per workout.

But recent work from our lab reveals otherwise. It raises the need for a major shift in sports nutrition recommendations. For many people, it looks like the gym logic may not be so far wrong after all.

The links between protein and resistance exercise are complicated. It is becoming clearer, though, that an amino acid found in higher levels in higher-quality proteins called leucine is intricately linked to muscle-building – or even the key amino acid in the process. Whey's superiority to soy as a muscle-building protein has been attributed to its leucine content, for example.

Authors



Lee Hamilton

Lecturer in Sport, Health and Exercise Science, University of Stirling



Kevin Tipton

Professor of Sport, Health and Exercise Sciences, University of Stirling



Oliver Witard

Senior Lecturer in Health & Exercise Science, University of Stirling

On the question of the right protein dose, we already knew that age is relevant. The findings to date have all related to young healthy adults. No such maximum response to protein has been noted in older adults. Some research suggests the optimal dose for older adults might be 40g or possibly even higher – double the amount needed by younger people, in other words. Certainly in the rested state we know that older adults need at least double the protein dose that young adults need to maximise muscle-building from eating.

One size fits all?

We have been looking at two other factors whose effect on the optimal protein dose after a workout has never been clear: the amount of muscle the individual possesses and the amount of muscle being exercised. In other words, does a 90kg rugby player need the same dose of protein post-workout as a 60kg boxer? And will the rugby player need more protein if he works out his whole body as opposed to only his legs?

Believe it or not, these questions had never been empirically tested. The recommendations of protein post-workout come primarily from two studies of resistance-trained young men with similar body mass (80kg to 85kg) working out only part of the body (the legs).

In lieu of any research findings, recommending 20g-25g for all young healthy adults has been merely an attempt to take account of possible variations from person to person – while not even acknowledging that many athletes perform whole body workouts in the real world. Quite rightly, this one size fits all approach has been questioned by many in the business.



Whey to go. Chetty Thomas



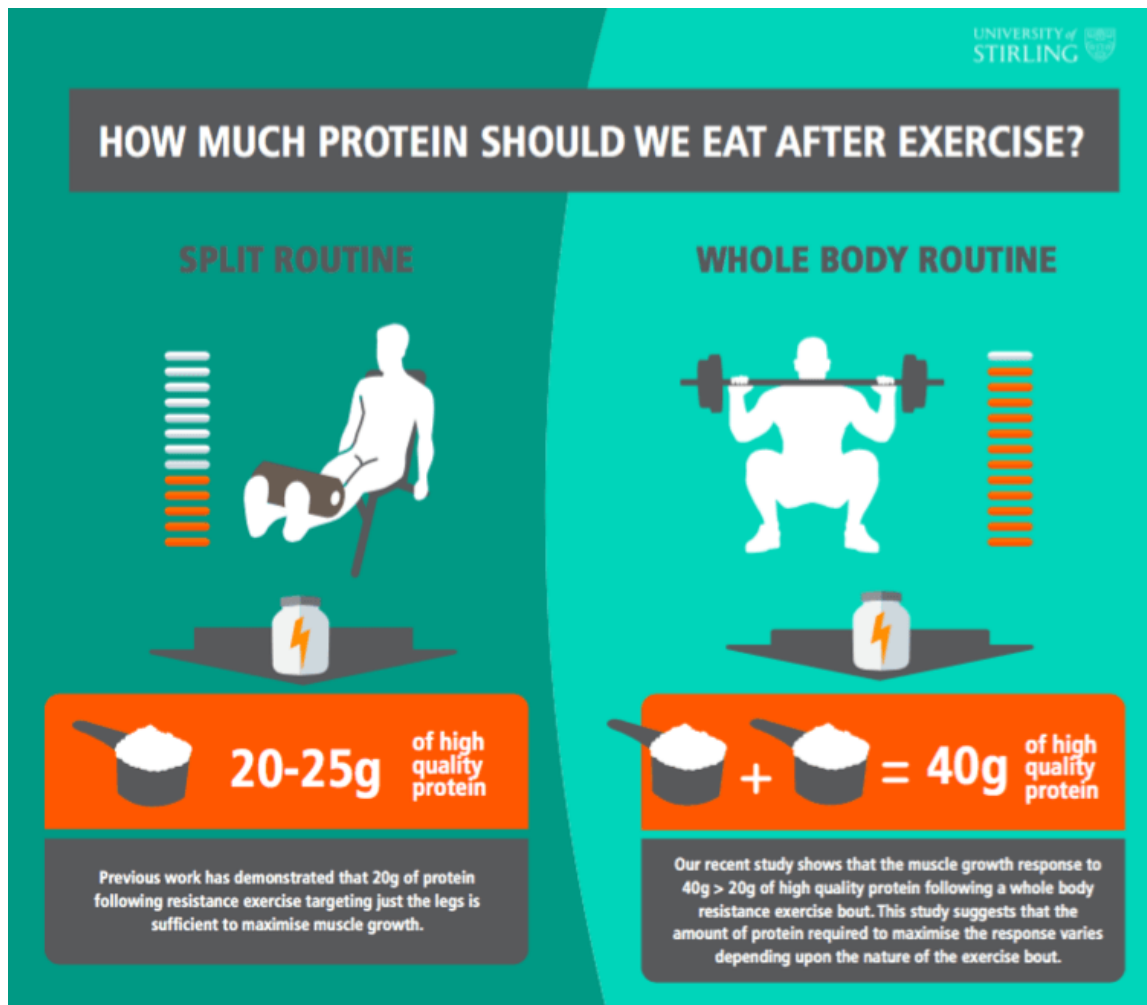
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For our study, we recruited two groups of male weightlifters, one with 65kg or less of muscle mass and one with 70kg or more. We assessed the muscle-building response after a whole body routine of weightlifting.

What we found goes against a commonly accepted paradigm in sports nutrition. We showed that 40g of protein consumed post-workout was more effective than 20g of protein at stimulating the muscle-growth response.

This had nothing to do with the size of our participants, which made no difference to their protein requirement. It appears that the amount of muscle you work in a single session is more important to the optimal dose of protein post-workout than the absolute amount of muscle you possess – though it is important to stress that we did not explicitly test this question.

Though our data will require further validation, the results suggest that the recommended protein intake will in future depend on the nature of the preceding workout – along the lines of the graphic below:



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It is also worth pointing out that the American College of Sports Medicine, the largest exercise science organisation in the world, specifically recommends that older adults perform full body resistance exercise workouts.

If our findings hold true for older adults, it may mean that they need to take even higher doses of protein to achieve optimal levels. Yet that might not be feasible for practical reasons – for example, you'd need to consume roughly two chicken breasts or about a litre of a thick shake to get 60g of protein. So instead of leading to changes in the nutrition, follow-up research may lead to older adults being recommended to change from performing a whole body routine to a split routine to maximise their muscle potential.

🔍 Muscles whey protein bodybuilding Muscle mass