

## Crohn's Disease

**A full feeling in your stomach**, accompanied by abdominal pain and regular bouts of diarrhoea, may be signs of Crohn's disease. According to research or other evidence, the following self-care steps may be helpful:

- **Fill up on fibre**
  - Improve stool quality and other symptoms by eating high-fibre fruits and vegetables and by taking fibre supplements such as psyllium or glucomannan
- **Fight back with fish**
  - Prevent relapses by frequently eating fish high in omega-3 fatty acids, such as salmon, mackerel, or sardines
- **Take a daily multivitamin**
  - Choose a comprehensive formula containing zinc, folic acid, vitamin B12, and vitamin D to prevent deficiencies caused by poor absorption
- **Discover beneficial bacteria**
  - Take 250 mg of *Saccharomyces boulardii* three times a day to help control diarrhoea
- **Say goodbye to smoking**
  - Kick the habit to reduce the risk of disease relapse
- **Go with a low-sugar diet**
  - Reduce symptom severity by avoiding soft drinks, sweets, and sugar-filled processed foods

These recommendations are not comprehensive and are not intended to replace the advice of your doctor or chemist. Continue reading the full Crohn's disease article for more in-depth, fully-referenced information on medicines, vitamins, herbs, and dietary and lifestyle changes that may be helpful.

### About Crohn's disease

Crohn's disease is a poorly understood inflammatory condition that usually affects the final part of the small intestine and the beginning section of the colon. It often causes bloody stools and [malabsorption](#) problems.

### What are the symptoms?

Chronic [diarrhoea](#) with abdominal pain, fever, loss of appetite, weight loss, and a sense of fullness in the abdomen are the most common symptoms. About one-third of people with Crohn's have a history of anal fissures (linear ulcers on the margin of the anus) or fistulas (abnormal tube-like passages from the rectum to the surface of the anus).

## Medical options

The over-the-counter antidiarrhoeal drug [loperamide](#) (Imodium A-D®) may be used in Crohn's patients with [diarrhoea](#). Anal irritation and loose stools may sometimes be improved by giving bulk-forming laxative such as [methylcellulose](#) (Citrucel®) or [psyllium](#) (Fiberall®, Konsyl®, Metamucil®, Perdiem®).

Diphenoxylate ([Lomotil®](#)) and [loperamide](#) (Imodium®) are the prescription drugs most often used to control diarrhoea. Cramps may be treated with anticholinergic drugs, such as [L-hyoscyamine](#) (Levsin®, Levid®) and belladonna (Belladonna Tincture®). [Sulfasalazine](#) (Azulfidine®) is used in patients with mild to moderate colitis. [Oral corticosteroids](#), such as prednisone (Deltasone®), may be used during acute flare-ups. [Budesonide](#) (Entocort EC®) is prescribed to maintain remission for up to three months. However, long-term corticosteroid therapy does more harm than good. Certain immunosuppressive drugs may also be effective, including [azathioprine](#) (Imuran®) and 6-mercaptopurine (Purinethol®). Inflixamab (Remicade®), oprelvekin (Neumega®), and sargramostim (Leukine®) might benefit individuals with moderate to severe Crohn's. Secondary bacterial [infections](#) are managed with [antibiotics](#) such as [tetracycline](#) (Sumycin®) and [doxycycline](#) (Vibramycin®).

## Dietary changes that may be helpful

A person with Crohn's disease might consume more [sugar](#) than the average healthy person.<sup>1</sup> A [high-fibre](#), low-sugar diet led to a 79% reduction in hospitalizations compared with no dietary change in one group of people with Crohn's disease.<sup>2</sup> Another trial compared the effects of high- and low-sugar diets in people with Crohn's disease.<sup>3</sup> People with a more active disease were reported to fare better on the low-sugar diet than those eating more sugar. A few people on the high-sugar diet had to stop eating sugar because their disease grew worse. While details of how sugar injures the intestine are still being uncovered, doctors often suggest eliminating all sugar (including [soft drinks](#) and processed foods with added sugar) from the diets of those with Crohn's disease.

A diet high in animal protein and fat (from foods other than [fish](#)) has been linked to Crohn's disease in preliminary research.<sup>4</sup> As with many other health conditions, it may be beneficial to eat less [meat](#) and [dairy](#) fat and more [fruits](#) and [vegetables](#).

