

Chagas Disease Resource for County Health Department Epidemiology Staff

Chagas disease is caused by the parasite *Trypanosoma cruzi* and is prevalent in many Central and South American countries. In January 2007, the American Red Cross blood banks began screening blood donations for *T. cruzi* in the United States. Screening is not required by law, and it is estimated that about 70% of the nation's blood supply is currently being screened. This has led to the identification of Chagas disease infections among Florida blood donors.

Transmission

T. cruzi is transmitted by insects from the subfamily Triatominae. Triatomine bugs become infected by feeding on the blood of infected animals and people. The bugs then pass the parasite through feces. They stay hidden in homes during the day and come out at night to feed. After feeding, the bugs will defecate on the person. Infected fecal droplets can enter the bite wound, or migrate to mucosal membranes and cause an infection. The parasite can also be transmitted orally (by consuming uncooked food contaminated with the feces of infected bugs), congenitally (from a pregnant woman to her baby), via organ transplantation and blood transfusion, and from accidental exposure in the laboratory.

Risk to family members

Family members might be at risk if their exposure history is similar to that of the infected individual. They may also be at risk if they were born to or received blood or organs from an infected family member after the individual was infected.

Symptoms

Individuals in the acute phase of the disease (up to about 8 weeks after becoming infected) are often asymptomatic, but when symptoms are present they can include fever, fatigue, body aches, headache, rash, loss of appetite, diarrhea, and vomiting. During the chronic phase (infected for greater than 8 weeks) many people remain asymptomatic, though some develop cardiac or intestinal complications. The average lifetime risk of developing one or more complications is about 30%

Follow-up testing

Blood from individuals with positive results from the initial screening will be tested again. Specimens that are repeat-reactive will then be tested by a radioimmunoprecipitation assay (RIPA). Though not FDA licensed, RIPA positive results were considered confirmed positive in clinical trials. RIPA positive individuals will receive a letter from the blood agency notifying them of the test results, and asking them not to donate blood in the future. The letter also refers individuals to their physicians.

CHD Information

Chagas disease is not reportable. However, Florida Department of Health would like to collect basic information on infected individuals to get a better idea of the groups at risk for Chagas disease in Florida. Currently, the CDC receives data on the number of

Chagas-infected donors for each state from the American Association of Blood Banks (AABB). These data, which do not include identifying information, are then sent to FL DOH and will be forwarded to CHDs in affected counties.

Some counties have expressed an interest in actively pursuing follow-up of Chagas-infected donors. The best way to accomplish this is to facilitate a close relationship with local blood donation centers. CHDs can ask the centers for information on positive donors, but as the disease is not reportable, sharing of this information is not required. CHDs can also work through their local blood donation centers to list CHD contact information in the letter that is sent to the positive donor.

If your CHD is contacted by an infected individual, please refer to the following guidelines:

- Contact the individual for an interview
- Fill out the case report form (<http://www.doh.state.fl.us/environment/medicine/arboviral/pdfs/2007/ChagasCRF.pdf>) and return it to Elizabeth Radke, Bureau of Environmental Public Health Medicine
- Identify any family members who may be infected (especially children of an infected woman) and help facilitate testing for *T. cruzi*. For chronic infections, CDC can perform an IFA test on serum free of charge. If the clinical and epidemiologic factors are consistent with an acute infection, CDC can examine whole blood for the presence of parasites. Samples submitted to CDC for testing must be routed through one of the FL DOH laboratories. Testing for *T. cruzi* is also available at some commercial laboratories.
- Enter the case information into the Merlin outbreak module #1366.
- Refer the individual/family member to a local physician or clinic for follow-up care and treatment. In the United States, antitrypanosomal medication is only available through CDC under an investigational new drug protocol. The physician will need to consult with CDC to determine if a patient is eligible for treatment. The CDC consult line for physicians is 770-488-7775. Biologics from CDC are free of charge for eligible patients, and will be shipped directly to the physician's office.
- Many infected individuals will not have access to health care, or may be uninsured and unable to afford the full cost of treatment. Please attempt to identify physicians or clinics in your county that may be willing to treat these patients on a sliding fee scale or at a reduced cost.



<http://www.who.int/ctd/chagas/geo.htm>

DOH Contact Information

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