The Power of Protein: Separating Hype from Reality

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Questions & Answers





Questions Answered by Dr. Leidy

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Q: *With such positive effects of animal protein, why do so many studies show such positive health outcomes for vegetarians?*

A: My answer really depends on which specific outcomes you are referring to. To be more generalized, there are cross-sectional studies that indicate that eating a vegetarian diet is accompanied by improvements in cardiovascular risk and obesity. However, there are numerous confounding factors within this type of analysis. First, cross-sectional data (from NHANES) only show an association, not a causal link. Second, individuals who eat a vegetarian diet also eat less saturated fat, less white flour, fewer simple sugars and more whole grains/fiber than those that eat an animal-based diet. Thus, it's difficult to tease out the effects of animal vs. plant-based diets due to the other factors. Recent data clearly show that when lean animal products are consumed there is greater weight loss and improvements in body composition, glycemic control and cardiovascular health.

Q: *What is your stance on protein shakes as meal replacements or as supplementary snacks?*

A: We have several studies that illustrate less satiety (fullness) and increased hunger following the consumption of protein beverages vs. solid foods. However, because protein, in general, is more satiating and leads to benefits in terms of body composition/weight management, I typically suggest trying to eat protein as much as possible. When that becomes a challenge, then it is OK to consume this in a beverage form—perhaps as a snack.

Q: *Is there a difference in protein absorption and synthesis with drinking vs. eating protein?*

A: Protein beverages elicit a faster gastric transit time than protein foods. Thus, in terms of absorption, beverages would lead to a quicker absorption rate.

Q: *Should protein intake be adjusted on days with more or less physical activity? Example: Increase protein on days with increased activity and decrease protein on days with decreased activity.*

A: Scientific evidence illustrates that increased dietary protein (25–30 percent of intake as protein) has benefits, outside of exercise. With that said, timing of protein consumption with physical activity is key. In other words, if you are eating a higher protein diet, then making sure to distribute protein to eating a 30 g protein shake/meal after your workout is optimal.

Q: *With the popularity of higher protein diets for a number of years, with evidence for weight loss, why do we not see accompanying research that weight loss is sustained?*

A: Actually, recent data illustrate that increased dietary protein leads to sustained weight loss over the long term (i.e., ≥12 months) compared to lower protein intake. I have listed several studies that address this point:

- Clifton PM, et al. (2014); Long term weight maintenance after advice to consume low carbohydrate, higher protein diets – a systematic review and meta analysis; Nutr Metab Cardiovasc Dis; Mar; 24(3):224-35.
- Larsen TM, et al. (2010); Diets with high or low protein content and glycemic index for weight-loss maintenance; N Engl J Med; Nov 25; 363(22):2102-13.
- Damsgaard CT, et al. (2013); Higher protein diets consumed ad libitum improve cardiovascular risk markers in children of overweight parents from eight European countries; J Nutr; June; 143(6):810-7.
- Aller EE, et al. (2014); Weight loss maintenance in overweight subject on ad libitum diets with high or low protein content and glycemic index: the DIOGENES trial 12-month results; Int J Obes; Mar 28; doi: 10.1038/ijo.2014.52 EPUB ahead of print.

Q: *What are your protein recommendations for vegetarians?*

A: If the vegetarians are getting their protein from complete plant sources like soy, hemp or pea protein, then the recommendations of 25–30 percent of intake as protein, 30 g/meal, is the same. However, if they are getting the protein from incomplete sources like beans, gluten, etc. they may need more protein.

Q*: Can you comment on the use of protein supplements (whey protein or vegetable protein powder) vs. high protein foods for young men trying to gain weight vs. high protein foods?*

A: In terms of the goal of weight gain, I do recommend having protein shakes along with protein foods. As long as the protein is of high quality (whey, casein, soy, hemp, pea, egg), it can be equivalently exchanged.

