Precision Biotics

Practical Tips for Taking Probiotics

Everything you need to know including practical tips to support compliance

What are probiotics?

Probiotics are live microorganisms that, when administered in adequate amounts, confer a heath benefit on the host.[1]

Why take a probiotic?

Early life experiences determine the diversity of the microorganisms which colonise the gut (the gut microbiota)[2]. A diverse gut microbiota is considered to be supportive of health, whereas low microbial diversity is associated with a number of conditions including obesity, autoimmune, cardiometabolic and gastrointestinal diseases[3]. Whether low microbial diversity in the gut is a cause or consequence of disease is not always clear. Long-term, consistent dietary changes such as eating a diet rich in fruits, vegetables and grains, and following a healthy lifestyle, may positively impact the composition of the gut microbiota[4]. Whilst probiotics cannot permanently colonise the gut, supplementation with certain probiotic strains may also offer health benefits[1].

Top tips for taking probiotics

Understanding the regulations. In the European Union and the UK, probiotics are regulated as food supplements. As such, the food, nutrition and health claims apply. The word 'probiotic' itself is considered to be a health claim. These regulations state that the term 'probiotic' cannot be used in communications to the general public unless the product or strain has an approved health claim[5]. Currently, no probiotic food supplements, products or strains have an authorised health claim, meaning none can be labelled as 'probiotic' in the UK. This makes it difficult for people to recognise which products are probiotics, and which are not. Individuals should be encouraged to speak to a healthcare professional, who should have knowledge of the science behind specific strains and can help individuals to appropriately identify specific strains in available products.

Fermented foods such as kimchi, kombucha, kefir and live yogurts have an undefined microbial content, and therefore are not considered to be probiotic.

Probiotic effects are strain-specific. That means, not all probiotics will have the same health effects. For example, within the PrecisionBiotics range of probiotics, one *Bifidobacterium longum* strain has been shown to help manage the symptoms of irritable bowel syndrome (IBS)[6,7], whilst another has been shown to help with the ability to cope with stress and reduce anxiety[8]. Although part of the same species, they have different modes of action and effects on health. It is important to choose the right strain with trusted clinical evidence.

Scientific information. For healthcare professionals only

Take care with probiotic combinations. Some probiotic strains may be incompatible when mixed together. Even those strains that individually have shown health benefits may be antagonistic when combined, meaning their competing effects may inhibit each other[9]. Because of this, extra care should be taken when choosing a combination of probiotics or multi-strain supplements, to ensure the compatibility and effectiveness of those specific strains in combination has been demonstrated.

Take each day as it comes. A common misconception is that probiotics should be taken every so often, to 'reset' the gut microbiota. In fact, probiotics cannot permanently colonise the gut, which is why it is necessary to take them every day to have continuing health benefits[1]. The following tips may help promote compliance.

1. **Time it right.** Probiotics are safe, and commonly used long term. Whilst some people may be concerned about the efficacy 'wearing off' over time, there is no evidence to suggest this is the case. In fact, because probiotics cannot permanently colonise the gut, it is necessary to take on an ongoing basis to have ongoing health benefits[1]. As probiotics are not available on prescription, individuals will need to fund them themselves. Subscriptions are often available online for the most cost-effective option to long-term probiotics purchases.

   Taking probiotics at the same time every day is generally recommended and may also help to establish a routine. Setting an alarm can also be a useful reminder.

   Note: for people who are prescribed antibiotics, it is advisable to take the probiotics at a different time of day to the antibiotics, in order to prevent the antibiotics from killing the probiotic cultures, and therefore inhibiting their effects.

2. **Manage expectations.** Individuals often take probiotics for their health benefits, such as to help manage gastrointestinal symptoms associated with IBS. However, as with any sudden change in dietary intake, individuals should allow time for their gut to adjust. In the early stages of taking probiotics, individuals may experience temporary changes in their bowel habit, bloating, abdominal cramps or discomfort. Knowing what to expect in advance can support individuals to manage this.

3. **Find the right format.** Probiotic supplements are available in different formats, including capsules, chewable tablets and liquids. Whilst dry formats such as capsules and tablets may not need to be kept refrigerated, some formats, such as liquids, require refrigeration. This should be considered in terms of storage availability and travel options.

   Some people may find it difficult to swallow tablets. Chewable formats may be a suitable alternative, or liquids may be preferred. However, palatability is an important factor. Sugars and flavourings may be added to probiotic drinks to improve their taste, which may not be suitable for some groups of people, such as those with diabetes. Alternatively, some capsules can be opened, and the contents sprinkled and mixed into food or drinks and consumed immediately. It is generally advised to do this with cold or warm (but not hot) foods and drinks, and avoid those which are very acidic or contain alcohol, so as not to affect the properties of the bacterial cultures. Directions of use should be available on the product packaging or information leaflet.

Precautions. In general, probiotics are safe. However, individual circumstances should be considered. For example, some medications may suppress the immune system. Generally, people with a suppressed immune system are advised to take care when considering probiotics. For example, the British Dietetic Association advises that people with neutropenia, or those who have received chemotherapy or stem cell transplantation, should avoid taking probiotics[10]. Individual assessment which considers the potential risks and benefits is important in order make an appropriate clinical judgement.

References

1. Hill C, Guarner F, Reid G, et al. Expert consensus document. The International Scientific Association for Probiotics and Prebiotics consensus statement on the scope and appropriate use of the term probiotic. *Nat Rev Gastroenterol Hepatol*. 2014;11(8):506-514.
2. Stewart CJ, Ajami NJ, O'Brien JL, et al. Temporal development of the gut microbiome in early childhood from the TEDDY study. *Nature*. 2018;562(7728):583-588.
3. Rinninella E, Raoul P, Cintoni M, et al. What is the Healthy Gut Microbiota Composition? A Changing Ecosystem across Age, Environment, Diet, and Diseases. *Microorganisms*. 2019;7(1).
4. Leeming ER, Johnson AJ, Spector TD, Le Roy CI. Effect of Diet on the Gut Microbiota: Rethinking Intervention Duration. *Nutrients*. 2019;11(12).
5. European Commission. Food Nutrition and Health Claims. https://ec.europa.eu/food/safety/labelling-and-nutrition/nutrition-and-health-claims_en. Accessed 30.05.22.
6. O'Mahony L, McCarthy J, Kelly P, et al. *Lactobacillus* and *Bifidobacterium* in irritable bowel syndrome: symptom responses and relationship to cytokine profiles. *Gastroenterology*. 2005;128(3):541-551.
7. Whorwell PJ, Altringer L, Morel J, et al. Efficacy of an encapsulated probiotic Bifidobacterium infantis 35624 in women with irritable bowel syndrome. *Am J Gastroenterol*. 2006;101(7):1581-1590.
8. Allen AP, Hutch W, Borre YE, et al. Bifidobacterium longum 1714 as a translational psychobiotic: modulation of stress, electrophysiology and neurocognition in healthy volunteers. *Transl Psychiatry*. 2016;6(11):e939.
9. Chapman CM, Gibson GR, Rowland I. In vitro evaluation of single- and multi-strain probiotics: Inter-species inhibition between probiotic strains, and inhibition of pathogens. *Anaerobe*. 2012;18(4):405-413.
10. British Dietetic Association. Neutropenic Diets. https://www.bda.uk.com/uploads/assets/dc580f02-2a3f-400e-908cca4e91dffa63/Neutropenic-Diets-Guidance-Jan-2020.pdf. Accessed 27.05.22.

Scientific information. For healthcare professionals only