Traveler Information

FOOD AND BEVERAGE PRECAUTIONS

It is difficult, if not impossible, to guarantee the safety of food and beverages when traveling, especially in developing countries. Without strict public health standards, bacteria or parasites in food or water may go undetected and cause illness such as traveler's diarrhea. However, travelers can continue to enjoy local foods—this is part of the pleasure of international travel. Just be sure to follow food and water precautions and concentrate on eating the types of food that tend to be safest.

Traveler's diarrhea is caused by something the traveler ate or drank. While it may not be possible to avoid diarrhea in certain high-risk destinations even with the strictest adherence to preventive measures, the risk can be minimized by following the guidelines below.

FOOD PRECAUTIONS

Travelers should:

- Eat at establishments that are known to cater to foreigners or that are specifically known by other foreigners to be safe.
- Eat foods that are well-cooked and served steaming hot.
- Eat breads, tortillas, crackers, biscuits, and other baked goods.
- Eat fruits, nuts, and vegetables with thick skins, peels, or shells that you remove yourself.
- Eat canned foods.
- Always wash your hands with soap before eating and after using the toilet.

Travelers should NOT:

- Eat any food from street vendors or market stalls.
- Eat leafy or uncooked vegetables and salads. Some organisms in soil and water are not destroyed by normal cleaning methods.
- Eat undercooked, raw, or cold meat, seafood, and fish.
- Eat large carnivorous fish, especially from reef areas. Many contain concentrated toxins.
- Eat or drink unpasteurized dairy products such as cheese, yogurt, and milk. Be particularly wary of ice cream and other frozen confections that may have been made or stored in contaminated containers.
- Eat cold sauces such as mayonnaise, salad dressing, chutneys, or salsas, which are usually raw and made by hand.
- Eat buffet foods such as lasagna, casseroles, and quiches-unless you know they are fresh (not reheated) and have been kept steaming hot. Avoid buffets where there are no food covers or fly controls.
- Eat creamy desserts, custards, or sauces that may not have been adequately refrigerated.

BEVERAGE PRECAUTIONS

In developed countries, clean drinking water is available right out of the tap and breakdowns in the system are rare. Developing countries, however, don't always have the resources needed to ensure a pure water supply, and consequently tap water is not safe to drink. Even if the people who live there can drink the water, travelers should not assume that they can. Local residents have built up immunity to organisms in the water, but visitors have not. As a result, tap water can make travelers sick.

When traveling through areas with less than adequate sanitation or with water sources of unknown purity, travelers can reduce the chance of illness by following these precautions.

Travelers should:

- Use sealed bottled water or chemically treated, filtered, or boiled water for drinking and for brushing teeth.
- Drink beverages made only with boiled water whenever possible (such as hot tea and coffee). Water boiled for any length of time (even 1 minute), at any altitude, is safe to drink.
- Drink canned, boxed, or commercially bottled carbonated water and drinks. International brands are safest. Beware of unsealed containers that may have been re-filled.
- Safely drink beer and wine; however, alcohol added to beverages does not render them safe.
- Purify your own water (see "Treating Water," below) if one of these options is not available. Decide which method to use for water purification and bring along the appropriate equipment.
- Carry safe water with you if you are going out for the day and where availability of safe water is not assured.
- Breast-feeding is the safest food source for infants who are still nursing. If formula is used, it must be prepared with boiled water and sterilized containers.

Travelers should NOT:

- Drink tap water.
- Rinse toothbrush in tap water.
- Use ice unless it is made from boiled, bottled, or purified water. Freezing does not kill the organisms that cause diarrhea.
- Assume that water is safe because it is chlorinated. Chlorination does not destroy all the organisms that can make you ill.
- Drink from wet cans or bottles-the water on them may be contaminated. Dry wet cans/bottles before opening and clean all surfaces that will have contact with the mouth.
- Drink fruit juice unless it comes directly from a sealed container; otherwise it may have been diluted with tap water.

TREATING WATER

Chemical disinfection

If it is not possible to boil water, chemical disinfection is an alternative. Most (but not all) diarrhea pathogens are susceptible to being killed by iodine, which can be used to disinfect water, leafy vegetables, and fruits. Add 5 drops of 2% iodine to 1 liter of water and let stand for 30 minutes.

