

Travellers' diarrhoea has been defined as 'three or more loose stools in 24 hours with or without at least one symptom of cramps, nausea, fever or vomiting'

Hill & Ryan 2008<sup>1</sup>



#### TRAVELLERS' DIARRHOEA

(TD) is the most common illness that affects international travellers. Each year 20–60% of globetrotters, an estimated 10 million people, develop this diarrhoeal illness. TD can be caused by a variety of pathogens, for example viruses, bacteria and protozoa. These are transmitted primarily by the consumption of contaminated food or water. The symptoms usually occur within a week of infection, but in some cases the incubation period can be longer and they may not develop until the traveller has arrived home. Symptoms can be very unpleasant; they include vomiting, diarrhoea abdominal pain and fever, and are usually self-limiting, clearing up in a couple of days, but TD can often wreck a holiday. This article looks at some of the microbes that cause TD and explores how it can be both prevented and controlled.

The majority of cases of TD (80%) are caused by bacteria, and approximately 40% are due to infections with

*boil it,  
peel it,  
cook it,  
wash it or  
forget it!*

enterotoxin-forming *Escherichia coli* (EPEC). It usually causes mild, self-limiting diarrhoea which lasts for less than 72 hours. Other bacteria that can cause TD are *Campylobacter*, *Shigella* and *Salmonella*. These pathogens often cause bloody diarrhoea known as dysentery. Some bacteria cause diarrhoea by releasing toxins which bind to the intestines, while others infect the cells lining the gut and cause damage.

Viral infections caused by, for example, rotavirus and noroviruses are discovered in a smaller proportion of cases in adults, but this may well be due to lack of investigation. In children they are thought to account for a much higher number – around 70%.

<sup>1</sup>Hill, D.R. & Ryan, E.T. (2008). Management of travellers' diarrhoea. *BMJ* doi: 10.1136/bmj.a1746.

Protozoan parasites such as *Giardia lamblia* and *Cryptosporidium* frequently cause persisting diarrhoea – diarrhoea that lasts for more than 14 days.

TD is usually transmitted via the faecal–oral route, by ingestion of faecally contaminated food or water or both. Secondary person-to-person transmission can occur where adequate personal hygiene measures are not taken. Some viral infections may be air-borne, and *Cryptosporidium* can be transmitted by contaminated recreational waters.

Contamination of food or drinking water can occur through:

- water contaminated with faeces not being adequately treated before drinking
- poor hand hygiene after coming into contact with faecal material
- poor kitchen hygiene
- poor or inadequate sanitation

Where the food is prepared is thought to affect the risk of contracting TD, with food prepared at a private home being less risky than food prepared by street vendors.

The area that a person is visiting also affects the likelihood of developing TD.

The illness is most common in warm countries where standards of sanitation and hygiene are poor. These are usually countries in the developing world, such as parts of South and Central America, Asia and Africa.

Around 30–50% of people travelling from a developed country to a developing country will experience an incident of travellers' diarrhoea. However, TD is not confined to developing countries. People visiting low-risk countries, such as the USA or Western Europe, can also experience travellers' diarrhoea.

## TIPS ON HOW TO PREVENT IT

### Food

- Don't eat any *uncooked or undercooked* food.
- Only eat fruit, vegetables or salads that have been peeled or cooked (even if they have been washed, they could have been washed with contaminated water).
- Don't eat food sold by street vendors.
- Don't eat/drink unpasteurized milk, and dairy products or foods likely to contain uncooked eggs.
- Avoid food that has been exposed to flies, birds, etc.

### Water

- Do not drink tap water and do not use it to brush your teeth.
- Only drink bottled water.
- If bottled water is unavailable, then boil the water to kill off unwanted pathogens. Boil it vigorously for 1 minute and allow it to cool to room temperature.
- Do not drink bottled water if the seal on the bottle has been broken.
- Do not use ice unless you're sure it's made from purified water.

### Hand hygiene

Be honest – do you *always* wash your hands immediately prior to eating or preparing food? We all have hundreds of species of bacteria living in our guts and we can develop immunity to bacteria we are frequently exposed to. But your immune system may never before have encountered some of the microbes you might meet abroad, so you have to be extra careful. Be scrupulous with hand hygiene: wash your hands thoroughly after visiting the toilet and before eating or preparing food.

You must see a doctor if there is blood in your stools, you have a severe fever or if the diarrhoea doesn't get better in a couple of days.



## TREATMENT OF TD

Most cases of TD are self-limiting, clear up within a few days and do not require any drug treatment. The following can be recommended to reduce the symptoms:

- It is essential to drink plenty of fluids to prevent dehydration. If you have lost a lot of water through vomiting or diarrhoea, take an oral rehydration powder. (Don't forget to dissolve it in bottled or boiled water.)
- Over-the-counter diarrhoea medicine can help, for example loperamide slows down the action of the bowel and is very effective in treating diarrhoea. You can buy it in the pharmacy without a prescription – always follow the instructions in the packet.
- When diarrhoea persists, antibiotics may help to reduce symptoms if it is caused by a bacterium.

Thanks are due to Prof. Martin Adams, University of Surrey, for his helpful comments on the text.

