

Dietary Fibre

a wellbeing star

FACT SHEET

Important for digestive health & overall wellness

It's hailed a digestive health star, yet most people are unaware dietary fibre also takes centre stage for its ability to lower 'bad' LDL-cholesterol levels, stabilise blood sugar levels, aid weight control and much more.

What is dietary fibre?

Found only in foods of plant origin (e.g. grains, legumes, vegetables, fruit, nuts and seeds), dietary fibre is the part of a plant that escapes digestion and absorption in the small intestine. The dietary fibre we eat makes its way into the large intestine (colon), where it is partially or completely broken down by an army of beneficial bacteria that reside in the colon^{1,2}.

There are several types of dietary fibre:

Soluble fibre

Think 'gelatinous' fibre. These fibres, which attract water to form a thick gel, are totally broken down (fermented) by good bacteria in the colon³. During this process, substances are produced which help keep cells in the colon wall healthy. Good sources include cereal grains (especially oats, barley and rye), legumes (red kidney beans, chickpeas, baked beans), psyllium, some fruits, vegetables, nuts and seeds.

Insoluble fibre

Think 'bulking' fibre. Best known for increasing the weight and volume of faeces and producing softer and bulkier stools, these fibres aid regular bowel movements³. This beneficial stool bulker is found in wholegrains, wheat bran, legumes, nuts and the skins of vegetables and fruits.

Resistant starch

This is a starch that acts like dietary fibre in that it too escapes digestion in the small intestine. It moves along to be fermented by friendly resident bacteria in the colon, producing substances that help keep the colon healthy. Common sources include legumes like lentils and baked beans, some cereal grains like pearl barley and brown rice, 'Hi-maize'[®] (found in some retail breads and cereals) and cooled cooked potato, rice and pasta^{3,4,5}.

Reasons to eat up

Research shows eating a fibre-rich diet provides significant health benefits.

Gastrointestinal health

A diet that's plentiful in fibre may help prevent and manage a range of common intestinal problems like constipation, haemorrhoids, diverticular disease, gallbladder disease, peptic ulcer disease and gastroesophageal reflux disease (GERD). Careful use of dietary fibre (soluble or insoluble, based on the symptoms), can also help to manage irritable bowel syndrome (IBS) and inflammatory bowel disease^{3,6,7}.

Heart and vascular health

Eating adequate dietary fibre, especially cereal fibre, protects the heart and blood vessels by improving blood cholesterol levels and lowering blood pressure. Some soluble fibres, like beta glucan found in oats and barley, work their wonders by binding with cholesterol entering the small intestine. This binding action means less cholesterol is absorbed into the bloodstream and more is excreted in

Did you know:



Many of the health benefits of wholegrains are largely due to the effects of dietary fibre.

the faeces. Most importantly, this process lowers 'artery clogging' LDL-cholesterol, hence fibre's role in protecting against heart and vascular disease^{3,7,8}.

Recent research demonstrates the value of specifically eating fibre from wholegrains and breakfast cereals, as fibre is shown to reduce the risk of cardiovascular, infectious and respiratory diseases by up to 60 percent⁹.

Dietary fibre has anti-inflammatory properties, which may explain in part the beneficial role that fibre plays in these inflammation triggered diseases⁹.



Diabetes prevention & management

Both soluble and insoluble fibres are beneficial to people with type 2 diabetes*. Soluble fibres, with their gel-forming properties, help to slow the rate at which sugars are digested and absorbed into the bloodstream. The net result is a more stabilised blood sugar level after eating¹⁰.

Insoluble cereal fibres and wholegrains* may help to improve insulin sensitivity and reduce the risk of developing type 2 diabetes³. In fact, research indicates higher fibre intakes from grains may reduce the risk of developing type 2 diabetes by 28-37%^{11,12,13}. Other research shows increasing wholegrain intake by up to 2 serves per day has the potential to reduce diabetes risk by 21%¹⁴.