- Travelers who have thyroid problems or iodine allergies or who are pregnant should NOT use iodine for water purification.
- For those travelers who wish to avoid the taste and smell of iodine in their disinfected water, vitamin C (ascorbic acid) can be added to the water after the iodine has been in contact with the water for 30 minutes or more. Add about 50 mg of vitamin C to a liter of water and shake briefly to eliminate the iodine taste and odor.
- Tetraglycine hydroperiodide tablets (e.g., Globaline, Potable-Aqua, Coghlan's) are available from pharmacies and sporting goods stores. The manufacturer's instructions should be followed

Chlorine also can be used, but its germicidal activity varies greatly with temperature and other factors; thus it is less reliable than iodine.

Portable filters

It cannot be assumed that portable filters will make drinking water safe; most authorities make no recommendation regarding their use because of insufficient independent verification of efficacy. However, in areas where it is not practical to boil all drinking water, a good quality filter with a pore size of 0.2 microns will eliminate the risk of pathogens. The filtered water should then be treated chemically as well.

Boiling

Urban travelers may choose an immersion coil for boiling water (a plug adapter and current converter might be necessary).

Traveler Information

INSECT PRECAUTIONS

In the tropics, insects can transmit significant illnesses such as malaria, dengue, yellow fever, and rickettsial disease—some potentially life-threatening. These diseases are best prevented by personal protective measures. In some cases (e.g., malaria or yellow fever), a preventive drug or vaccine is available as well but should never replace personal protection measures. Travelers to areas where insects that transmit these diseases may be present can help minimize their risk by following the insect precautions and protective measures discussed below.

PERSONAL PROTECTION MEASURES

- Wear clothing that exposes as little skin as is practicable.
- Apply a repellent containing the insecticide DEET (concentration 30 to 35%). The DEET preparation should be applied to all exposed nonsensitive areas of the body. Frequent application ensures continuous protection.
- The time of day and type of insects to be avoided determine when the repellent should applied. Mosquitoes that transmit malaria (*Anopheles* mosquitoes) are night biters. Thus, if traveling in a malarious area, be especially vigilant in applying repellent from dusk to dawn. Mosquitoes that transmit dengue (*Aedes* mosquitoes) are day biters, and travelers need to be especially vigilant applying repellent during daytime hours when in areas of dengue risk.
- Treat outer clothing with permethrin (or other pyrethroid) when traveling in an area of high risk for malaria or other mosquito-borne or tick-borne diseases.
- If not in a sealed, air-conditioned room, sleep under a permethrin-impregnated bed net when at risk of malaria. Regularly check the net for rips and tears, and keep it tucked in around the bed at all times. Ensure that all open windows have insect screens.
- Use an aerosol insecticide before going to bed and a vaporizer device throughout the night.
- Outdoors, a smoldering pyrethroid coil can be used to reduce flying insects.
- In areas where tick-borne disease is a risk, perform a full body check at least once a day.

INSECTICIDES

The most effective repellents contain DEET (N, N diethylmeta-toluamide, an ingredient found in most insect repellents). DEET is effective against mosquitoes, ticks, fleas, and chiggers. Except among specially formulated preparations, the concentration of DEET determines how long it acts; how well it works is the same regardless of concentration. For example, 95% DEET lasts 8 to 10 hours, whereas 30 to 35% DEET is effective for 4 to 6 hours. Long-acting preparations such as Ultrathon contain 35% DEET in a formulation that is effective for 8 to 10 hours. Preparations for pediatric use contain 6 to 10% DEET and have a short duration of action unless they are specially formulated.

DEET is a remarkably safe insect repellent; only 30 cases of severe toxicity have been reported among billions of uses over 30 years. Most cases of toxic encephalopathy or seizures were reported in young children in whom excessive amounts were used over prolonged periods. The following precautionary measures can minimize the possibility of adverse reactions to DEET:

- Use repellents according to label directions.
- Apply repellents sparingly and only to exposed skin or clothing.
- Repellents should not be inhaled or ingested and contact with the eyes should be avoided.
- Avoid applying repellents to portions of children's hands that are likely to have contact with eyes or mouth.
- Never use repellents on wounds or irritated skin.
- Wash repellent-treated skin after coming indoors if there is no further risk of exposure to insects.
- If a suspected reaction to insect repellent occurs, wash treated skin and seek medical attention.
- Pregnant and nursing women should minimize use of repellents since about 15% of the chemical is absorbed through the skin.

Travelers also should purchase a pyrethroid-containing flying-insect spray to use in living and sleeping areas during evening and nighttime hours.

For added protection against mosquitoes, bednets and clothing may be soaked in or sprayed with permethrin. Permethrin is an insecticide licensed for use on clothing; when applied according to directions it can be effective on clothing for several months and on bednets for half a year. Permethrin physically binds to the fabric, which then can be repeatedly washed without loss of effect; this also prevents absorption through skin. In some countries, deltamethrin liquid is available.