Q: The book "*The China Study," by T. Colin Campbell, was recommended to me by a nurse. The book links higher protein diets with occurrence of cancer and also links casein, in milk and dairy, to cancer. Could you comment on this linkage and explain how your view differs from that proposed in "The China Study"?*

A: Maureen Bligh, M.A., R.D.N. wrote an excellent blog recently critically examining the statements included within "The China Study." http://www.healthyeating.org/Blog/Article/519/Dietitians-Review-the-China-Study.aspx





Questions Answered by Dr. Rodriguez

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Q: *Are higher intakes—above 30% of energy—safe? Should any groups be advised against higher protein intake?*

A: This is a good question, and I find the best way to manage this concern is to first go to the absolute protein intake. While there is limited, if any, longitudinal evidence regarding high protein intakes and compromised renal function in healthy men and women with normal renal function, I prefer not to exceed 2 g/kg. And, I do not typically design diets that exceed 1.6 g/kg in healthy, physically active men and women—young, middle-aged or old. In elite athletes—specific to sport and/or position—I may hover around 2 g/kg.

In our research, we found no advantage to protein intakes in excess of 1.8 g/kg to protein synthesis—whole body as well as skeletal muscle. We did observe that healthy men consuming close to 3 g/kg did have higher blood urea nitrogen (BUN) values. Because their calorie intakes were high as elite runners, the protein was 30 percent of the calories. When they reduced protein intake their BUN levels decreased. If a diet treatment is for someone with lower calorie needs, it could very well be that 1.5 g/kg might approach 30 percent of the calories.

Long answer short, I don't believe there is sufficient evidence to address the safety question. However, practically speaking, I do not see any benefit to consuming protein at levels that exceed 30 percent or, more specifically, 1.8–2 g/kg.

Q: How would you encourage busy families to eat higher protein breakfast meals? Many don't even eat anything for breakfast so to eat high protein breakfast meals would be difficult when facing challenges of portability / convenience / cost, etc.

A: Good question and practicality is a concern. Still, peanut butter sandwich (on English muffin) with a glass of milk or yogurt is a good start. Also, instant breakfast drinks are quick and can be an option for busy folks. Finally, there are numerous frozen sandwich options (egg, sausage and cheese bagels, croissants, etc.) that are good option.

Q: Don't most Americans get a lot of protein in their everyday diets? Is the take-home message more about distributing the amount of protein throughout the day instead of having most at dinner?

A: The slide that is in both presentations shows that while Americans—across various age groups—consume a little more than the RDA, it is at the low end of the AMDR for protein. So they are consuming at least the minimal amount but that may be insufficient to optimize health and wellness.

Yes, the amount consumed per meal is important. In addition, evidence now exists to support recommended protein intakes approximating twice the RDA (~1.6 g/kg) for optimal health and wellness. That is, protein intake well within the AMDR can enhance management of body weight, diabetes and cardiovascular disease, as well as prevent or slow the progression of sarcopenia.

Q: How do we reconcile higher animal protein with evidence-based research that recommends more plant-based eating for greater longevity?

A: In my opinion, evidence that CLEARLY documents the role of diet composition, energy intake, specifically restricted calories, as well as protein source, on longevity remains insufficient. Registered dietitian nutritionists don't have an absolute template on which to base diet design. There have been convincing stories told but ultimately the relationships are quite complex, and I can't provide an answer for reconciliation on this point.

Our work, and that of others, along with the philosophical basis of the webinar, is that animal protein can be incorporated into a well-balanced diet. It does not need to dominate the menu plan.

Q: What differences do you see in satiety and weight loss if plant-based protein is used vs. animal sources?

A: I can't respond directly to this question in regard to satiety and would refer you back to Dr. Leidy's recent work, as well as her response to a similar question.

For weight loss, if the plant protein at each meal approximates 25–30 g and in total approximately 1–1.5 g/kg, then I would speculate a similar outcome to animal protein: weight loss for which a greater proportion is fat loss when compared to a weight loss plan that provides approximately 0.8–1 g protein/kg.

Again, the challenge is achieving this level of protein consumption and achieving negative energy balance for weight loss while simultaneously meeting micronutrient needs.

Q: Is the protein per kg going to be the same for an obese patient? Would you use actual, ideal or adjusted body weight?

A: I use actual body weight. This often depends on the individual practitioner's approach.