



CHOOSE THE NATUREGG™ THAT'S RIGHT FOR YOU

Simply Egg Whites™
Cholesterol and fat free



Omega Pro™
Provides 125 mg of DHA plus 125 mg of EPA omega-3 and 1 mg of lutein per 63 g serving.

Break-Free™
80% less cholesterol & fat*
*Compared to a 53 g large egg



Simply Egg Whites™ and Omega Pro™ are 100% pure egg whites and Break-Free™ is a blend of real egg whites and whole egg.

DIETARY RECOMMENDATIONS

Protein needs vary according to age and gender throughout the lifecycle. According to current recommendations, adults should consume 10 to 35% of their total calorie intake as protein.¹ This represents a range of about 50 to 175 grams of protein for an adult that consumes 2,000 calories a day.

Table 1 shows the Recommended Dietary Allowance (RDA), which represents the minimum daily intake, throughout the lifecycle. The daily RDA for adults, is 0.8 grams of good quality protein per kilogram of body weight.¹

Good quality protein has an amino acid content that is well balanced compared to human requirements. Pregnant and breastfeeding women have the highest protein requirements.

Current evidence suggests that most adults could benefit from protein intakes above the RDA.²

TABLE 1
RECOMMENDED DIETARY ALLOWANCES (RDA) FOR PROTEIN

LIFE STAGE & GENDER	AGE	RDA FOR PROTEIN* (GRAMS PER DAY)
Infants	7 to 12 mths	11
Children	1 to 3 yrs	13
Children	4 to 8 yrs	19
Children	9 to 13 yrs	34
Teenage boys	14 to 18 yrs	53
Teenage girls	14 to 18 yrs	46
Men	19 yrs & over	56
Women	19 yrs & over	46
Pregnant & Breastfeeding	All ages	71

*Based on 1.5 g/kg/day for infants, 1.1 g/kg/day for 1-3 years, 0.95 g/kg/day for 4-13 years, 0.85 g/kg/day for 14-18 years, 0.8 g/kg/day for adults, and 1.1 g/kg/day for pregnant (using pre-pregnancy weight) and lactating women.

DIETARY PROTEINS ARE AN IMPORTANT SOURCE OF ENERGY.

WHAT ARE PROTEINS?

Many different foods contain dietary protein. Meat, milk products, eggs and legumes are important sources of dietary protein. Proteins are made of long chains of smaller molecules called amino acids. Dietary proteins are broken down by the body into amino acids which are then used as building blocks to synthesize new proteins in the body. Dietary proteins are also an important source of energy to fuel the body.

PROTEIN BENEFITS

- growth and development
- tissue formation and repair
- nervous system function
- brain function
- immune system function
- vitamin and mineral performance
- transporting nutrients and oxygen
- optimal calcium uptake
- disease prevention
- all enzyme function
- some hormone function
- providing a source of energy

REFERENCES:

1. Institute of Medicine. 2005. Dietary Reference Intakes for Energy, Carbohydrate, Fibre, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids. Washington DC: National Academy Press.
2. Layman DK. 2009. Dietary guidelines should reflect new understandings about adult protein needs. Nutr Metab 2009; 6:12.
3. Kreider RB and Campbell B. Protein for exercise and recovery. Phys Sportsmed 2009; 37:13-21.
4. Rodriguez NR et al. Position of the American Dietetic Association, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and athletic performance. J Am Diet Assoc 2009; 109:509-27.
5. Campbell B et al. International Society of Sports Nutrition position stand: protein and exercise. J Int Soc Sports Nutr 2007; 4:8.
6. Westerterp-Plantenga MS et al. Annu Rev Nutr 2009; 29:21-41.
7. Paddon-Jones D et al. Protein, weight management, and satiety. Am J Clin Nutr 2008; 87:51558-61.
8. Layman DK et al. A reduced ratio of dietary carbohydrate to protein improves body composition and blood lipid profiles during weight loss in adult women. J Nutr 2003;133:411-7.
9. Farnsworth E et al. Effect of a high-protein, energy-restricted diet on body composition, glycemic control, and lipid concentrations in overweight and obese hyperinsulinemic men and women. Am J Clin Nutr 2003;78:31-9.
10. Wycherley TP et al. A high-protein diet with resistance exercise training improves weight loss and body composition in overweight and obese patients with type 2 diabetes. Diabetes Care 2010; 33:969-76.
11. Symons TB et al. A moderate serving of high-quality protein maximally stimulates skeletal muscle protein synthesis in young and elderly subjects. Am J Diet Assoc. 2009; 109:1582-6.
12. Heaney RP and Layman DK. Amount and type of protein influences bone health. Am J Clin Nutr 2008; 87:51567-70.
13. Misra D et al. Does dietary protein reduce hip fracture risk in elders? The Framingham osteoporosis study. Osteoporosis Int 2010 May 5 [Epub ahead of print].
14. Beasley JM et al. Is protein intake associated with bone mineral density in young women? Am J Clin Nutr 2010; 91:1311-6.
15. Young VR and Pellett PL. Current concepts concerning indispensable amino acid needs in adults and their implications for international nutrition planning. Food and Nutrition Bulletin 1990; 12:289-300.



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It's like shopping with the Heart & Stroke Foundation's dietitians.

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This brochure has been sponsored by Burnbrae Farms, makers of Naturegg™ Break-Free™, Omega Pro™, Simply Egg Whites™, Egg Creations™ liquid eggs and Naturegg™ Omega 3 and Omega Pro™ shell eggs.

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FOOD FOR THOUGHT

the
IMPORTANCE
of
PROTEIN
IN YOUR DIET

Wise Food & Lifestyle Choices
For Better Overall Health

WHAT ARE PROTEINS?

Proteins are essential macronutrients that play a vital role in tissue and cell growth and repair.

They have many important functions in the body as:

- Structural proteins in joints and tendons
- Contractile proteins found in muscles
- Enzymes, hormones and antibodies
- Neurotransmitters



PHYSICAL ACTIVITY

A higher daily protein intake of 1.2 to 2.0 grams per kilogram of body mass is generally recommended for athletes and physically active individuals.^{3,5}

HEALTHY WEIGHTS

Higher protein intakes may be helpful for appetite and weight management. Protein promotes satiety, the feeling of fullness between meals, more than carbohydrate or fat.^{2,6,7}

HEART HEALTH

Weight loss diets rich in protein may also improve blood lipid (fat) levels and blood glucose (sugar) levels. This in turn may help reduce the risk of heart disease and diabetes.^{2,7-10}

HEALTHY AGING

Higher protein intakes above the RDA may also help adults maintain muscle mass and bone density as they age. This in turn may help promote strength and mobility throughout life.^{2,11-14}

PROTEIN QUALITY

The quality of protein varies in different foods.

Protein quality is a measure of its ability to provide amino acids and nitrogen for the body's growth, maintenance and repair needs.

Protein quality is based on two key factors:

1. The amino acids that make up the protein.
2. The ease with which the protein is digested.

Proteins from foods of animal origin such as meat, poultry, fish, milk and eggs are considered 'complete' because they have a pattern of indispensable amino acids that closely matches human needs. Proteins from plant foods such as grains, vegetables, nuts, seeds and legumes (with the exception of soy

Types of Amino Acids

Indispensable amino acids
Dispensable amino acids
Conditionally indispensable

TYPES OF AMINO ACIDS

The amino acids in dietary proteins can be classified in three groups according to whether they are essential:

1. Indispensable amino acids
2. Dispensable amino acids
3. Conditionally indispensable

There are nine indispensable amino acids that are considered essential. These amino acids cannot be synthesized by the body at a rate needed to support normal growth and must be supplied by the diet. Requirements for each of these indispensable amino acids vary according to age.

Dispensable amino acids are considered non-essential because they can be synthesized by the body. Some amino acids are considered conditionally indispensable because the body can normally synthesize these to meet metabolic needs; however, not in some circumstances such as in premature infants.

