

## What is American trypanosomiasis?

American trypanosomiasis, also known as Chagas disease, is caused by the blood parasite *Trypanosoma cruzi*. Worldwide, it is estimated that 16 to 18 million people are infected with Chagas disease; of those infected, 50,000 will die each year. It is most commonly seen in South America, Middle America and Mexico.

## Who gets American trypanosomiasis?

Anyone living or visiting disease infected areas is potentially susceptible. Persons at higher risk of getting disease include laboratory personnel working in Chagas disease research and people who regularly sleep in poorly constructed houses made from mud, adobe, or thatch found in the rural areas of Central and South America. These types of homes are more likely than *others to be infested with triatomine bugs. Blood transfusion recipients are at risk as well, because blood is not screened for C. cruzi* and the parasite may be transmitted through transfusions. Travelers planning to stay in hotels, resorts, or other well-constructed housing facilities are **not** at high risk for getting Chagas disease naturally.

## How is American trypanosomiasis spread?

American trypanosomiasis is spread by Triatomine bugs (or "kissing" bugs) that live in cracks and holes of substandard housing from the southern United States to southern Argentina. Unlike other arthropod-borne diseases, the parasite is not passed to humans directly by the bite of the infected insect. Triatomine bugs defecate while blood-feeding, and if the insect is infected with the parasite, the parasite can enter the bloodstream when the host scratches the bite wound.

People can also become infected with Chagas by:

- unknowingly touching their eyes, mouth, or open cuts after having come into contact with infective triatome bug feces,
- bugs directly depositing infected feces in their eyes,
- eating uncooked food contaminated with triatome bug feces,
- receiving infection from mother during pregnancy or at birth, and
- receiving an infected blood transfusion or organ transplant.

Animals can become infected in the same way by eating an infected bug.

## What are the symptoms of American trypanosomiasis?

The disease can cause different symptoms depending on the location of the parasite in muscle tissue. Acute symptoms only occur in about 1% of cases. Symptoms of acute disease include fever, malaise, swollen lymph nodes and Romanas sign, an obvious swelling of the eye and surrounding area at the site of exposure. Asymptomatic infections are thought to be common. Chronic symptoms of the disease develop in approximately 20%-30% of infected people. This stage occurs years after the exposure and may include abnormal enlargement of the esophagus or colon and congestive heart failure. Persons with weakened immune systems may have more severe symptoms.

## How soon after infection do symptoms appear?

If symptoms develop, they may occur between 5 and 14 days after the insect bite. If exposed through a blood transfusion, symptoms may develop in 30 to 40 days. Most people do not have symptoms until the chronic stage of infection, 10 to 40 years after first being infected.

## How long can an infected person carry the disease-causing organism?

*T. cruzi*, the parasite that causes American trypanosomiasis, may remain in the body throughout the person's lifetime.

## Can animals carry the disease-causing organism?

Yes. The parasite that causes American trypanosomiasis has been found in over 150 species of wild and domestic animals. The degree of risk to owners, veterinarians, and other persons caring for a dog infected with *T. cruzi* has yet to be determined.

### **Are people in the United States at risk for American trypanosomiasis?**

The bug responsible for transmission of the parasite is found in the southern United States, including Oklahoma. However, the risk for transmission is very low as only five human cases have been reported in the U.S. These low numbers of cases is mainly due to higher standards of living and the absence of the triatomine species that are well adapted to living in human houses. In addition, some of the bugs involved in spreading the disease in the U.S exhibit delayed defecation after a bite, which may reduce the risk of transmission. Rarely are cases of disease acquired from contaminated blood or transplanted organs in the U.S., however, these cases are rising due to a growing number of infected immigrants and the lack of testing the blood supply.

### **What is the treatment for American trypanosomiasis?**

Medication for Chagas disease is usually effective when given during the early acute stage of infection. Once the disease has progressed to later stages, medication may be less effective. In the late chronic stages of infection, treatment focuses on managing the symptoms associated with the disease.

### **How can I prevent American trypanosomiasis?**

You can prevent American trypanosomiasis if you:

- Avoid sleeping in thatch, mud, or adobe houses.
- If traveling to a country with high levels of disease, sleep inside screened areas, under a permethrin-impregnated bed net, or an air-conditioned room.
- Avoid insect bites.
- Use insecticides to kill bugs and reduce the risk of transmission.
- Wash and cook any food that could be contaminated with insect feces.
- Remain aware that, in some countries, the blood supply may not always be screened for American trypanosomiasis and blood transfusions may carry a risk of infection.

