



**Supplemental Disease Information**  
**Center for Disease Control**  
**[www.cdc.gov](http://www.cdc.gov)**

**Yellow fever** is caused by infection with yellow fever virus, which is transmitted by the bite of infected mosquitoes.

**Prevention**

Yellow fever can be prevented by vaccination. Travelers should also take precautions against mosquito bites when in areas with yellow fever transmission.

Travelers should get vaccinated for yellow fever before visiting areas where yellow fever occurs. In the United States, the vaccine is given only at designated yellow fever vaccination centers. International regulations require proof of yellow fever vaccination for travel to and from certain countries. People who get vaccinated should be given an International Certificate of Vaccination.

Avoid mosquito bites when traveling in tropical areas. Mosquitoes that spread yellow fever usually bite during the day, especially at dusk and dawn.

- When outside:
  - Wear long-sleeved clothing and long pants. For extra protection, treat clothing with the insecticide permethrin.
  - Use insect repellent on exposed skin. Repellents containing DEET (N,N-diethylmetatoluamide), Picaridin (KBR 3023), IR 3535, p-Menthane 3,8-diole (PMD or oil of lemon eucalyptus) are effective. Follow application instructions carefully.
- When inside:
  - Stay in well-screened areas as much as possible.
  - Spray living and sleeping areas with insecticide.

Illness ranges in severity from a self-limited febrile illness to severe hepatitis and hemorrhagic fever. Many yellow fever infections are mild, but the disease can cause severe, life-threatening illness. Symptoms of severe infection are high fever, chills, headache, muscle aches, vomiting, and backache. After a brief recovery period, the infection can lead to shock, bleeding, and kidney and liver failure. Liver failure causes jaundice (yellowing of the skin and the whites of the eyes), which gives yellow fever its name. Severe yellow fever infections can be fatal. There is no specific treatment for yellow fever. Treatment is symptomatic—rest, fluids, and ibuprofen, naproxen, acetaminophen, or paracetamol may relieve symptoms of fever and aching. Aspirin

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should be avoided. Infected persons should be protected from further mosquito exposure (staying indoors and/or under a mosquito net during the first few days of illness) so that they can't contribute to the transmission cycle.

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**Malaria** is a serious and sometimes fatal disease caused by a parasite that commonly infects a certain type of mosquito which feeds on humans. People who get malaria are typically very sick with high fevers, shaking chills, and flu-like illness. What are the signs and symptoms of malaria?

**Symptoms** include fever and flu-like illness, including shaking chills, headache, muscle aches, and tiredness. Nausea, vomiting, and diarrhea may also occur. Malaria may cause anemia and jaundice (yellow coloring of the skin and eyes) because of the loss of red blood cells. Infection with one type of malaria, *Plasmodium falciparum*, if not promptly treated, may cause kidney failure, seizures, mental confusion, coma, and death.

For most people, symptoms begin 10 days to 4 weeks after infection, although a person may feel ill as early as 7 days or as late as 1 year later. Many effective antimalarial drugs are available. Your health care provider and you will decide on the best drug for you based on your travel plans, medical history, age, drug allergies, pregnancy status, and other health factors.

To allow enough time for the drugs to become effective and for a pharmacy to prepare any special doses of medicine (especially doses for children and infants), visit your health care provider 4-6 weeks before travel.

**Typhoid fever** is a life-threatening illness caused by the bacterium *Salmonella Typhi*. In the United States about 400 cases occur each year, and 75% of these are acquired while traveling internationally. You can get typhoid fever if you eat food or drink beverages that have been handled by a person who is shedding *S. Typhi* or if sewage contaminated with *S. Typhi* bacteria gets into the water you use for drinking or washing food. Therefore, typhoid fever is more common in areas of the world where handwashing is less frequent and water is likely to be contaminated with sewage.

Once *S. Typhi* bacteria are eaten or drunk, they multiply and spread into the bloodstream. The body reacts with fever and other signs and symptoms. Persons with typhoid fever usually have a sustained fever as high as 103° to 104° F (39° to 40° C). They may also feel weak, or have stomach pains, headache, or loss of appetite. In some cases, patients have a rash of flat, rose-colored spots. The only way to know for sure if an illness is typhoid fever is to have samples of stool or blood tested for the presence of *S. Typhi*.

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**Hepatitis A** is a liver disease caused by the hepatitis A virus. Hepatitis A can affect anyone. In the United States, hepatitis A can occur in situations ranging from isolated cases of disease to widespread epidemics. Good personal hygiene and proper sanitation can help prevent hepatitis A. Vaccines are also available for long-term prevention of hepatitis A virus infection in persons 12 months of age and older. Immune globulin is available for short-term prevention of hepatitis A virus infection in individuals of all ages.

### **Signs & Symptoms**

Adults will have signs and symptoms more often than children.

- jaundice
- fatigue
- abdominal pain
- loss of appetite
- nausea
- diarrhea
- fever

HAV is found in the stool (feces) of persons with hepatitis A.

HAV is usually spread from person to person by putting something in the mouth (even though it might look clean) that has been contaminated with the stool of a person with hepatitis A.

### **Persons at Risk**

- Household contacts of infected persons
- Sex contacts of infected persons
- Persons, especially children, living in areas with increased rates of hepatitis A during the baseline period of 1987-1997
- Travelers to [countries where hepatitis A is common](#)
- Men who have sex with men
- Users of injection and non-injection drugs

### **Prevention**

- Hepatitis A vaccine is the best protection.
- Short-term protection against hepatitis A is available from immune globulin. It can be given before and within 2 weeks of coming in contact with HAV.
- Always wash your hands with soap and water after using the bathroom, changing a diaper, and before preparing and eating food.

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