Some people with Crohn's disease have [food allergies](#) and have been reported to do better when they avoid foods to which they are allergic. One study found that people with Crohn's disease are most likely to react to [cereals](#), dairy, and yeast.<sup>5</sup> Increasingly, baker's yeast (found in [bread](#) and other bakery goods) has been implicated as a possible trigger for Crohn's disease.<sup>6</sup> Yeast and some [cheeses](#) are high in histamine, which is involved in an allergic response. People with Crohn's disease lack the ability to break down histamine at a normal rate,<sup>7</sup> so the link between yeast and dairy consumption and Crohn's disease occurrence may not be coincidental. However, the allergy theory cannot account for all, or even most, cases of Crohn's disease.

Elemental diets contain [amino acids](#) (rather than whole proteins, which can stimulate allergic reactions) and are therefore considered hypo-allergenic. They have been used extensively as primary therapy in people with Crohn's disease,<sup>8 9 10</sup> with remission rates comparable to those of steroid drugs. Nevertheless, diets containing intact proteins derived from dairy and [wheat](#) have proven equally effective at controlling the symptoms of Crohn's disease.<sup>11 12 13</sup> Until more is known, it is premature to conclude that food allergy plays a significant role in the development of Crohn's disease or that a [hypo-allergenic diet](#) is any more likely to help than a diet whose protein is only partially broken down.

In one trial, people with Crohn's disease were asked which foods aggravated their symptoms.<sup>14</sup> Those without ileostomies found [nuts](#), raw fruit, and [tomatoes](#) to be most problematic, though responses varied from person to person, and other reports have displayed different lists.<sup>15</sup> (Ileostomies are surgical passages through the wall of the abdomen into the intestine that allow the intestinal contents to bypass the rectum and drain into a bag worn on the abdomen.) People with Crohn's disease wishing to identify and avoid potential allergens should consult a doctor.

There is preliminary evidence that people who eat fast foods at least two times per week more than triple their risk of developing Crohn's disease.<sup>16</sup>

### **Lifestyle changes that may be helpful**

People with Crohn's disease are more likely to smoke, and there is evidence that continuing to smoke increases the rate of disease relapse.<sup>17</sup>

### **Vitamins that may be helpful**

[Vitamin D](#) malabsorption is common in Crohn's<sup>18</sup> and can lead to a deficiency of the vitamin.<sup>19</sup> Successful treatment with vitamin D for [osteomalacia](#) (bone brittleness caused by vitamin D deficiency) triggered by Crohn's disease has been reported.<sup>20</sup> Another study found 1,000 IU per day of vitamin D prevented bone loss in people with Crohn's, while an unsupplemented group experienced significant bone loss.<sup>21</sup> A doctor should evaluate vitamin D status and suggest the right level of vitamin D supplements.

Inflammation within the gut occurs in people suffering from Crohn's disease. EPA and [DHA](#), the omega-3 fatty acids found in [fish oil](#), have anti-inflammatory activity. A two-year trial compared the effects of having people with Crohn's disease eat 3.5 to 7 ounces of fish high in EPA and DHA per day or having them eat a diet low in fish.<sup>22</sup> In that trial, the fish-eating group had a 20% relapse rate compared with 58% among those not eating fish. [Salmon](#), herring, [mackerel](#), albacore [tuna](#), and sardines are all high in EPA and DHA.

In a double-blind trial, people with Crohn's disease who took supplements providing 2.7 g of EPA/DHA per day had a recurrence rate of 26% after one year, compared to a 59% recurrence rate among those taking placebo.<sup>23</sup> Participants in this study used a special enteric-coated, "free-fatty-acid" form of EPA/DHA taken from fish oil. Other

blinded trials using other fish oil supplements that were neither enteric-coated nor in the free-fatty-acid form have reported no clinical improvement.<sup>24 25</sup> These disparate outcomes suggest that the enteric-coated, free-fatty-acid form may have important advantages, including the reported elimination of gastro-intestinal symptoms that often result from taking regular fish oil supplements.<sup>26</sup> Unfortunately, enteric-coated “free-fatty-acid” fish oil is not commercially available at this time.

