

Histoplasmosis

What is histoplasmosis?

Histoplasmosis is an infection caused by the fungus *Histoplasma capsulatum*. The *H. capsulatum* fungus enters the body through the lungs. Some people with infection do not become sick, or develop only a mild flu-like illness. Others develop pneumonia, and in a very few people the infection spreads throughout the body.

Where is the fungus that causes histoplasmosis found?

Histoplasma capsulatum is found throughout the world and is common in many areas of the United States, including parts of central and western Virginia. The fungus grows in soils that are contaminated with bird or bat droppings, such as around old chicken houses, roosts of starlings and blackbirds, in decaying trees and in caves and other areas where bats live.

Who gets histoplasmosis?

Anyone can get histoplasmosis. Positive histoplasmosis skin tests are seen in as many as 80% of people living in some areas of the eastern and central United States. The positive skin test indicates that infection is very common, although most people never show any symptoms. The severe forms of this disease are seen more frequently in persons who have problems with their immune systems, such as persons with AIDS.

How is this fungus spread?

The fungus grows in soil enriched with bat or bird droppings. The fungus produces spores that get into the air if the contaminated soil is disturbed. Breathing in these spores causes infection. You cannot get histoplasmosis from another person.

What are the symptoms of histoplasmosis?

Most people with histoplasmosis have no symptoms. For those who do get sick, illness can vary from very mild respiratory disease to a serious illness involving the whole body. Most people who get sick have the mild respiratory form of illness with fever, chest pains, weakness and a dry cough. Some people get pneumonia. Rarely, the infection spreads throughout the body. The most serious forms of the disease can lead to death if they are not treated.

How soon after exposure do symptoms appear?

If symptoms appear, it is usually within 5 to 18 days after exposure, with an average of 10 days.

What is the treatment for histoplasmosis?

Treatment is not usually necessary for histoplasmosis because most people will get better without treatment. Antibiotics active against fungal infections are used to treat severe cases of histoplasmosis.

If someone has histoplasmosis, can they get it again?

Persons who have had histoplasmosis usually do not get it again. However, the histoplasmosis can stay in a person's body and re-activate many years later. Re-activation is more likely to occur if the person's immune system is weakened by illness or medication.

What can be done to prevent the spread of histoplasmosis?

Because the *H. capsulatum* is very common in soil, caves, and places where birds and bats have roosted, it is not practical decontaminate all possible places where the fungus may be found.

However, steps can be taken to minimize exposure. Anyone working or planning to work in a place that is known or suspected of being contaminated with the fungus should read the Centers for Disease Control and Prevention/National Institute of Occupational Safety and Health (NIOSH) guidelines, found at <http://www.cdc.gov/niosh/docs/2005-109/>.

NIOSH recommendations include:

- Post health risk signs to keep people away from areas known or suspected of being contaminated with *H. capsulatum*.
- Educate workers of the risks and ways to prevent exposure to *H. capsulatum*.
- Consult with experts before entering/cleaning heavily contaminated areas (e.g., buildings with large collections of bird or bat manure).
- Minimize dust when raking, shoveling, excavating or otherwise disturbing possibly contaminated soil by gently spraying the area with water before starting work.
- Try to avoid working on a windy day, as this may increase the dust and allow the spores to spread in the air.
- Wear a NIOSH approved dust/mist respirator and disposable protective clothing (e.g., coveralls) to avoid contaminating clothing.
- Dispose of contaminated soil, bird droppings, construction debris and other contaminated materials properly. Cover materials (e.g., with a tarp) during transit, and dispose of materials in a suitable landfill or other location.
- Prevent birds/bats from re-entering the site.

What if I might be exposed while working at home or other non-workplaces?

People doing demolition or renovation of bird or bat occupied buildings at home or as participants in service projects outside of the U.S., and people exploring caves or other bird/bat occupied areas should be aware of the risks of exposure to *H. capsulatum*, and should also read the NIOSH guideline at <http://www.cdc.gov/niosh/docs/2005-109/>.

What if my immune system may be weakened by a medical condition or medication?

People with weakened immune systems should avoid exposure to *H. capsulatum* contaminated areas if possible. If exposure is unavoidable or occurs accidentally, the person should consult his/her health provider.

Can birds and animals get histoplasmosis?

Yes, most animals can get histoplasmosis. Cats and dogs most commonly exhibit weight loss, anorexia, fever, and difficulty breathing. In dogs, coughing and GI signs may be present, but these are uncommon signs in cats. Even though dogs and cats get sick, they do not transmit the disease to humans.

Birds are not thought to become colonized or infected with *H. capsulatum*. Their role in the natural history of *H. capsulatum* is that their manure provides a source of nitrogen, which acts as fertilizer and encourages the growth of the fungus in the soil.

Bats are known to shed the fungus in their droppings, and may be responsible for moving the fungus from one location to another. Bat manure (guano) can support the growth of *H. capsulatum*. Persons exploring caves inhabited by bats have developed histoplasmosis after inhaling dust containing the fungus.

Where can I obtain more information about histoplasmosis?

More information is available at <http://www.cdc.gov/nczved/divisions/dfbmd/diseases/histoplasmosis/>.

Information on prevention and treatment of histoplasmosis for people who are immunocompromised and their healthcare providers is available at: <http://www.cdc.gov/mmwr/pdf/rr/rr5804.pdf>.