

## Blastomycosis

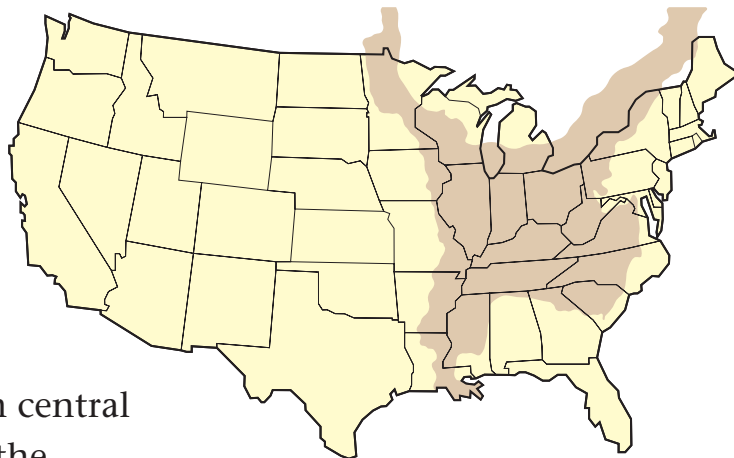
### Fungal Disease Series #1

*Blastomycosis* is a disease caused by breathing in a fungus named *Blastomyces dermatidis*.

This fungus is found in moist soil of rotting plants or wood.

*Blastomyces dermatidis* is found in central and southeastern United States (the darkened area on the map, right) and

parts of Canada. There has been an increase in the rate of blastomycosis in North America in the last 10 years.



Map source: [www.familyvet.com/Dogs/Fungi.html](http://www.familyvet.com/Dogs/Fungi.html)

*Blastomyces* enters the body through the lungs and causes a lung infection, usually pneumonia. From the lungs, the fungus can spread to other areas of the body including your skin, bones, joints and central nervous system. This disease is rare and more commonly affects people involved with outdoor activities. The symptoms are usually more severe in people with a weakened immune system (e.g. organ transplants, HIV/AIDS or on medications that suppress/overpower the immune system). Blastomycosis is not known to spread from person to person.

### What are the signs and symptoms of Blastomycosis?

The signs and symptoms of Blastomycosis vary and may occur from 3 to 15 weeks after inhaling the fungus. You may develop mild symptoms, but recover without ever knowing you had been infected. Symptoms such as a cough, fever, sputum/phlegm production, chest pain, weight loss, shortness of breath, joint pain and body aches are common. The most common problem with Blastomycosis,

however, is pneumonia. Since the symptoms of Blastomycosis are the same as many other problems (like the common cold), your health care provider may not test you for Blastomycosis unless your symptoms do not go away or worsen despite taking antibiotics.

Blastomycosis can also be slow growing and grow to look like a lung tumor, which can be mistaken for lung cancer. In some cases, Blastomycosis may spread beyond your lungs and infect other organs such as your skin, bones, joints and central nervous system. Skin problems can include a rash, sores or nodules (small elevated areas on the skin). Bone and joint problems can include joint swelling or infected bone (osteomyelitis) which cause joint or bone pain. Blastomycosis of the central nervous system can cause meningitis, but this is rare in healthy people. If you have HIV/AIDS or have had an organ transplant, you are more likely to develop meningitis.

### How is Blastomycosis diagnosed?

The diagnosis of Blastomycosis is made by growing the fungus in a sample of your

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sputum/phlegm, fluid from an infected joint, or tissue from an infected area. A bronchoscopy is often needed to collect these samples in order to make the diagnosis of Blastomycosis. (see ATS Patient Information Series on Bronchoscopy at <http://patients.thoracic.org/information-series/en/resources/fiberoptic-bronchoscopy.pdf>) While giving a sputum sample is the easiest for you, it may *not always* show whether you are infected. Usually fluid or tissue from an infected area is more helpful in providing a diagnosis of Blastomycosis. A newly developed test may find that you have the Blastomyces antigen in your blood or urine and help diagnose the infection.

### How is Blastomycosis treated?

Not all patients with Blastomycosis require treatment. Occasionally the symptoms from Blastomycosis may go away without treatment. Patients with evidence of Blastomycosis spreading beyond the lungs, or whose symptoms do not improve, will require treatment. The type of therapy is based on your symptoms and whether you are immunosuppressed.

Treatment also varies on whether you have local symptoms (typically affecting just the lungs) or more systemic symptoms (affecting other organs in addition to the lungs). The drugs used to treat Blastomycosis are antimicrobial agents (types of antibiotics also known as anti-fungal medication) that are used to treat fungal infections. The type of antimicrobials you will be given depends on how severe your symptoms are and what areas of your body are affected. If you have mild to moderate Blastomycosis, *Itraconazole*, (a solution or pill), is the most common therapy. *Amphotericin B*, (a drug given by IV, directly into your vein), is commonly used for more severe cases. Treatment in both cases typically lasts for 6-12 months. There are side effects associated with treatments for Blastomycosis.

Talk to your health care provider about any side effects you may experience from your particular treatment.

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#### Resources:

##### National Institutes of Health (NIH)

<http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001163>

##### Centers for Disease Control

<http://www.cdc.gov/nczved/divisions/dfbmd/diseases/blastomycosis/>

## Rx Action Steps

Contact your health care provider if:

- ✓ you have a dry cough, shortness of breath that does not go away, or unexplained weight loss.
- ✓ you develop a lung infection or skin sores after visiting central and southeastern U.S.
- ✓ you develop symptoms of Blastomycosis and have had an organ transplant, HIV/AIDS or take medications that weaken your immune system.
- ✓ you are diagnosed with Blastomycosis and develop any skin changes, joint pain or neck stiffness and headache, as the infection may have spread and you will require treatment.

**Doctor's Office Telephone:**

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