

**REVIEWED**

By Chris Tighe at 9:29 am, Oct 19, 2016

## Sources of Blastomycosis

### Where does Blastomyces live?

Blastomyces lives in the environment, particularly in moist soil and in decomposing organic matter such as wood and leaves. In the United States, the fungus mainly lives in the midwestern, south-central, and southeastern states, particularly in areas surrounding the Ohio and Mississippi River valleys, the Great Lakes, and the Saint Lawrence River.<sup>1,2</sup> The fungus also lives in Canada,<sup>3-4</sup> and a small number of blastomycosis cases have been reported from Africa<sup>5</sup> and India.<sup>6</sup>

This map shows the approximate areas (called “endemic areas”) where Blastomyces is suspected to live in the United States.

#### Areas Endemic for Blastomycosis in the United States

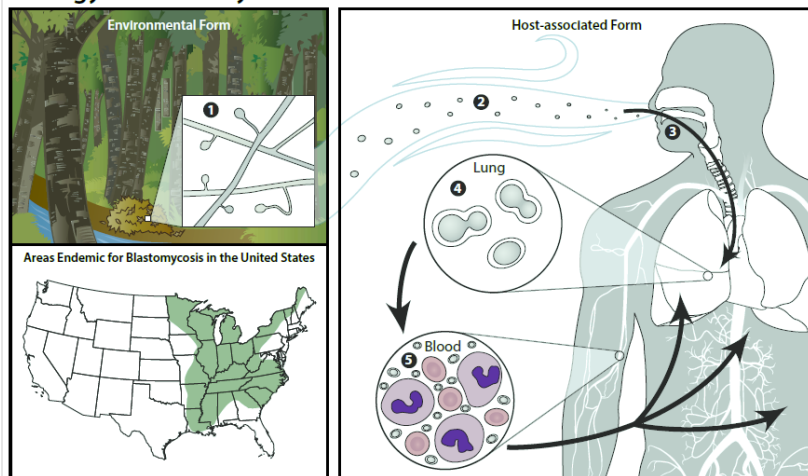


### Life cycle of Blastomyces

Blastomyces lives in the environment as a mold that produces fungal spores. The spores are too small to see without a microscope. When people or animals breathe in the spores, they are at risk for developing blastomycosis. After the spores enter the lungs, the body temperature allows the spores to transform into yeast. The yeast can stay in the lungs or spread through the bloodstream to other parts of the body, such as the skin, bones and joints, organs, and central nervous system (brain and spinal cord).

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#### Biology of Blastomycosis



In the environment, *Blastomyces* exists as mold (1) with septate aerial hyphae. The hyphae produce spores (2). These spores are either inhaled, or inoculated into the skin (3) of a susceptible host. The warmer temperature inside the host signals a transformation (4) into a broad-based budding yeast. The yeast may continue to colonize the lungs or disseminate in the bloodstream (5) to other parts of the body, such as the skin, bones and joints, organs, and central nervous system.



I'm worried that Blastomyces is in the soil near my home. Can someone test the environment to find out if the fungus is there?

No, in this situation, testing the environment for Blastomyces isn't likely to be useful. When a soil sample tests

positive for Blastomyces, it isn't necessarily a source of infection, and when a sample tests negative, that doesn't necessarily mean that the fungus isn't in the soil. Also, there are no commercially-available tests to detect Blastomyces in the environment. Testing environmental samples for Blastomyces is currently only done for scientific research.

## References

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