

# Beef Up with Lean Protein

The importance of muscle mass to optimal metabolic function, physical activity and weight loss is clear. Now, a growing body of evidence suggests muscle metabolism may also play a role in the prevention of many chronic diseases, such as type-2 diabetes and osteoporosis. However, research shows current protein recommendations may not go far enough to contribute to healthy muscle development.

The September 2006 edition of the *American Journal of Clinical Nutrition* contains a thought-provoking review by Dr. Robert Wolfe of the University of Arkansas. "The Underappreciated Role of Muscle in Health and Disease" explores the growing body of evidence suggesting lean muscle mass not only builds strength, but also promotes active daily life and may ultimately improve overall health.

From a nutrition perspective, the review indicated that increasing daily high-quality protein intake may optimize muscle strength and metabolism and ultimately improve overall health!

Since current recommendations for protein are based on the **prevention** of protein deficiency, Dr. Wolfe states they may not be sufficient for building and maintaining muscle, so it is important to re-evaluate protein recommendations and the benefits protein may have on improving overall health. Dr. Wolfe contends that at least 15 grams of essential amino acids, or four ounces of high-quality protein like lean meat at each meal, could be beneficial to build and maintain adequate levels of muscle mass to enhance quality of life and prevent disease.



## Meal Plan

It's easier than you may think to incorporate 15 grams of essential amino acids (EAA) at each meal. Follow this simple and delicious sample menu to get on your way to maintaining adequate muscle mass and achieving better overall health.

**BREAKFAST**

- Omelet
- Eggs (2 large) EAA: 5.771g
- Mushrooms (1/4 cup) EAA: 0.149g
- Green peppers (1/4 cup) EAA: 0.067g
- Lowfat cheddar cheese (2 slices) EAA: 5.898g
- Whole wheat toast (1 slice) EAA: 0.53g
- Skim milk (1 cup) EAA: 3.879g
- Total EAA: 16.294g**

**SNACK**

- Medium apple EAA: 0.085g
- Peanut butter (1 tbsp) EAA: 1.011g
- Total EAA: 1.096g**

**SNACK**

- Trail Mix
- Almonds (1/2 oz) EAA: 0.175g
- Dried apricots (1/4 cup) EAA: 0.901g
- Total EAA: 1.076g**

**LUNCH**

- Fish Tacos
- Cod (4oz) EAA: 10.964g
- Romaine lettuce (1 cup) EAA: 0.186g
- Tomato (1/2 cup) EAA: 0.185g
- Part skim mozzarella cheese (1 oz) EAA: 3.297g
- Salsa (2 tbsp) EAA: 0g
- Corn Tortilla (12") EAA: 2.516g
- Side of cabbage coleslaw (1/2 cup) EAA: 0.258g
- Fruit Medley
- Pineapple (1/4 cup) EAA: 0.056g
- Cantaloupe (1/4 cup) EAA: 0.073g
- Water with lemon EAA: 0g
- Total EAA: 17.535g**

**DINNER**

- Szechuan Beef Stir-Fry
- Broccoli (1/2 cup) EAA: 0.66g
- Carrots (3/4 cup) EAA: 0.649g
- Beef Tenderloin Steak (3oz) EAA: 9.958g
- Sesame-ginger stir-fry sauce (3 tsp) EAA: 0.032g
- Brown Rice (1/2 cup) EAA: 0.935g
- Dry roasted peanuts (1/8 cup) EAA: 1.344g
- Chocolate pudding prepared with 2% milk (4oz) EAA: 1.599g
- Water with lemon EAA: 0g
- Total EAA: 15.177g**

<sup>1</sup>Wolfe R. The underappreciated role of muscle in health and disease. *American Journal of Clinical Nutrition*. 2006. 84: 475-482.



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## POWER OF PROTEIN

Your body needs essential amino acids from high-quality protein to help your body grow, maintain muscle and function properly.<sup>2</sup> When it comes to choosing proteins, it's important to realize that proteins are not created equal. Animal protein in particular, such as lean beef, is a *complete* high-quality protein that contains all the essential amino acids your body needs to build and maintain muscle mass. With 29 lean beef cuts to choose from, including traditional favorites like tenderloin, flank steak, 95 percent lean ground beef and T-bone steak, people can easily "go lean with protein" and enjoy the benefits of a high-quality, nutrient-rich protein—as the USDA recommends within the *2005 Dietary Guidelines for Americans* and *MyPyramid*.

Visit  
[www.BeefItsWhatsForDinner.com](http://www.BeefItsWhatsForDinner.com)  
for a convenient wallet card  
that lists the 29 lean beef cuts.

## Pack a Protein Punch

There are many ways you can incorporate essential amino acids and lean protein in your diet. Some easy and delicious ways to get the protein you need to maintain muscle mass and achieve better overall health include:

- Add lean ground beef to scrambled eggs, along with sliced fresh peppers and onions, to create a delicious omelet.
- Enjoy a lean protein lunch by adding sliced grilled beef sirloin, skinless chicken breast or a hard boiled egg to your salad.
- For a satisfying afternoon snack, make a fruit smoothie with your favorite flavor of lowfat yogurt and fresh or frozen fruit.
- Looking for a kid-friendly snack? Serve meatballs on a stick with a side of marinara for dipping. These meatball pops are sure to please even the pickiest of eaters!
- For a healthier alternative to hitting the convenience store for soda and chips during your next road trip, pack a bag with string cheese, trail mix and flavored milk for a protein-fueled pick-me-up.
- Want to spice up your mac 'n' cheese? Add 95 percent lean ground beef to macaroni and cheese to power up the protein during dinner.
- Keep a stock of lean protein snacks in your office desk drawer. Nuts, jerky, tuna packed in water, peanut butter and whole grain crackers help to calm the afternoon munchies.



<sup>2</sup>Insel P, Turner R, Ross D. Nutrition. Jones and Bartlett Publishers. Sudbury, Massachusetts, 2002.