In a preliminary trial, six of seven people with Crohn’s disease went into remission after taking 200 mg per day of [DHEA](#) for eight weeks.<sup>27</sup> This large amount of DHEA has the potential to cause adverse side effects and should only be used under the supervision of a doctor.

In double-blind research, [diarrhoea](#) caused by Crohn’s disease has partially responded to supplementation with the beneficial bacterium [Saccharomyces boulardii](#).<sup>28</sup> Although the amount used in this trial, 250 mg taken three times per day, was helpful, as much as 500 mg taken four times per day has been administered in research successfully using [Saccharomyces boulardii](#) as a supplement with people suffering from other forms of diarrhoea.<sup>29</sup>

In people with Crohn's disease, [vitamin K](#) deficiency can result from malabsorption due to intestinal inflammation or bowel surgery, from chronic diarrhoea, or from dietary changes necessitated by food intolerance. In addition, Crohn's disease is often treated with [antibiotics](#) that have the potential to kill beneficial vitamin K–producing bacteria in the intestines. Vitamin K levels were significantly lower in a group of people with Crohn's disease than in healthy people. Moreover, the rate of bone loss in the Crohn's disease patients increased with increasing degrees of vitamin K deficiency.<sup>30</sup> When combined with earlier evidence that vitamin K is required to maintain healthy bones, this study suggests that vitamin K deficiency is a contributing factor to the accelerated bone loss that often occurs in people with Crohn's disease.

Crohn’s disease often leads to [malabsorption](#). As a result, deficiencies of many nutrients are common. For this reason, it makes sense for people with Crohn’s disease to take a high potency [multivitamin-mineral](#) supplement. In particular, deficiencies in [zinc](#), [folic acid](#), [vitamin B12](#), [vitamin D](#), and [iron](#) have been reported.<sup>31 32 33</sup> Zinc, folic acid, and vitamin B12 are all needed to repair intestinal cells damaged by Crohn’s disease. Some doctors recommend 25 to 50 mg of zinc (balanced with 2 to 4 mg of copper), 800 mcg of folic acid, and 800 mcg of vitamin B12. Iron status should be evaluated by a doctor before considering supplementation.

[Vitamin A](#) is needed for the growth and repair of cells that line both the small and large intestine.<sup>34</sup> At least two case reports describe people with Crohn’s disease who have responded to vitamin A supplementation.<sup>35 36</sup> However, in one trial, vitamin A supplementation failed to maintain remission of the disease.<sup>37</sup> Therefore, although some doctors recommend 50,000 IU per day for adults with Crohn’s disease, this approach remains unproven. An amount this high should never be taken without qualified guidance, nor should it be given to a woman who is or could become [pregnant](#).

People with Crohn's disease may be deficient in [pancreatic enzymes](#), including [lipase](#).<sup>38</sup> In theory, supplementing with enzymes might improve the nutrient malabsorption that is often associated with Crohn's disease. However, people with Crohn's disease considering supplementation with enzymes should consult a doctor.

#### **Are there any side effects or interactions?**

Refer to the individual supplement for information about any side effects or interactions.

#### **Herbs that may be helpful**

Doctors sometimes use a combination of herbs to soothe inflammation throughout the digestive tract. One formula contains [marshmallow](#), [slippery elm](#), [cranesbill](#), and a few other herbs.<sup>39</sup> Marshmallow and slippery elm are mucilaginous plants that help soothe inflamed tissues. Cranesbill is an astringent. Clinical trials using this combination have not been conducted.

A variety of anti-inflammatory herbs historically have been recommended by doctors for people with Crohn's disease. These include [yarrow](#), [chamomile](#), [liquorice](#), and [aloe](#) juice. Cathartic preparations of aloe should be avoided. No research has been conducted to validate the use of these herbs for Crohn's disease.

Curcumin is a compound in [turmeric](#) (*Curcuma longa*) that has been reported to have anti-inflammatory activity. In a preliminary trial, four of five people with Crohn's disease had an improvement in their condition after supplementing with curcumin for three months. The amount used was 360 mg three times a day for one month, followed by 360 mg four times a day for two months.<sup>40</sup>

Tannin-containing herbs may be helpful to decrease [diarrhoea](#) during acute flare-ups and have been used for this purpose in traditional medicine. A preliminary trial using isolated tannins in the course of usual drug therapy for Crohn's disease found them to be more effective for reducing diarrhoea than was no additional treatment.<sup>41</sup> Tannin-containing herbs of potential benefit include agrimony (*Agrimonia* spp.), [green tea](#), [oak](#), [witch hazel](#), and [cranesbill](#). Use of such herbs should be discontinued before the diarrhoea is completely resolved; otherwise the disease may be aggravated.

