



Division of Parasitic Diseases

Parasitic Disease Information

Blastocystis hominis Infection

(BLASS-toe-SIS-tiss HOM-in-iss)

What is Blastocystis hominis?

Blastocystis hominis is a common microscopic parasitic organism found throughout the world. Infection with Blastocystis hominis is called blastocystosis (BLASS-toe-SIS-toe-sis.)

What are the symptoms of infection with Blastocystis?

Watery or loose stools, diarrhea, abdominal pain, anal itching, weight loss, and excess gas have all been reported in persons with Blastocystis infection. Many people have no symptoms at all.

How long will I be infected?

Blastocystis can remain in the intestines for weeks, months, or years.

Is Blastocystis hominis the cause of my symptoms?

It is hard to be sure, and experts disagree on this point. Whether or not *B. hominis* is the primary cause of your symptoms is unknown. Finding Blastocystis in stool samples should be followed up with a careful search for other possible causes of your symptoms.

Symptoms may be caused by infection with other parasitic organisms, bacteria, or viruses. Often, *B. hominis* is found along with other such organisms that are more likely to be the cause of your symptoms.

Sometimes symptoms are not caused by an infection at all. Antibiotics, some cancer drugs, and medications used to control high blood pressure may be causing your symptoms. Hormone or endocrine diseases, diseases like Crohn's, colitis, or hereditary factors may be the cause of illness. Food additives or food allergies may also be a cause of abdominal discomfort.

Is having blastocystosis common?

Yes; in fact many people have Blastocystis, some without ever having symptoms.

What should I do if I think I have blastocystosis?

See your health care provider who will ask you to provide stool samples for testing. Diagnosis may be difficult, so you may be asked to submit several stool samples.

Is medication available to treat blastocystosis?

Yes; drugs are available by prescription to treat blastocystosis; however, sometimes medication is not effective.

How did I get blastocystosis?

It's hard to say. How Blastocystis is transmitted is unknown, although the number of people infected seems to increase in areas where sanitation and personal hygiene is inadequate.

How can I prevent infection with Blastocystis?

- * Wash hands with soap and water after using the toilet and before handling food.
- * Avoid water or food that may be contaminated.
- * Wash and peel all raw vegetables and fruits before eating.
- * When traveling in countries where the water supply may be unsafe, avoid drinking unboiled tap water and avoid uncooked foods washed with unboiled tap water. Bottled or canned carbonated beverages, seltzers, pasteurized fruit drinks, and steaming hot coffee and tea are safe to drink.
- * If you work in a child care center where you change diapers, be sure to wash your hands thoroughly with plenty of soap and warm water after every diaper change, even if you wear gloves.

Should I be concerned about spreading infection to the rest of my household?

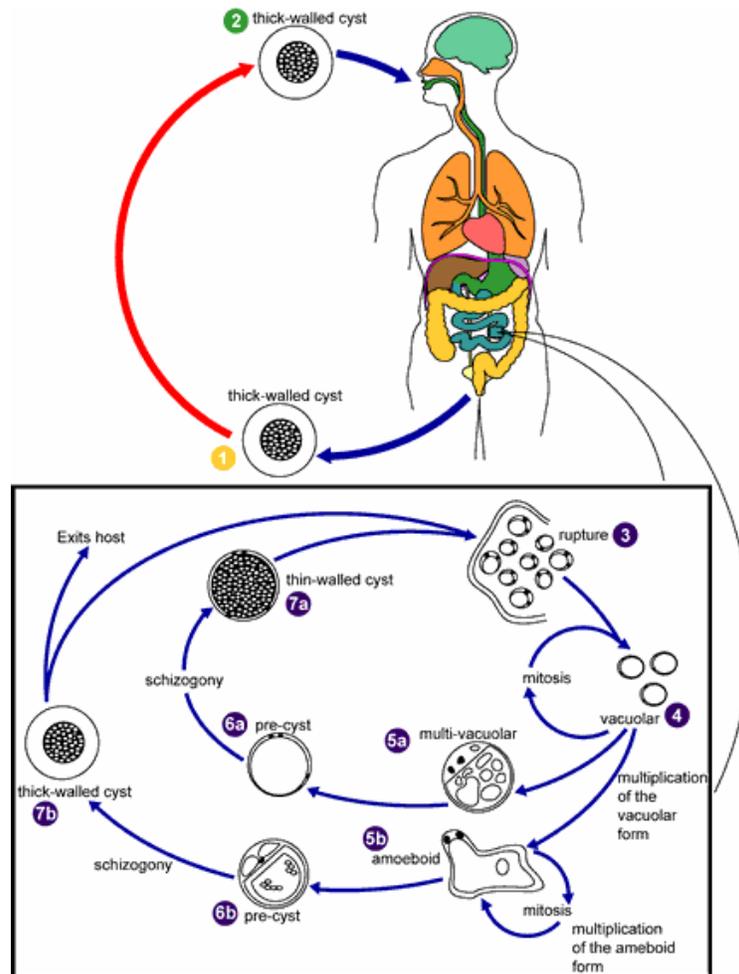
No. If you practice adequate personal hygiene, including thorough hand washing with soap and warm water after using the toilet and before handling food, there is little risk of spreading infection.

Causal Agent:

The taxonomic classification of *Blastocystis hominis* is mired in controversy. It has been previously considered as yeasts, fungi, or ameboid, flagellated, or sporozoan protozoa. Recently, however, based on molecular studies, especially dealing with the sequence information on the complete SSUrRNA gene, *B. hominis* has been placed within an informal group, the stramenopiles (Silberman et al. 1996). Stramenopiles are defined, based on molecular phylogenies, as a heterogeneous evolutionary assemblage of unicellular and multicellular protists including brown algae, diatoms, chrysophytes, water molds, slime nets, etc. (Patterson, 1994). Cavalier-Smith (1998) considers stramenopiles to be identical to his infrakingdom Heterokonta

under the kingdom Chromista. Therefore, according to Cavalier-Smith, *B. hominis* is a heterokontid chromista.

Life Cycle:



Clinical Features:

Whether *Blastocystis hominis* can cause symptomatic infection in humans is a point of active debate. This is because of the common occurrence of the organism in both asymptomatic and symptomatic persons. Those who believe symptoms could be related to infection with this parasite have described a spectrum of illness including watery diarrhea, abdominal pain, perianal pruritus, and excessive flatulence.

Laboratory Diagnosis:

Diagnosis is based on finding the cyst-like stage in feces. Permanently stained smears are preferred over wet mount preparations because fecal debris may be mistaken for the organisms in the latter. Do not wash specimens in water (e.g., during concentration procedures) as this will lyse the organisms, resulting in false negatives.

Diagnostic findings

- * Microscopy
- * Morphologic comparison with other intestinal parasites
- * Bench aid for Blastocystis

Treatment:

Despite the controversial clinical significance of this organism, metronidazole or iodoquinol has been reported to be effective. See recommendations in The Medical Letter (Drugs for Parasitic Infections) for complete information.

(This fact sheet is for information only and is not meant to be used for self-diagnosis or as a substitute for consultation with a health care provider. If you have any questions about the disease described above or think that you may have a parasitic infection, consult a health care provider.)