

Protein

Sports individuals and athletes require additional protein above the sedentary population to meet the demands of training in order to repair exercise induced muscle fibre damage as well as to build additional lean muscle tissue.

In sports where increased muscle mass and strength is required, the additional amount of protein required can usually be met by a well-balanced diet, as the average person eats protein in excess of the recommended daily allowance.

Daily protein requirements (grams of protein / per kilogram of bodyweight)

Group	Protein intake (g/kg/day)
Sedentary men and women	0.8-1.0
Recreational endurance athletes (a)	0.8-1.0
Resistance athletes (steady state)	1.0-1.2
Moderate-intensity endurance athletes (b)	1.2
Football, power sports	1.4-1.7
Resistance athletes (early training)	1.5-1.7
Elite male endurance athletes	1.6
Female athletes ~15% lower than male athletes	

a. Exercising four to five times per week for 30 min at <55% VO₂peak

From Burke and Deakin, Clinical Sports Nutrition, 3rd Edition, McGraw-Hill Australia Pty Ltd, 2006

b. Exercising approximately four to five times per week for 45-60 min

If excess protein is consumed, it is not converted into muscle as is the popular belief, but metabolised and excreted via the urine. High protein diets are not necessarily harmful, but they are expensive and can often replace other important nutrients such as whole grain carbohydrates, fruit and vegetables. If a high protein diet is also based on animal products, these foods often contain large amounts of fat, which leads to additional unwanted fat gain, as well as heart disease if fat is consumed at high enough levels.

It is important to carefully select protein rich foods and the best cooking methods.

Good sources of protein: Each source provides approximately 7g of protein

Animal food	Plant food	Other
30g lean poultry e.g. chicken, cooked white meat	38g pronutro high energy breakfast cereal	60g Snack bar (Snacker, Gilly, Noogy, Barry's)
30g lean beef/ lamb/ pork	½ cup low fat muesli e.g. Natures source	60g Energy bar (PVM)
30g fish or canned tuna/ pilchards	2 slices whole-wheat bread	45g yoghurt or seed health bar
35g lean beef mince meat	11 low fat whole grain crackers e.g. Provitas	20g marmite/ Bovril spread
1 small block (30g) reduced fat cheese	28g roasted salted peanuts	½ cup / 125ml liquid meal supplement e.g. Nutren Active
65g low fat cottage cheese	42g mixed nuts or seeds	
2 small eggs (70g each)	30g raw soy mince	
1 small tub (175 ml) low fat or fat free yoghurt	¾ cup cooked lentils, kidney beans, baked beans	
¾ cup low fat cows milk	80g soy beans	
¾ cup of fat free milk	88g tofu	
20g skimmed milk powder	¾ of cup soy milk	
	1½ cups cooked pasta	
	2 cups of cooked rice	

These foods are also rich in other nutrients and low to moderate in fat:

High protein supplements

Athletes (especially competitive athletes) need to be careful when considering using high protein supplements or other powdered meal supplements, which are attractive due to their convenience factor. There is a risk of contamination from unknown substances, banned substances such as stimulants and pro-hormones as not all products can guarantee their purity or certification. Your best choice is a nutritionally balanced clinical product if convenience is high on your priority list. Home made smoothies also provide an ideal alternative.

Seek the advice of a dietician focused in sport or your sports physician to find out which products are suitable for your needs.