



## Gut Reactions: Topics in Functional Gastrointestinal Disease

# Managing Diarrhea

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Diarrhea is best described as the too frequent and often urgent passage of loose stools, but there is no perfect definition of the disorder. There are many causes, and diarrhea may be a mild nuisance or a disabling dysfunction with life-threatening consequences. Therefore, if you have anything more than mild, short-term diarrhea, you should consult a physician to obtain a diagnosis and specific treatment. If you have blood in the stool, signs of dehydration, weight loss, or fever such a consultation is urgent. Acute diarrhea is usually short lived. In the case of viral infection, it must run its course, while for some parasitic and bacterial infections antibiotics may shorten the duration of the illness. Sometimes diagnosis is impossible or delayed, there is persistent diarrhea during or despite specific treatment, or one has intermittent diarrhea as part of irritable bowel syndrome (IBS). In this article we consider how to manage the symptom of diarrhea until the underlying disease is brought under control. Sometimes, diarrhea persists despite everyone's best efforts.

### Signs of Dehydration

General signs of dehydration include

- thirst
- less frequent urination
- dry skin
- fatigue
- light-headedness
- dark colored urine

Signs of dehydration in children include

- dry mouth and tongue
- no tears when crying
- no wet diapers for 3 hours or more
- sunken abdomen, eyes, or cheeks
- high fever
- listlessness or irritability
- skin that does not flatten when pinched and released

– Source: NIH Publication No. 07–2749

### Hydration

People often underestimate the dehydrating effect of diarrhea, especially if it results from an acute infection in a hot climate. Dehydration may be less noticed in the elderly who often fail to experience appropriate thirst. Fluid losses must be replaced. For mild episodes, drinking extra water may suffice, but where fluid losses are great, sodium and

potassium may also be lost, so the glucose/saline solution recommended by the World Health Organization may be restorative. Your pharmacy will have a commercial version of this solution known as *oral replacement therapy* (ORT). ORT is especially important for young children and the elderly. Severe cases may require fluids administered intravenously. For mild cases, soups and juices may suffice. For some acute diarrheal illnesses, hydration is all that is required.

### Diet

Although you may have undergone investigation that has excluded dietary causes, you should know that several commonly ingested substances tend to loosen stools. Caffeine is present in coffee, tea and cola drinks. Reduced caffeine intake or decaffeinated drinks may ease your diarrhea. (Beware that sudden cessation of caffeine may cause headaches, so withdraw slowly.) Sorbitol, a common artificial sweetener in certain preserves, gum, and candy, has laxative effects and should also be avoided. Since the ability to absorb lactose (milk sugar) may be impaired, you should avoid milk products until the diarrhea improves. While reducing food intake may be wise in acute diarrhea, it is important to maintain nutrition if the attack lasts more than a few days.

For severe diarrhea, it may be necessary to avoid solid foods for a time, maintaining nutrition with clear fluids, that is, fluids with sugars and proteins through which light passes such as juices, consommé, and jellies. Some soft drinks and sweet juices may contain sugars that are difficult to absorb and therefore may aggravate the diarrhea. After acute infections, lactose and complex carbohydrates may be ill absorbed and should be avoided for a few days.

### Bulking Agent

*Psyllium* (Metamucil, Fybogel, generics) – One teaspoonful of psyllium twice daily is often recommended for constipation, so why use it for diarrhea? The answer is that it has a water-holding effect in the intestines that may help bulk up watery stool. Some doctors recommend it for the variable bowel habit of IBS. It also has the ability to bind some toxins that may be the cause of acute diarrhea. Obviously, psyllium products combined with laxatives should be avoided.

## Over the Counter (OTC) Drugs

*Bismuth* (Pepto-Bismol, generics) – This preparation is sometimes recommended for traveler’s diarrhea and chronic microscopic colitis. It has many disadvantages. The dose is 30ml of the pink liquid every 30 minutes up to 8 times a day. It turns the stool black and may interfere with the absorption of other drugs such as diphenoxylate (See below) and tetracycline. Chronic, excessive use may cause neurological complications and the salicylate component of the drug may cause salicylate toxicity.

