I am an American who just returned from a three-week mission trip to East Africa, and within days came down with malaria, which caused me to be hospitalized for eight days. I thought I might die. I had taken chloroquine, as advised by a doctor. Why didn't it work?

Good question! With increased global travel, sometimes there is a lack of understanding of its dangers. Malaria is one of the world's worst health problems. It kills between 1.5 and 2.7 million people each year, according to World Health Organization estimates. Most deaths are among children under 5 years of age. East Africa is a prime area for falciparum malaria.

Malaria is spread by female anopheline mosquitoes that require blood to complete their reproductive cycle. The prevalence of malaria has increased, owing to decreased control of the mosquitoes, as public health measures have been relaxed. Additionally, resistance to chloroquine has become widespread. In fact, in East Africa more than 50 percent of the malaria is resistant to chloroquine. This means your use of chloroquine as a prophylactic was ill-advised.

Malaria has existed in many countries: Europe, Canada, the United States, as well as Africa and Asia. The pesky mosquito that bites you in the “cottage country” of Canada or the United States could easily carry malaria, if the blood that it sucks contains the parasite. This is why control of the disease is of great concern. Important measures to accomplish this are to cut down on breeding sites, screen off housing, and to eliminate the disease from humans.

Part of the problem is the loss of infrastructure in countries where malaria is endemic, or widespread. Some believe the problem is worse today than it was 50 years ago. Decentralization, for all its touted benefits, has resulted in an insidious loss of local infrastructure and technical support at the grass roots (perhaps a lesson for other areas of administration). Rational strategies have become difficult to apply in a global and effective manner.

At an individual level, travelers who will not live for a long period in an endemic area would be wise to take prophylactic medications. Even here, there is considerable debate as to what is most appropriate.

Mefloquine HCL (Lariam) is highly effective in a dose of one 250 mg. tablet weekly, beginning a week before, during, and for four weeks after the return home. It, however, carries a risk of side effects that are potentially serious to the susceptible individual. Persons with problems of depression, anxiety, or other affective disorders should definitely not take Lariam, as there is a 3 to 5 percent chance they will get severe depression, and possibly with suicidal tendencies. Second, people with arrhythmias of the heart should be advised not to use Mefloquine HCL. The British have cautioned strongly against Mefloquine HCL. The Americans, more impressed with its effectiveness, are not so strongly opposed to its usage. Lariam is clearly one of the more effective agents used as a prophylactic.

Malarone, which is a combination of atovaquone and proguanil HCL (250 mg./100 mg.—adult dose), is what we have been using with increasing frequency. It is expensive, requires daily utilization (starting a day or so before traveling), and is continued for a week after return. In some patients it too can cause some side
effects. Doxycycline is effective, but not to the same extent as the other two; it must be taken daily, continued for a few weeks after exposure, and may cause yeast overgrowth in women.

Chloroquine, once the drug of choice, should now be used only where chloroquine resistance has not developed, or where other drugs are not available. Inter-America and the Middle East, at the time of writing, are still areas where chloroquine may be used.

We cannot overemphasize the importance of avoiding mosquito bites as the primary defense mechanism. We encourage the use of deet-containing insect repellents, and residual insecticide on walls and curtains. Screens should cover windows. If you are going to travel, take a mosquito net. It is a good investment; it could save you thousands in health-care costs—and maybe even your life.

I’m considering going to an "overseas destination"* that I know is associated with a lot of diarrhea. My cousin returned from the same place, and was sick for five weeks with diarrhea and abdominal cramps. What do you advise?

Traveler’s diarrhea, as we call this condition, is a diarrhea manifesting itself in individuals who have not developed immunity to the locally prevalent strains of infectious agents. The most common cause is a bowel-toxic strain of Escherichia coli (coliforms), a fecal-contaminating organism. Long-stay travelers will develop immunity over time; it is the short-term visitors who seek to protect themselves from the discomfort.

The strategies aimed at prevention include a vaccine called Dukoral—available in Canada, Sweden, Norway, and EU countries, but not yet in the United States. This is used against strains of pathogenic E. coli. Careful selection of food and water helps many, and yet others rely on antibiotics or Pepto-Bismol (bismuth subsalicylate).

Contrary to opinion that water and ice are the main culprits, food is most likely the number one source of the diarrhea.

Human excrement may have been used as fertilizer in some countries. Food handlers may not have a thorough understanding of the need for hand-washing. Open-air exposure of food and contamination by insects and rodents is also a problem. In places where buffet-style food is served, other customers handling the serving instruments may contaminate the spoons, etc. Fortunately, standards of hygiene are improving around the world, and risks of this ailment will fall appropriately.

Reheated food may be cross-contaminated; food left to cool out of the refrigerator may be contaminated with toxins that are not destroyed by a secondary heating. Raw foods carry risk of infection with hepatitis A virus, or bacterial organisms. Keep hot foods hot, cold foods cold, and dry foods dry.

Of course, water may be contaminated. Ice made from contaminated water, or food washed in such water, can carry not only coli forms but also other parasites (e.g., giardia and cryptosporidium), which give longer-lasting bowel disturbances, such as your cousin may have suffered.

Bottled water is often assumed to be sterile, but I (AH) had a bottle that started growing green algae before I opened it. I tossed the contents. In some places the safest drink may be a commercially produced bottle or can of ginger ale or lemonade, or even tea made from boiled water.

There are those who make an argument for the prophylactic use of antibiotics or Pepto-Bismol. Trials have shown up to 90 percent protection for the antibiotics, and up to 65 percent for the Pepto-Bismol. Once treatment is commenced, up to 60 percent have no further diarrhea, and 95 percent feel well within 24 hours. This is why many elect to treat only if they become ill.

I would recommend care in selecting your food and drink as the first approach. Wash your own hands thoroughly before eating. Eat cooked foods. Peel your own fruits, and be sure raw foods are washed in clean water. They may be soaked in chlorinated water. When in Africa we used one tablespoon of bleach per gallon of water and soaked lettuce and the like for about 20 minutes. But giardia and cryptosporidium can survive in chlorine. For short-term travelers, “no salads, cold sauces, or desserts or other cool moist foods” is a good mantra.

In a pinch, water taken from the hot-water tap—if hotter than you can bear to touch—can be assumed to be at least pasteurized and so much safer than that from the cold-water tap. Filtering may be very good, but it depends on the quality of the filter. Iodine tablets or solution can be used to sterilize filtered water.

Never buy water in a bottle that is not properly sealed. Preferably buy from a major bottling company. I was pleased to see the Coca-Cola Bottling Company stamp on the bottled water I recently purchased overseas.
Don’t worry too much. You will enjoy your visit more if you don’t act like a wimp! And remember that our excessive self-interest can be insulting to our hosts.

Enjoy your travels. Bon Voyage!

*Name of country withheld.

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