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## PATIENT INFORMATION ON PROBIOTICS

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### What are probiotics and what do they do?

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Probiotics are live microorganisms, such as specific bacteria and yeasts, that may provide health benefits when consumed in adequate amounts. They are found naturally in some fermented foods, added to others, or taken as dietary supplements.

Probiotics primarily act within the gastrointestinal (GI) tract, influencing the gut microbiome—a community of trillions of microorganisms residing mainly in your large intestine. When taken appropriately, probiotics may help:

- Maintain a balanced gut microbiota.
- Support digestion and gut function.
- Protect against certain infections and gut disturbances.
- Provide other health benefits specific to the probiotic strain used.



Common probiotic genera include **Lactobacillus**, **Bifidobacterium**, and **Saccharomyces**. Specific benefits depend on the genus, species, and strain (e.g., *Lactobacillus rhamnosus* GG).

### What foods provide probiotics?

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Fermented foods naturally or intentionally contain live microorganisms. Examples include:

- **Yogurt** (with live cultures such as *Lactobacillus* or *Streptococcus*)
- **Kefir**
- **Kimchi**
- **Miso**
- **Sauerkraut**
- **Tempeh**
- **Kombucha**

**Note:** Some fermented foods undergo processing (e.g., pasteurisation) that eliminates live cultures. Not all fermented foods have been studied for probiotic effects. Some products, such as certain cereals, milks, or smoothies, may have added probiotics—check labels for specific strains.

## What kinds of probiotics are available?

Probiotic supplements vary widely in the strains and quantities they contain. The amount is usually expressed as **colony-forming units (CFUs)** (e.g., 1 billion CFUs or 10 billion CFUs).

- A higher CFU count does **not necessarily equate to greater benefit**.
- Specific health effects depend more on **which strains** are included than on CFU numbers alone.

Consult your pharmacist or GP for advice on which probiotic strains may be appropriate for your condition.

Probiotic strain	Possible Benefit	Strength of Evidence
<i>Lactobacillus rhamnosus GG</i>	Antibiotic-associated diarrhoea (AAD) reduction	Good (Cochrane Review)
<i>Saccharomyces boulardii</i>	AAD and <i>C. difficile</i> prevention	Good (BMJ Open, Cochrane)
<i>Lactobacillus acidophilus</i>	May lower cholesterol slightly	Limited
<i>Bifidobacterium infantis</i>	May improve IBS symptoms	Moderate

## Evidence-based uses of probiotics

### **Atopic Dermatitis (Eczema)**

Some studies suggest that taking probiotics during pregnancy and infancy may reduce the risk or severity of eczema in children. However, effects vary depending on the strain, timing, and duration of use.

### **Paediatric Acute Infectious Diarrhoea**

Probiotics, particularly certain *Lactobacillus* strains, may shorten the duration of acute diarrhoea in children by around one day. Adequate hydration remains the mainstay of treatment.

### **Antibiotic-Associated Diarrhoea** (including *Clostridioides difficile* prevention)

Taking certain probiotics, such as *Lactobacillus rhamnosus GG* and *Saccharomyces boulardii*, within 48 hours of starting antibiotics can reduce the risk of antibiotic-associated diarrhoea, particularly in people under 65.

► Recent evidence supports starting probiotics alongside antibiotics rather than after diarrhoea develops.

(*BMJ Open* 2021;11:e043054 | *Cochrane Review* 2020)

### **Irritable Bowel Syndrome (IBS)**

Some probiotic strains may reduce IBS symptoms such as bloating and abdominal pain, but results vary depending on the strain and duration of treatment. The British Society of Gastroenterology suggests trying probiotics for up to 12 weeks and discontinuing if no benefit is observed.

### **Cholesterol Reduction**

Limited evidence suggests that certain probiotics may slightly lower total and LDL ("bad") cholesterol, but findings are inconsistent, and more research is needed.

### **Obesity and Weight Control**

Some small studies suggest probiotics might slightly reduce body weight or fat mass, but the evidence is mixed, and further research is required.

## Can probiotics be harmful?

Probiotics are generally safe for healthy individuals. Some people may experience mild bloating or gas when starting probiotics.

**Caution:** People who are severely unwell, immunocompromised, or have indwelling medical devices (e.g., central lines) should consult a healthcare professional before using probiotics, as rare infections have been reported in these groups.

## Practical guidance for using probiotics.





- **Timing:** If taking antibiotics, probiotics may be most beneficial if started **within 48 hours** of the first antibiotic dose.
- **Choice of product:** Consult your pharmacist or GP about the strain most appropriate for your needs (e.g., *Lactobacillus rhamnosus* GG or *Saccharomyces boulardii* for antibiotic-associated diarrhoea).
- **Duration:** The length of probiotic use may vary based on your condition. Always follow professional advice.
- **Storage:** Some probiotics require refrigeration; others are shelf stable. Check labels for storage instructions and expiry dates.

## Safety netting: recognising serious conditions.

While probiotics can support gut health, it is vital to be vigilant for symptoms that may indicate more serious conditions like **Inflammatory Bowel Disease (IBD)** or **Colorectal Cancer (CRC)**. Please contact your GP urgently if you experience:

- Persistent or unexplained changes in bowel habits
- Blood in your stool
- Unexplained weight loss
- Persistent abdominal pain or bloating
- Fatigue
- Symptoms that do not improve despite self-care or probiotic use.

### RED FLAGS

-  Blood in stool
-  Unexplained weight loss
-  Persistent pain or bloating
-  Changes in bowel habits

## Related practice leaflets:

- **Diarrhoea in Adults**– self-care advice and when to seek help
- **Irritable Bowel Syndrome (IBS)** – symptoms, management, and treatments

These and other leaflets can be found in the patient information section at:

<https://cirencesterhealthgroup.co.uk/services/patient-information-leaflets/>

## Further information on how to contact us.

- For **non-urgent queries**, please contact us via the **online triage form** available on our website:  
<https://cirencesterhealthgroup.co.uk/appointments/>  
This is the quickest and most efficient way to get in touch with our clinical team.
- For **urgent medical advice**, call **111** (available 24 hours).
- In an **emergency**, call **999**.