Cancer prevention

Research findings on fibre and colorectal cancer have been mixed although a recently published report states that the evidence for a protective effect from dietary fibre has been strengthened from probable to convincing²². There is also strong evidence for wholegrains¹⁶. In a study that followed almost 490,000 people for 5 years, those who ate the highest amount of wholegrains had a 20% lower risk of colorectal cancer, compared to those with the lowest intake¹⁷. More recent large scale studies have confirmed wholegrains are inversely associated with the risk of developing colorectal cancer¹⁸.

Weight control

Research on the effects of dietary fibre on hunger, satiety and energy intake shows high fibre diets suppress hunger and inhibit the desire to eat soon after a meal. Studies show the average effect of increasing dietary fibre intakes by an additional 14g of fibre per day may achieve a 10% decrease in kilojoule intake^{19,20}. Reducing kilojoule intakes is a vital part of weight control.

Immune function

Emerging research indicates that certain soluble fibres (e.g. beta glucan in oats), inulin and resistant starch enhance immune function. These fibres stimulate the growth of health-promoting bacteria like *Bifidobacterium* and *Lactobacillus* species, which generate short-chain fatty acids. These fatty acids have been found to stimulate the immune system,

providing an increased resistance to various infections^{3,9}.

Dietary Recommendations

The total amount of dietary fibre we need to eat each day varies according to age, gender, life stage and disease risk²¹. Maximise the health benefits of fibre by eating a variety of high fibre grain-based foods and legumes* each day, together with a selection of fruits, vegetables, nuts and seeds.

Gender & Age Group	Daily Fibre Target ²¹
Children	
1-3 years	14g
4-8 years	18g
Boys	
9-13 years	24g
14-18 years	28g
Girls	
9-13 years	20g
14-18 years	22g
Men 19+ years	30g
Women 19+ years	25g
Pregnant Women	25-28g
Breastfeeding Women	27-30g
People at risk of chronic disease	
Males 14+ years & adults	38g
Females 14+ years & adults	28g

NOTE: A dietary fibre target has not been set for infants, as human milk contains no dietary fibre.

Ways to increase your fibre intake with grain-based foods

Breakfast

- Wholegrain (wholemeal or mixed-grain) toast, crumpets or English muffins
- High fibre or wholegrain breakfast cereal or natural muesli
- Porridge or bircher muesli

Lunch

- Sandwiches, rolls or wraps made with high fibre bread and your favourite filling
- Salads made with grains like brown rice and cracked wheat (bulgur), or legumes like four bean mix, kidney beans and chickpeas

Dinner

- Casserole or soup with added legumes
- Stir fry or curry with brown rice or soba noodles
- Wholemeal pasta topped with your favourite vegetable-based sauce
- Wholegrain bread used for crumbing fish or chicken

Snacks

- High fibre or wholegrain snack bars
- Muffins, biscuits or pikelets made with wholemeal flour or rolled oats
- Wholegrain crispbreads/crackers
- A fruit smoothie with rolled oats added

Approximate fibre content of grain-based food and legumes ²³	
Wholegrain bread, 2 slices	5.0g
Wheat flake biscuits, 2 bisc.	3.0g
White rice, 1 cup cooked	1.0g
Brown rice, 1 cup cooked	3.0g
White pasta, 1 cup cooked	3.0g
Wholemeal pasta, 1 cup cooked	10.0g
Rollled oats, 1 cup cooked	4.0g
Baked beans, ½ cup	7.5g
Chickpeas, ½ cup	4.5g
Red kidney beans, ½ cup	6.5g

For all references cited go to www.gograins.com.au/resources



Aim for '4+ serves a day' of grain-based foods, preferably wholegrain and at least 2 serves a week of legumes.

For further information:

To learn more about the benefits of grain-based foods and legumes, or to order additional copies of this fact sheet, visit the Go Grains website at www.gograins.com.au or contact the Go Grains 'Information Line' by calling 1300 GRAINS (1300 472 467)