#### **Are there any side effects or interactions?**

Refer to the individual herb for information about any side effects or interactions.

#### **References**

1. Mayberry JF, Rhodes J. Epidemiological aspects of Crohn's disease: a review of the literature. *Gut* 1984;886–99.
2. Heaton KW, Thornton JR, Emmett PM. Treatment of Crohn's disease with an unrefined-carbohydrate, fibre-rich diet. *BMJ* 1979;2(6193):764–6.

3. Brandes JW, Lorenz-Meyer H. Sugar free diet: a new perspective in the treatment of Crohn disease? Randomized, control study. *Z Gastroenterol* 1981;19:1–12.
4. Shoda R, Masueda K, Yamato S, Umeda N. Epidemiologic analysis of Crohn's disease in Japan: increased dietary intake of n-6 polyunsaturated fatty acids and animal protein relates to the increased incidence of Crohn's disease in Japan. *Am J Clin Nutr* 1996;63:741–5.
5. Riordan AM, Hunter JO, Cowan RE, et al. Treatment of active Crohn's disease by exclusion diet: East Anglian Multicentre Controlled Trial. *Lancet* 1993;342:1131–4.
6. Alic M. Baker's yeast in Crohn's disease—can it kill you? *Am J Gastroenterol* 1999;94:1711 [letter/review].
7. Wantke F, Gotz M, Jarisch R. Dietary treatment of Crohn's disease. *Lancet* 1994;343:113 [letter].
8. O'Morain C, Segal AW, Levi AJ. Elemental diet as primary treatment of acute Crohn's disease: a controlled trial. *Br Med J (Clin Res Ed)* 1984;288:1859–62.
9. Gorard DA, Hunt JB, Payne-James JJ, et al. Initial response and subsequent course of Crohn's disease treated with elemental diet or prednisolone. *Gut* 1993;34:1198–202.
10. Teahon K, Pearson M, Levi AJ, Bjarnason I. Practical aspects of enteral nutrition in the management of Crohn's disease. *JPEN J Parenter Enteral Nutr* 1995;19:365–8.
11. Raouf AH, Hildrey V, Daniel J, et al. Enteral feeding as sole treatment for Crohn's disease: controlled trial of whole protein v amino acid based feed and a case study of dietary challenge. *Gut* 1991;32:702–7.
12. Rigaud D, Cosnes J, Le Quintrec Y, et al. Controlled trial comparing two types of enteral nutrition in treatment of active Crohn's disease: elemental versus polymeric diet. *Gut* 1991;32:1492–7.
13. Park RH, Galloway A, Danesh BJ, et al. Double-blind controlled trial comparing elemental and polymeric diets as primary therapy in active Crohn's disease. *Eur J Gastroenterol Hepatol* 1991;32:1492–7.
14. McDonald PJ, Fazio VW. What can Crohn's patients eat? *Eur J Clin Nutr* 1988;42:703–8.
15. Gaby AR. Commentary. *Nutr Healing* 1998;January:1,10–1 [review].
16. Persson PG, Ahlbom A, Hellers G. Diet and inflammatory bowel disease: a case-control study. *Epidemiology* 1992;3:47–52.