INDISPENSABLE AMINO ACIDS

Methionine	Valine
Phenylalanine	Isoleucine
Tryptophan	Threonine
Histidine	Leucine
Lysine	

protein) generally have lower levels of one or more of the nine indispensable amino acids. Thus, plant proteins are often referred to as 'incomplete' proteins. Proteins from plant foods also tend to be less digestible than proteins from foods of animal origin.

PROTEIN BALANCE

Insufficient dietary protein can be compensated for, in the short term, by drawing on body protein reserves. Such reserves can make up 5-7% of total body protein and are found mainly in muscles and the liver. When these reserves are depleted, muscle protein is broken down to provide essential amino acids for critical body functions such as liver metabolism. The reserves are replenished



when dietary protein intakes return to normal. Long-term dietary protein deprivation results in wasting of body muscle mass, lethargy and loss of energy, edema in the legs and feet and adverse changes in protein rich tissues such as hair and skin.

EXCESS DIETARY PROTEIN

Consuming too much dietary protein can over-burden the kidneys and may contribute to gout in some people.

Gout is a form of arthritis that causes painful swelling in joints, such as the big toe. Eating adequate amounts of good quality dietary protein in the recommended range helps to promote optimal health.

NUTRITIONAL VALUE

Whole egg protein is the conventional standard for measuring protein quality because it has an excellent balance of amino acids when compared to human requirements. Egg protein is also rich in albumins, a class of proteins that are highly water soluble and are fully digested.

In determining dietary protein quality, whole egg protein is assigned a value of 100. Test proteins

are ranked according to how closely they match the digestibility and indispensable amino acid profile of egg protein.

These rankings are almost always assigned values less than 100, as shown in Table 2.

TABLE 2
PROTEIN QUALITY AND CONTENT OF COMMON FOODS

FOOD	TYPICAL SERVING	TOTAL FAT	TOTAL PROTEIN	PROTEIN RATING
Omega Pro™ liquid eggs	63 g	2 g	6 g	100
Simply Egg Whites™	63 g	0 g	7 g	100
Break-Free™	63 g	1 g	6 g	100
Regular eggs	53 g*	5 g	6 g	100
Milk	245 g	5 g	12 g	77
Chicken	100 g	15 g	21 g	80
Salmon	100 g	10 g	20 g	85
Ham	85 g	14 g	18 g	80
Beef	85 g	14 g	24 g	80
Pork	87 g	19 g	24 g	80
Beans	256 g	1 g	13 g	56
Wheat	115 g	1 g	12 g	44

* 1 large egg

PROTEIN AND EGGS

Table 3 compares the pattern of indispensable amino acids in whole eggs and the requirement pattern for people 1 year of age and older shows that whole eggs provide more of the indispensable amino acids per gram of protein (total 536 mg) than the Institute of Medicine's recommended protein digestibility corrected amino acid scoring pattern for proteins (total 287 mg/g).^{1, 15}



TABLE 3
INDISPENSABLE AMINO ACIDS

INDISPENSABLE AMINO ACIDS	PATTERN IN WHOLE EGGS ²	AMINO ACID SCORING PATTERN (FOR PEOPLE 1 YEAR OF AGE AND OLDER) ¹
Histidine	24	18
Isoleucine	63	25
Leucine	88	55
Methionine + Cystine	56	25
Phenylalanine + Tyrosine	98	47
Lysine	70	51
Threonine	49	27
Tryptophan	16	7
Valine	67	32
TOTAL ESSENTIAL AMINO ACIDS	536	287



LIQUID EGG PRODUCT

JUST SHAKE & POUR ONE OF FOUR POPULAR FLAVOURS



Original

Garden Vegetable



Cheese and Chives

Southwestern

- Cholesterol and fat free
- Trans fat free
- Source of 11 important vitamins and minerals*

*per ¼ cup (63 g) serving.

Made from real egg whites, cheese, chives, red and green peppers, celery and onion.