

# Probiotics & Inflammatory Bowel Disease (IBD)

Use this resource to learn what probiotics are, which are commonly used to treat inflammatory bowel disease, and what to recommend to your patients.

## Probiotics

### What are probiotics?

- According to Hill et al. (2014), probiotics are live microorganisms that, when administered in adequate amounts, confer a health benefit on the host.
- There are several beneficial microorganisms, however, the most common strains are:
  - Lactic acid bacilli (i.e., Lactobacillus and Bifidobacterium)
  - Clostridium butyricum
  - Streptococcus salivarius
  - Saccharomyces boulardii (strain of yeast)
  - Nonpathogenic strain of Escherichia coli (i.e., E. coli Nissle 1917)

### What do probiotics do?

- The overall goal of probiotics is to improve the balance of bacteria, which can aid digestion, promote a healthier immune system, and produce vitamins (National Center for Complementary and Integrative Health, 2019).
- When probiotics are consumed, they become part of the community of bacteria in the digestive system (National Center for Complementary and Integrative Health, 2019).
- The exact mechanism of action and how probiotics are beneficial is not fully understood. According to Sartor et al. (2022), the four main benefits include the following:
  - Suppression of growth of pathogenic bacteria
  - Strengthening of the intestinal barrier
  - Modification of the immune system to suppress proinflammatory cells
  - Reduction of pain perception in the gut

### Where do probiotics come from?

- Most commercially available probiotics are derived from food products, primarily cultured milk products (Sartor et al., 2022).
  - Dairy products: Look for the words “live and active cultures” on the label (Harvard Health, 2020). However, it is important to note that while yogurt is commonly recommended as a source of probiotics, not all bacteria in yogurt survive well in a highly acidic environment (Sartor et al., 2022).
  - Fermented foods: Kefir, kombucha, sauerkraut, pickles, miso, tempeh, kimchi, and sourdough bread (Harvard Health, 2020). The live cultures within fermented foods are significantly more concentrated than yogurt (Sartor et al., 2022).

## Prebiotics

### What are prebiotics?

- Indigestible nutrients that are broken down by gut microbiota; they feed the intestinal microbiota, providing health benefits (Davani-Davari et al., 2019).
- Examples include inulin, lactulose, asparagus, onions, bananas, honey, garlic, wheat, soybean, peas, tomato, seaweeds (Davani-Davari et al., 2019).

## Synbiotics

### What are synbiotics?

- Products that contain both prebiotics and probiotics.

## How do I know which probiotics to recommend to my patients?

### Ulcerative Colitis

- While it is understood that there may be potential for various probiotics to aid in the management of ulcerative colitis, there is not yet convincing data. E. coli Nissle 1917, Lactobacillus GG, and symbiotic (B. longum) have shown modest improvements in disease state and may be reasonable to try, in conjunction with standard medical therapies. Lactobacillus reuteri was shown in a small study to lower clinical and endoscopic disease activity in pediatric patients (Sartor et al., 2022).

### Crohn's Disease

- The data is mixed when probiotics have been studied in patients with Crohn's disease. In addition, studies have not proven clinical effectiveness of probiotics for induction or maintenance of remission (Sartor et al., 2022).

### Pouchitis

- Several studies have demonstrated the potential for improvement of inflammation associated with inflammatory bowel disease, especially pouchitis (Sartor et al., 2022).

For resources to share with your patients, please see [Probiotics and Microorganisms](#).





## References

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**Acknowledgement:** Developed by Erica Annotti, PNP. Reviewed by the Crohn's & Colitis Foundation's Nurse & Advanced Practice Committee. December 2023.

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