

## Eating for CF- Fat, Protein & Carbohydrate

Individuals with CF have greater nutritional needs, in particular energy (or calories), compared to the general populations. This is due to the high amount of energy the body uses to breathe, cough, fight infection in the lungs and poor fat digestion.

The current guidelines estimate that the energy needs for individuals with CF are 110-200% higher than the general population, however an individual approach must be considered.

To meet these increased nutritional needs, individuals with CF are generally recommended to eat a diet high in energy (or calories). It is important to be guided by your CF dietitian as there is not a 'one-size-fits-all' method for determining energy needs.

It is important to follow a balanced diet including all food groups (unless otherwise advised) such as grains and cereals, fruits and vegetables, dairy products and protein foods like meat, chicken, fish, legumes, nuts and eggs.

### Fat

Following a diet high in fat, can help to achieve the higher energy (or calorie) needs in people with CF. In general, adults with CF should aim for ~100g of fat per day. This recommendation may change if overweight or at risk of obesity.

The source and quality of fat is important. As people with CF are now



living longer, the long-term effects of a high fat diet need to be considered, particularly for those with a higher body mass index (BMI). Following a diet high in saturated fat, can lead to negative effects on cardiovascular (heart) health. For some, increased intake of 'healthier' fats rather than 'bad' fats may be encouraged.

The four main types of fat are polyunsaturated, monounsaturated, saturated and trans fats. Trans fats can be grouped as saturated fats as they act similarly in the body. Polyunsaturated and monounsaturated are the healthiest forms of fats because of their positive health benefits.

Whilst saturated (and trans) fats are considered the least nutritionally beneficial source of fat, they may still be an effective option for those requiring a high energy diet to achieve or maintain a healthy weight.

Polyunsaturated Fats	Monounsaturated Fats	Saturated (and trans) fats
Fatty fish (such as salmon, tuna, herring and sardines)	Olive oil	Untrimmed meat, processed meats and sausages
Vegetable oils (sunflower, safflower and soybean oils)	Canola oil	Butter and cream
Fish oils	Peanut oil	Lard
Seeds (flaxseed, pepitas and sunflower seeds)	Avocado	Dairy made from whole milk such as milk and cheeses
Legumes	Natural peanut butter	Plant fats (coconut oil, palm oil and cocoa butter)
Soybeans	Nuts (almonds, and peanuts)	Commercially baked products (biscuits, cakes and pastries)
Nuts (walnuts and peanuts)	Seeds	Deep fried or takeaway foods

There are many ways to incorporate more of the 'healthy' or unsaturated fats in your diet.

### Here are some ideas:

Swap this...	...For this
Cooking with butter or other animal fats	For canola, olive, safflower or sunflower oil
Using meat with visible fat and skin	For skin free meat with the fat cut off
Butter or cream cheese spreads	For margarine, peanut butter, avocado, tahini, hummus or lite cream cheese
Full cream milk	For milk enriched with skim milk powder
Regular eggs	For omega-3 eggs (which come from hens fed on flaxseeds. they contain up to 12 times more omega-3 than regular eggs)

## Protein

Protein is an important dietary component for those with CF, which is the same as general population guidelines. Many people with CF experience reduced muscle mass due to digestion issues with protein absorption. Proteins are the building blocks of muscles, therefore increasing protein, and exercising, can help preserve and build muscle mass.

Your CF care team can perform several body composition tests to determine your muscle mass. You can ask about this at clinic.

The quality of protein is important in CF, and people should aim for high quality dietary sources, such as those listed below.

Food	Ideas
Meat and meat alternatives	<ul style="list-style-type: none"> <li>• Meat, chicken, fish and meat alternatives such as baked beans, lentils, kidney beans, tofu.</li> <li>• Include at each main meal and snacks as appropriate.</li> </ul>
Cheese	<ul style="list-style-type: none"> <li>• Serve on crackers/sandwiches.</li> <li>• Grate onto vegetables.</li> <li>• Add to rice/pasta.</li> <li>• Cut into small blocks as a snack.</li> <li>• Make cheese sauce to add to meals/vegetables.</li> </ul>
Full cream milk	<ul style="list-style-type: none"> <li>• Try milk-based drinks.</li> <li>• Make soups, puddings, custards, desserts or packet mixes with milk instead of water.</li> </ul>
Eggs	<ul style="list-style-type: none"> <li>• Mash egg with mayonnaise as a sandwich topping or stir through potato salad.</li> <li>• Try an omelette or quiche with chopped meat, vegetables and cheese.</li> </ul>
Nuts and seeds	<ul style="list-style-type: none"> <li>• Use smooth peanut butter or other nut pastes rather than jam or vegemite.</li> <li>• Use hummus or tahini as a dip or spread.</li> <li>• Eat whole roasted nuts as a snack.</li> <li>• Use in baking (e.g. almond meal) .</li> </ul>

## Carbohydrates

Carbohydrates are a good source of energy and should be included in a balanced diet for those with CF and the general population.

Complex carbohydrates are better sources of carbohydrates than simple carbohydrates. Simple carbohydrates are used up more quickly by the body and contain less nutrients for good health than complex carbohydrates. Complex carbohydrates include bread, cereal, fruit, vegetables, pasta, legumes and rice. Simple carbohydrates include sugar, honey, fruit juice/cordial and soft drinks.

Many carbohydrate sources also contain fibre, which is known to have an important role in bowel and digestive health, reducing cholesterol and stabilising blood sugars in the general population. See [Bowel Health](#) for additional information.

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