*Codeine* – Codeine 15 mg. combined with acetaminophen (Tylenol, generic) is available by prescription or over the counter (OTC) in some jurisdictions. If nothing else is handy when stricken with acute diarrhea, two such tablets may help control your acute diarrhea until a regular anti-diarrheal drug can be obtained. Beware that overuse of an OTC codeine combination could include toxic doses of acetaminophen.

*Loperamide* (Imodium) – The safest of the opioid drugs, loperamide is available OTC in 1 and 2mg doses. Depending on age, the recommended dose is 2 mg after each loose bowel movement to a maximum of 16 mg/day. It has an opioid’s ability to slow gut transit and improve absorption of water from the intestines. Some evidence suggests it also improves anal sphincter tone. Although it has the lowest addiction potential of all opioids, it may cause sedation, nausea, and cramps. It is the best emergency treatment for mild attacks of diarrhea, and when taken preventively it may even help you avoid urgent exits during meetings or other events.

## Prescription Drugs

*Codeine phosphate* (generic) – The usual therapeutic dose of Codeine is 30 to 60 mg up to every four hours as necessary to control diarrhea. For this, a prescription is required in most jurisdictions. Codeine is potentially addictive, and unsuitable for chronic diarrhea. It is sedating, and causes nausea, making it a second choice after loperamide.

*Diphenoxylate* (Lomotil) – Because it is an opiate with some addictive potential, diphenoxylate is available only by prescription. It is combined with atropine so that excessive use will cause dry mouth and other undesirable side effects. It is useful if other drugs fail.

*Cholestyramine* (Questran) – Cholestyramine is a powdered resin with a plastic taste that binds bile salts and has a water-holding effect. When other treatments fail, it may relieve some cases of diarrhea. Rarely, chronic diarrhea occurs after removal of the gall bladder or the lower small intestine (ileum), and cholestyramine has a beneficial effect. Usually prescribed for patients with high cholesterol blood levels, it is available in 4mg packets and is taken with water. Occasionally, a very small dose will improve diarrhea, but for most cases, loperamide is preferable. In addition to its bad taste, cholestyramine may interfere with the absorption of some drugs and vitamins, and may cause hypersensitivity reactions. It should only be used for special cases with a doctor’s advice.

## How to Use the Drugs

For mild or acute, short-lived diarrhea, most adults may treat themselves with hydration, diet withdrawal and OTC

drugs. However, if your diarrhea is severe, prolonged, or accompanied with blood, high (101°F, 39°C) fever, or 10 lb (5kg) weight loss, you should consult a doctor. Special vigilance is required at the extremes of life.

You should use drugs only as necessary, and stop them when the diarrhea stops. In the case of loperamide, you should take the drug after each loose bowel movement. If your social life or business affairs are hampered by unpredictable diarrhea, loperamide may be taken before an event to prevent embarrassing trips to the toilet. Sedation, severe abdominal cramps or other unexplained symptoms are indications to stop the drug and seek an explanation from your doctor.

Anti-diarrheal drugs should be used cautiously and with a doctor’s supervision if the diarrhea is severe. Because they delay colon evacuation, opiates may prolong an intestinal infection (colitis), and in severe colitis, they may precipitate a paralysis of the colon with dire consequences.

## Conclusion

For anything more than mild, short-lived diarrhea, a diagnosis is necessary in order to properly treat the underlying cause. In every case, adequate hydration must be assured. For a short time, clear fluids may suffice, and ORT is available at any pharmacy for more prolonged or severe cases. Severe watery diarrhea, bloody stools, fever, and weight loss are warning signs requiring a doctor’s assessment and perhaps intravenous fluids and salts. Sometimes a bulking agent such as psyllium will help, but for moderately severe acute diarrhea, food must be forgone until the diarrhea subsides, or a doctor can make recommendations. Loperamide, 2 mg tablets after loose bowel movements is the safest OTC medication, but no more than eight pills should be taken daily. A doctor should be consulted if they fail. Severe diarrhea can kill, so caution is important, especially in the very young and very old.

## Suggested IFFGD Reading

Diarrhea (in Adults and Children) NIH Publication No. 07-2749, March, 2007.

Thompson GW. *Chronic diarrhea: could it have an everyday cause?* IFFGD. Fact Sheet No. 150, 2012.

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### About IFFGD

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