Dietary Fibre:

Essential to Digestive Health

Dietary fibre helps promote digestive health through its modulation of laxation and fermentation. Dietary fibres that act as prebiotics also modulate the gut microbiota[1]

What is Fibre?

In the EU and UK, "fibre" (for labelling purposes) refers to carbohydrate polymers with three or more monomeric units that are not digested or absorbed in the human small intestine. These include:

- Naturally occurring edible carbohydrate polymers in foods
- Extracted or modified edible carbohydrate polymers from food raw materials (physical, enzymatic or chemical processes) that have a demonstrated beneficial physiological effect
- Synthetic edible carbohydrate polymers that also have a demonstrated beneficial physiological effect[2]

Properties of Fibre

Dietary fibre may be categorised by properties of solubility, viscosity, and fermentation. While there is sometimes overlap between groups, this helps relate the types of fibre to health outcomes.[3] Some dietary fibres are prebiotics, but not every prebiotic is a dietary fibre.*

Soluble

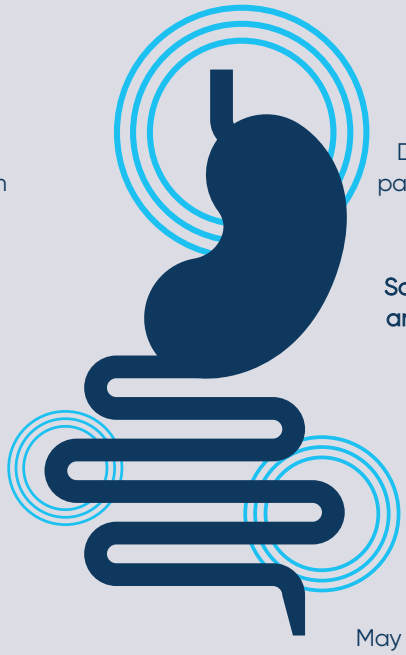
Dissolves in water to form thick gel like substance in the stomach, which can be broken down by bacteria in the large intestine, provides some calories, can help slow digestion[4]

Sources: beans, oats, Brussels sprouts, oranges, flax seed

Insoluble

Does not dissolve in water and may pass through gut relatively intact, not a source of calories, can help with laxation and regularity[4]

Sources: wheat bran, brown rice, fruit and vegetable skins, nuts and seeds



Viscosity

Gels with water, influences chyme consistency and can improve nutrient digestion and absorption[3]

Sources: oats, fruits with peel, legumes, nuts

Fermentable

May produce short-chain fatty acids which may increase bioavailability of some minerals and can inhibit pathogenic bacteria[1]

Sources: garlic, onions, chicory root (inulin)

Prebiotics: Serve as a food for beneficial bacteria in the gut and can help promote a balanced gut microbiota while conferring a health benefit[5,6]

*According to the International Scientific Association for Probiotics and Prebiotics (ISAPP) a prebiotic is defined as "a substrate that is selectively utilised by host microorganisms conferring a health benefit"[6]

Only 4% of UK Adults Meet the Recommended 30g of Fibre Per Day[7]

Most UK adults consume ~**55%** of recommended fibre per day[7]

Age	Mean intake	Recommended intake
Children		
1.5–3 years	12.5g/day	15g/day
4–10 years	14.5g/day	15–20g/day
11–18 years	15.4g/day	25–30g/day
Adults		
19–64 years	16.4g/day	30g/day
65–74 years	16.9g/day	30g/day
75 years and over	16.4g/day	30g/day

Recommended intakes vary within NDNS age groups: 15g/day from age 2–5; 20g/day from 5–11; 25g/day from 11–16; 30g/day from 16+. Recommendation applies to children ≥2 years.

Amounts of dietary fibre in widely consumed food

Promoting a variety of fibre-rich foods may help promote the diversity of your gut bacteria. Choose fibre rich foods from a variety of sources including wholegrains, fruit and vegetables, nuts and seeds, beans and pulses.

Food	Standard Portion Size	Fibre (g) in Portion
Wholemeal bread	2 slices 80 g	5.6
White bread	2 slices 80 g	2.0
Breakfast cereal	1 bowl 40g (dry)	4.4–6.0
Oats	1 bowl 45 g (uncooked)	2.5
Beans, peas, lentils	3 heaped tbsp 60 g	3.6
Apple	1 medium apple 200 g	4.8
Banana	1 banana (peeled) 180 g	4.7
Almonds	1 'handful' 30 g	3.3
Peanuts	1 'handful' 30 g	2.6
Broccoli	2 large spears 80 g	2.1
Spinach	1/2 cup 80 g	2.2

Adapted from Lovegrove et al 2025[8]

References:

1. Dahl WJ, Stewart ML. J Acad Nutr Diet. 2015;115(11):1861-1870.
2. European Union (2011) Regulation (EU) No 1169/2011 of the European Parliament and of the Council on the provision of food information to consumers. https://eur-lex.europa.eu/eli/reg/2011/1169/oj/eng. Published 2011.
3. O'Grady J, O'Connor EM, Shanahan F. Aliment Pharmacol Ther. 2019;49(5):506-515.
4. Ibrahim O, Menkovska, M. (2022) Advances in Bioscience and Biotechnology. 2022;13:527-544.
5. Gibson GR, et al. Nat Rev Gastroenterol Hepatol. 2017;14(8):491-502
6. Hutkins R, Walter J, Gibson GR, Bedu-Ferrari C, et al. Nat Rev Gastroenterol Hepatol. 2025;22(1):54-70.
7. National Diet and Nutrition Survey 2019 to 2023: report. https://www.gov.uk/government/statistics/national-diet-and-nutrition-survey-2019-to-2023/national-diet-and-nutrition-survey-2019-to-2023-report. Published 2025.
8. Lovegrove JA, Jackson KG, Kaimila Y, et al. Philos Trans R Soc Lond B Biol Sci. 2025;380(1935):20240148.