Histoplasmosis

Histoplasmosis is caused by a soil-based fungus called *Histoplasma capsulatum*. The *Histoplasma* organism is found in soil with high organic content and undisturbed bird and bat droppings, for example in and around old chicken houses, bat caves and pigeon roosts.

People usually become infected with histoplasmosis after breathing in the microscopic fungal spores from the air.

More than 90% of infected people will have no signs of illness at all; some people may develop a mild illness with signs of lung infection; and it can sometimes spread to other parts of the body (disseminated histoplasmosis) and cause severe life threatening illness.

People who have weakened immune systems (i.e. people who have HIV, or have had an organ transplant) are particularly at risk of complications from histoplasmosis which can lead to death, especially if left untreated.

Histoplasmosis is a rare infection in Australia. Cases have been found in all states of Australia apart from Tasmania, with most reported cases in Queensland and New South Wales. The organism can be found world wide.

**Signs and Symptoms:**

Very few people who are exposed to *Histoplasma capsulatum* fungus experience any symptoms. In fact it is thought that less than 5% of those infected become unwell.

Symptoms of the infection appear within 3 to 17 days after exposure, most commonly 12-14 days.

The severity of the illness is related to how many spores the person was exposed to, and the ability of their immune system to destroy *Histoplasma* organisms in the body. If a person does become unwell with histoplasmosis, the disease may appear in any of four different forms:

- **Acute respiratory** - the illness varies from a mild respiratory illness to feeling generally very unwell with symptoms of tiredness, high fever, chills, headache, muscle aches, weakness, chest pains, cough and sometimes a rash.
- **Acute disseminated** - the disease quickly becomes severe, with rapid spread of the histoplasma organisms to organs outside the lungs. Symptoms include high fever, cough, exhaustion, gastro symptoms and enlargement of the liver and spleen. This form of histoplasmosis is most frequently seen in infants and young children and in people with weakened immune systems; it is usually fatal if left untreated.
- **Chronic disseminated** - Histoplasmosis develops slowly over a period of 10-11 months as the organism spreads to organs outside of the lungs. People with chronic disseminated histoplasmosis experience mild intermittent fever, weight loss, weakness, anaemia and enlargement of the liver and spleen. Other symptoms will depend on which organs are affected as the organism spreads, and can include signs and symptoms of infection of the liver, lungs, brain or meninges (the covering of the brain) and heart. Ulcers of the mouth, throat, stomach and bowel may be present and problems with the adrenal gland (Addison's Disease) may occur. Chronic disseminated histoplasmosis is nearly always fatal if not treated.
- **Chronic pulmonary** - occurs most often in persons with pre-existing lung diseases such as emphysema. It resembles tuberculosis and is more common in males over 40 years of age. This form of histoplasmosis progresses slowly over months or years and can sometimes resolve without treatment.

Confirmation of histoplasmosis infection usually requires laboratory examinations which identify *Histoplasma capsulatum* in sputum, blood or specimens from biopsies of infected organs, ulcers or lymph nodes.

**Treatment:**
Most people who develop histoplasmosis do not require treatment. Some may only require treatment that relieves the symptoms of the disease.

Specific antifungal drugs are used to treat severe histoplasmosis. Depending on the severity of the infection and the person’s immune status, the course of treatment can last from 3-12 months.

**Transmission:**

Histoplasmosis is not spread from person to person.

Severe forms of the disease are most frequently seen in infants, young children and people with weakened immune systems.

Outbreaks of histoplasmosis across the world have been associated with construction, maintenance, renovation, excavation, caving, school activities/camps, and agricultural activities.

**Prevention:**

There is no vaccine available for histoplasmosis.

It can be difficult to prevent exposure to histoplasmosis, especially in areas where the disease is widespread. The following may help reduce the risk of infection:

- Avoid exposure - avoid activities that might expose you to contaminated soil, such as soil with lots of bird and bat droppings, in particular in and around old chicken houses, bat caves and pigeon roosts.
- Dampen potentially contaminated soil. Before you work in or dig soil that possibly contaminated, wet it thoroughly with water. This can help prevent spores from being released into the air. Large amounts of bird or bat droppings should be cleaned up by professional companies that specialize in the removal of hazardous waste.
- Use an effective face mask. One of the best ways to protect yourself from soil-borne organisms is to wear a respirator mask. People working in contaminated areas should use protective clothing such as gloves and coveralls. They should also use a respirator equipped with a high efficiency particulate air (HEPA) filter that is capable of filtering particles down to two microns in size. For major clean-up operations of prolonged exposure, a powered air purifying or supplied air respirator may be necessary.

People who have weakened immune systems (for example, because of HIV/AIDS, an organ transplant, or medications) should be particularly careful to avoid activities which are associated with histoplasmosis, such as caving.

Others who may be at risk include archaeologists, geologists and medical laboratory technicians who test for histoplasmosis.

**Health outcome:**

Most people recover spontaneously 2-3 weeks after onset of symptoms, although fatigue may persist longer. If histoplasmosis infection spreads to other parts of the body (dissemination), especially to the gastrointestinal tract and central nervous system, a longer and more serious illness can occur (see Signs and Symptoms).

Previous histoplasmosis infection provides partial protection if a person becomes reinfected.

**Other resources:**

[Histoplasmosis information, Centres for Disease Control](http://www.cdc.gov/fungal/diseases/histoplasmosis/)

**Help and assistance:**

For further information, please contact your local doctor, health centre or nearest public health unit.
References


