WHAT IS IT?
Traveler’s Diarrhea (TD) is the most common illness affecting travelers, occurring in 40-60% of international travelers. It can occur at any time after consuming contaminated foods or drinks prepared at the travel destination. Most events are self-limited, but dehydration can be severe and poses a greater risk than the diarrheal illness itself. Fluid replacement is the primary form of treatment.

The risk of TD varies depending on your travel destination. The world can be roughly divided into three regions of risk:
- Low (< 10%): Northern Europe, Australia, New Zealand, United States, Canada, Singapore, and Japan.
- Moderate (10%-20%): Caribbean Islands, South Africa, countries bordering the Mediterranean, and Israel.
- High (> 30%): India & Asia (except Singapore), Africa (except South Africa), South & Central America, and Mexico.

WHAT CAUSES IT?
TD may be caused by bacteria, parasites, or viruses:
- Bacteria (such as E. coli, Campylobacter, Salmonella, and Shigella) dominate as causes of TD. E. coli and rotavirus co-infection occur frequently in Central America and Mexico.
- Parasites (such as Giardia lamblia and Cryptosporidium) require a more contaminated environment than most travelers will visit. Rural areas with well water are higher risk. A few locations (such as Nepal) have specific parasite risks.
- Rotaviruses and noroviruses cause 65% of TD in Mexico, the Caribbean, and Guatemala.

WHAT ARE THE SYMPTOMS?
Most symptoms begin abruptly within 6-10 hours of eating or drinking contaminated foods.
- Common symptoms include abdominal cramping, rectal urgency, and loose or watery stools.
- Bloating, gassiness, mild headache, fatigue, body aches, and fever may also occur.
- Blood and significant amounts of mucus in the stool are less common.
- Vomiting or nausea may occur in about 15% of cases.

WHAT CAN YOU DO TO PREVENT TD?
- Research your destination for risks.
- Clean your hands before and after eating or drinking.
- Drink only bottled water, including when brushing your teeth.
- Do not use ice cubes.
- Avoid foods or drinks prepared with raw sugar cane.
- Eat food that is fully cooked and served hot.
- Do not eat raw meats, raw seafood, or soft cheeses. Do not drink raw milk.
- Fruit that you peel yourself is safer than other fruits. Wash your hands and the fruit first.
- Wash your food in bottled water.
- Avoid food from street vendors. Lack of refrigeration increases contamination risks.
- Do not swim in fresh standing water like ponds or streams.
- Consider taking bismuth (ie. Pepto-Bismol, Kaopectate) to reduce the chance of developing TD.
  - Adult dose for TD prevention: take 2 tablets or 30ml (524mg total) 4-6 times a day.
  - Do not take bismuth with aspirin or if you have an aspirin sensitivity.
  - Bismuth may turn your stools or tongue black. This is nothing to worry about and will resolve once you stop the medication.

WHAT IS THE TREATMENT?
Treatment focuses on 3 different modalities:
- Fluid replacement to prevent dehydration.
- Medications to reduce gastrointestinal symptoms, like cramping, diarrhea, nausea, and vomiting.
- Antibiotics if a bacterial cause is suspected.
**Fluid Replacement**
Electrolytes and fluids should be replaced with an oral rehydration solution (ORS) approved by the World Health Organization.

- **WHO Oral Rehydration Salts** can be purchased worldwide. They are available at REI Outfitters and [www.amazon.com](http://www.amazon.com) as “Adventure Medical Kits Oral Rehydration Salts”. Mix the salts in bottled water, and continue drinking until the diarrhea resolves.
- **Pedialyte** is also available as a powdered product. Mix it in bottled water, and drink until the diarrhea resolves.
- Non-caffeinated & non-alcoholic beverages, hot soups, and sports drinks can be started at the same time as the ORS, but the ORS should always be continued until the diarrhea has stopped.
- Fluid-rich foods like Jell-O, applesauce, sherbet, sorbet, popsicles, and cooked fruits may also help.

**Medications**
- **Antimotility agents** can be used to decrease diarrhea symptoms.
  - Loperamide (Imodium, Diamode): take 4mg after the first loose stool; 2mg after each subsequent loose stool; maximum of 8 tablets (16mg) in 24 hours.
  - Loperamide plus Simethicone is available as Imodium Multi Symptom. Simethicone reduces bloating and gassiness.
  - Do not use loperamide if you have bloody stools or a high fever! Stop use if you have worsening abdominal pain or constipation.
- **Bismuth products** may be used to protect the lining of the bowel and promote water absorption; bismuth may also have antibacterial and antiviral properties.
  - Bismuth products in the US include Pepto-Bismol, Kaopectate, Bismatrol, and Maalox Total Relief. The Canadian formula of Kaopectate does not contain bismuth.
  - Adult dosing for TD treatment: take 2 tablets or 30ml (524mg total) every 30-60 minutes until the diarrhea is controlled; maximum of 8 doses (of 524mg each) in 24 hours.
  - Do not take bismuth with aspirin or if you are allergic to aspirin.
- **Nausea and vomiting agents**
  - Ondansetron (Zofran): take 8mg by mouth every 10-12 hours as needed.
  - Emetrol (phosphorated carbohydrate solution): take 1-2 tablespoons every 15 minutes as needed; maximum of 5 doses in 24 hours; for best results, do not drink fluids immediately before or after taking this medication.

**Antibiotics**
Antibiotics are recommended for the treatment of moderate to severe diarrhea. In these cases, the presumed cause is bacterial. Antibiotics will not treat TD caused by parasites or viruses.

**GENERAL TREATMENT OVERVIEW**
- **For mild-moderate diarrhea** (fewer than 5 loose stools/day; no fever or blood in the stool):
  - Fluid replacement
  - Loperamide and/or bismuth

- **For moderate-severe diarrhea** (5 or more loose stools/day plus cramping, fever, or blood in the stool):
  - Antibiotic
  - Fluid replacement
  - Loperamide and/or bismuth (avoid loperamide if you have bloody diarrhea!)

- **Seek medical care if you have any of the following:**
  - Mucus or blood in the stool.
  - High fever.
  - Persistent or severe abdominal pain.
  - Dehydration (symptoms include lightheadedness, weakness, decreased urination, palpitations, muscle cramps, dry mouth).
  - Persistent diarrhea or loose stools lasting 14 days or more.
  - Pain in the right lower abdomen, with or without fever, nausea, and loss of appetite (appendicitis symptoms).
  - Diarrhea accompanied by fever, rash, body aches, joint pain, or headache.