Diarrhea

Any attack of frequent watery stools is called diarrhea. Many different conditions can trigger it.

Acute diarrhea is often caused by an infection and may require medical management. The primary role of nutrition in acute diarrhea is to prevent depletion of fluid, sodium, potassium, and calories. Replenishment of all four has been achieved with “rehydration solutions” and with a variety of foods, from salted carrot soup to peeled scraped apple to rice gruel. However, the need for rehydration requires direct medical supervision. Therefore nutritional approaches to overcoming depletion of fluid, sodium, potassium, and calories are not discussed here, but rather should be discussed with a doctor. Diarrhea-induced low blood sugar, dehydration, or electrolyte imbalance can be serious or even life-threatening, particularly if prolonged in children.

A healthcare provider should be consulted if diarrhea continues for more than a few days, as it may indicate a more serious health condition. Many people who have diarrhea with intermittent constipation have irritable bowel syndrome (IBS). People who have been diagnosed with IBS should read the IBS article—the Diarrhea article does not apply to people with IBS.

**Dietary changes that may be helpful:** Some foods contain sugars that absorb slowly, such as fructose in fruit juice or
sorbitol in dietetic confectionery. Through a process called osmosis, these unabsorbed sugars hold onto water in the intestines, sometimes leading to diarrhea. By reading labels, people with chronic non-infectious diarrhea can easily avoid fruit juice, fructose, and sorbitol to see if this eliminates the problem.

People who are lactose intolerant—meaning they lack the enzyme needed to digest milk sugar—often develop diarrhea after consuming milk or ice cream. People whose lactose intolerance is the cause of diarrhea will rid themselves of the problem by avoiding milk and ice cream or in many cases by taking lactase, the enzyme needed to digest lactose. Lactase is available in a variety of forms in pharmacies (and in grocery stores in the form of lactase-treated milk).

Large amounts of vitamin C or magnesium found in supplements can also cause diarrhea, although the amount varies considerably from person to person. Unlike infectious diarrhea, diarrhea caused by high amounts of vitamin C or magnesium is not generally accompanied by other signs of illness; the same is true when the problem comes from sorbitol or fructose. In these cases, avoiding the offending supplement or food brings rapid relief.

Drinking lots of coffee causes diarrhea in some people. People with chronic diarrhea who drink coffee should avoid all coffee for a few days to evaluate whether coffee is the culprit.
Allergies and food sensitivities are common triggers for diarrhea. For example, some infants suffer diarrhea when fed cow’s milk-based formula but improve when switched to soy-based formula. People with chronic diarrhea not attributable to other causes should discuss the possibility of food sensitivity with a nutritionally oriented doctor.

**Nutritional supplements that may be helpful:** Acute diarrhea can damage the lining of the intestine. Folic acid can help repair this damage. In one preliminary trial, supplementing with very large amounts of folic acid (5,000 mcg three times per day for several days) shortened the duration of acute infectious diarrhea by 42% in a preliminary study. However, a double blind trial failed to show any positive effect with the same level of folic acid. Therefore, evidence that high levels of folic acid supplementation will help people with infectious diarrhea remains weak.

Brewer’s yeast has been shown to alter the immune system or the flora living in the intestine and may relieve infectious diarrhea. Three capsules or tablets of brewer’s yeast three times per day for two weeks was reported to be helpful in three cases of infectious diarrhea caused by *Clostridium difficile*. Animal research has confirmed that brewer’s yeast helps fight this unfriendly bacterium. (Note that real brewer’s yeast is not identical to nutritional or torula yeast, and that when asking for “brewer’s yeast” in health food stores, people are often directed toward these other products. Real brewer’s yeast is bitter whereas other health food store yeasts have a relatively more pleasant taste.)
An organism related to brewer’s yeast, *Saccharomyces boulardii* (Sb), is sometimes available as a supplement and is widely used in Europe to prevent antibiotic-induced diarrhea. Animal research with Sb shows interference with *Clostridium difficile*, a common cause of diarrhea.10 In double blind human trials, Sb has prevented antibiotic-induced11 and other forms of infectious diarrhea.12 An intake of 500 mg four times per day has been used in some of this research. Sb has also helped tourists prevent traveler’s diarrhea in double blind research.13 In one trial studying persistent traveler’s diarrhea, positive results were obtained at amounts as low as 150–450 mg per day.14 Even diarrhea caused by Crohn’s disease has partially responded to Sb supplementation in double blind research.15 While not every trial shows efficacy,16 the preponderance of evidence clearly supports the use of Sb in people with diarrhea caused by antibiotics or infection.

