



# Chagas Disease

## What is Chagas disease?

Chagas disease, also known as American trypanosomiasis, is caused by the parasite, *Trypanosoma cruzi*. The illness is transmitted to animals and people by a triatomine bug (or “kissing” bug) found only in the Americas. An estimated 8 million people are infected with Chagas disease in Mexico, Central America, and South America, most of whom do not know they are infected. If untreated, infection is lifelong and up to 20,000 people will die each year from the infection.

## Who get Chagas disease?

Anyone living in or visiting rural areas in parts of Mexico, Central America, and South America is susceptible; however, the people at highest risk of infection are those who live in rural areas and regularly sleep in poorly constructed houses made from mud, adobe, or thatch. These types of homes are more likely than other homes to be infested with “kissing” bugs. Travelers planning to stay in hotels, resorts, or other well-constructed housing facilities are **not** at high risk for getting Chagas disease. Laboratory personnel working directly with the parasite are also at higher risk of infection. Blood transfusion recipients in some of these countries are at risk as well, because blood is not screened for *T. cruzi*, and the parasite can be passed through transfusions. Blood donated in the United States has been screened for *T. cruzi* since January of 2007.

## How do people get Chagas disease?

People can become infected in various ways. Infected “kissing” bugs pass the parasite in their feces. During the day, “kissing” bugs hide in crevices in the walls and roof. During the night, when people are sleeping, the bugs come out to take a blood meal. Because they tend to feed on people’s faces, these bugs are called “kissing” bugs. After they bite and ingest blood, they pass infected feces. The sleeping person may scratch or rub the feces into the bite wound, eyes, nose, mouth, or open wound, accidentally infecting themselves.

People can also become infected with Chagas by:

- ◆ Bugs directly depositing infected feces in their eyes,
- ◆ Eating uncooked food or drinking liquids contaminated with infected feces,
- ◆ Accidental laboratory exposure,
- ◆ Passing of the infection from mother to baby during pregnancy or at birth,
- ◆ Breastfeeding while the mother has cracked nipples or blood in the breast milk, 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 Chagas disease?

The disease can cause different symptoms depending on the phase of the disease and the location of the parasite in muscle tissue. The acute phase lasts for the first few weeks or months after infection and usually passes unnoticed because of mild or nonspecific symptoms. Young children are more likely than adults to exhibit symptoms during an acute infection. 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. Chronic symptoms of the disease develop in approximately 20%-30% of infected people. This stage occurs years after 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.



Romanas sign—Swelling of the eyelid

## 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 *T. cruzi* parasite?

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 Chagas disease?

The triatomine bug is found in the southern United States, including Oklahoma. Two species of the bug are known to be in Oklahoma, *Triatoma sanguisuga* (see left picture below) and *T. lecticularia*. The CDC estimates that more than 300,000 infected persons are currently living in the United States. However, most of these were infected with Chagas in an endemic country before they came to the United States. The risk for transmission is very low, as only seven human cases have been reported that originated in the U.S. These low numbers of cases are mainly due to higher standards of living and the absence of the triatomine bugs 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. Blood and organs have been screened for *T. cruzi* in the United States since 2007.

### What is the treatment for Chagas disease?

Medication for Chagas disease is usually effective when given during the early acute stages 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 Chagas disease?

You can prevent Chagas disease 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 in an air-conditioned room
- ◆ Avoid insect bites
- ◆ Use insecticides to kill bugs and reduce the risk of transmission
- ◆ Any food that could be contaminated with insect feces should be washed and cooked
- ◆ 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.

#### Triatomine "Kissing" bug



*Triatoma sanguisuga*

#### Bugs Commonly Confused with Triatomine Bugs



Assassin bug



Wheel bug