17. Cottone M, Rosselli M, Orlando A, et al. Smoking habits and recurrence in Crohn's disease. *Gastroenterol* 1994;106:643–8.
18. Leichtmann GA, Bengoa JM, Bolt MJG, Sitrin MD. Intestinal absorption of cholecalciferol and 25-hydroxycholecalciferol in patients with both Crohn's disease and intestinal resection. *Am J Clin Nutr* 1991;54:548–52.
19. Harris AD, Brown R, Heatley RV, et al. Vitamin D status in Crohn's disease: association with nutrition and disease activity. *Gut* 1985;26:1197–203.
20. Driscoll RH, Meredith SC, Sitrin M, Rosenberg IH. Vitamin D deficiency and bone disease in patients with Crohn's disease. *Gastroenterol* 1982;83:1252–8.
21. Vogelsang H, Ferenci P, Resch H, et al. Prevention of bone mineral loss in patients with Crohn's disease by long-term oral vitamin D supplementation. *Eur J Gastroenterol Hepatol* 1995;7:609–14.
22. Mate J, Castanos R, Garcia-Samaniego J, Pajares JM. Does dietary fish oil maintain the remission of Crohn's disease: a case control study. *Gastroenterology* 1991;100:A228 [abstract].
23. Belluzzi A, Brignola C, Campieri M, et al. Effect of an enteric-coated fish-oil preparation on relapses in Crohn's disease. *N Engl J Med* 1996;334:1557–60.
24. Lorenz R, Weber PC, Szimnau P, et al. Supplementation with n-3 fatty acids from fish oil in chronic inflammatory bowel disease—a randomized, placebo-controlled, double-blind cross-over trial. *J Intern Med Suppl* 1989;225:225–32.
25. Lorenz-Meyer H, Bauer P, Nicolay C, et al. Omega-3 fatty acids and low carbohydrate diet for maintenance of remission in Crohn's disease. A randomized controlled multicenter trial. Study Group Members (German Crohn's Disease Study Group). *Scand J Gastroenterol* 1996;31:778–85.
26. Belluzzi A, Brignola C, Campieri M, et al. Effects of new fish oil derivative on fatty acid phospholipid-membrane pattern in a group of Crohn's disease patients. *Dig Dis Sci* 1994;39:2589–94.
27. Andus T, Klebl F, Rogler G, et al. Patients with refractory Crohn's disease or ulcerative colitis respond to dehydroepiandrosterone: a pilot study. *Aliment Pharmacol Ther* 2003;17:409–14.
28. Plein K, Hotz J. Therapeutic effects of *Saccharomyces boulardii* on mild residual symptoms in a stable phase of Crohn's disease with special respect to chronic diarrhea—a pilot study. *Z Gastroenterol* 1993;31:129–34.
29. Bleichner G, Blehaut H, Mentec H, Moyse D. *Saccharomyces boulardii* prevents diarrhea in critically ill tube-fed patients. A multicenter, randomized, double-blind placebo-controlled trial. *Intensive Care Med* 1997;23:517–23.

30. Duggan P, O'Brien M, Kiely M, et al. Vitamin K status in patients with Crohn's disease and relationship to bone turnover. *Am J Gastroenterol* 2004;99:2178–85.
31. Imes S, Plinchbeck BR, Dinwoodie A, et al. Iron, folate, vitamin B-12, zinc, and copper status in out-patients with Crohn's disease: effect of diet counseling. *J Am Dietet Assoc* 1987;87:928–30.
32. Sandstead HH. Zinc deficiency in Crohn's disease. *Nutr Rev* 1982;40:109–12.
33. Driscoll RH Jr, Meredith SC, Sitrin M, et al. Vitamin D deficiency and bone disease in patients with Crohn's disease. *Gastroenterology* 1982;83:1252–8.
34. Dvorak AM. Vitamin A in Crohn's disease. *Lancet* 1980;i:1303–4.
35. Skogh M, Sundquist T, Tagesson C. Vitamin A in Crohn's disease. *Lancet* 1980;i:766 [letter].
36. Dvorak AM. Vitamin A in Crohn's Disease. *Lancet* 1980;i:1303–4 [letter].
37. Wright JP, Mee AS, Parfitt A, et al. Vitamin A therapy inpatients with Crohn's disease. *Gastroenterology* 1985;88:512–4.
38. Hegnhøj J, Hansen CP, Rannem T, et al. Pancreatic function in Crohn's disease. *Gut* 1990;31:1076–9.
39. Pizzorno JE, Murray MT. *Textbook of Natural Medicine*. London: Churchill Livingstone, 1999, 1335–49.
40. Holt PR, Katz S, Kirshoff R. Curcumin therapy in inflammatory bowel disease: a pilot study. *Dig Dis Sci* 2005;50:2191–3.
41. Plein K, Burkard G, Hotz J. Treatment of chronic diarrhea in Crohn disease. A pilot study of the clinical effect of tannin albuminate and ethacridine lactate. *Fortschr Med* 1993;111:114–8 [in German].