Beneficial bacteria, such as lactobacilli and bifidobacteria, normally live in a healthy colon, where they inhibit the over-growth of disease-causing bacteria.17 Diarrhea flushes intestinal microorganisms out of the digestive tract, leaving the body vulnerable to opportunistic infections. Replenishing with acidophilus and other beneficial bacteria can help prevent new infections.

The combination of bifidobacteria and *Strep thermophilus* (found in certain yogurts) dramatically reduces the incidence of acute diarrhea in hospitalized children.18
Active-culture yogurt may prevent antibiotic-induced diarrhea.19

As mentioned in the dietary changes section above, if lactose intolerance is the cause of diarrhea, supplemental use of lactase prior to consuming milk or milk-containing products can be helpful.20 Cheese rarely has enough lactase to cause symptoms in lactose intolerant people. Lactase products are available that can be chewed while drinking milk or added to milk directly.

The malabsorption problems that develop during diarrhea can lead to deficiencies of many vitamins and minerals.21 For this reason, it makes sense for people with diarrhea to take a multiple-vitamin/mineral supplement. Two of the nutrients that may not absorb as a result of diarrhea are zinc and vitamin A, both needed to fight infections. In third world countries, supplementation with zinc and vitamin A has led to a reduction in or prevention of infectious diarrhea.22 Whether such supplementation would help people in less deficient populations remains unclear.

**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:** The following recommendations are for milder forms of diarrhea. For more serious cases of diarrhea, proper medical evaluation and monitoring should occur before taking any herbal supplements.
While fiber from dietary or herbal sources is often useful for constipation, it may also play a role in alleviating diarrhea. For example, 9–30 grams per day of psyllium seed (an excellent source of fiber) makes stool more solid and can help resolve symptoms of non-infectious diarrhea.23

Carob is rich in tannins that have an astringent or binding effect on the mucous membranes of the intestinal tract. It is often used for young children and infants with diarrhea, and a double blind study suggests it is effective.24 Commonly, 15 grams of carob powder is mixed with applesauce (for flavor) when given to children. Carob can also be used for adult diarrhea.

Chamomile reduces intestinal cramping and eases the irritation and inflammation associated with diarrhea, according to test tube studies.25 Chamomile is typically drunk as a tea. Many doctors of natural medicine recommend dissolving 2–3 grams of powdered chamomile or adding 3–5 ml of a chamomile liquid extract to hot water and drinking it three or more times per day, between meals. Two to three teaspoons of the dried flowers can be steeped in a cup of hot water, covered, for ten to fifteen minutes as well.

Herbs high in mucilage, such as marshmallow or slippery elm, can help reduce the irritation to the walls of the intestinal tract that can occur with diarrhea. A usual amount taken is 1,000 mg of marshmallow extract, capsules, or
tablets three times per day. Marshmallow may also be taken as a tincture in the amount of 5–15 ml three times daily.

Other astringent herbs traditionally used for diarrhea include blackberry leaves, blackberry root bark, blueberry leaves, and red raspberry leaves. Raspberry leaves are high in tannins and like its relative, blackberry, may relieve acute diarrhea. A close cousin of the blueberry, bilberry, has been used in Germany for adults and children with diarrhea. Only dried berries or juice should be used—fresh berries may worsen diarrhea.

Cranesbill has been used by a number of the indigenous tribes of North America to treat diarrhea, and the tannins in cranesbill likely account for the antidiarrheal activity—although there has been little scientific research to clarify cranesbill’s constituents and actions.

A tannin in oak known as ellagitannin, inhibits intestinal secretion in laboratory experiments, which may help resolve diarrhea. The non-irritating nature of oak is well regarded in Germany, where it is recommended even to treat mild, acute diarrhea in children (along with plenty of electrolyte-containing fluids).

Because of its antimicrobial activity, goldenseal has a long history of use for infectious diarrhea. Its major alkaloid, berberine (also found in barberry and Oregon grape), has been shown to be beneficial for people with infectious diarrhea in some double blind studies. Negative studies have generally focused on people with cholera, while
positive studies have looked at viral diarrhea or diarrhea due to strains of *E. coli*. These studies generally used 400–500 mg berberine one to three times per day. Goldenseal extracts with standardized berberine content can be substituted, or 3–5 ml of tincture three times per day can be used.

**Are there any side effects or interactions?** Refer to the individual herb for information about any side effects or interactions.

**References:**