# BACKGROUNDER

## Aspergillus & Aspergillosis

**What's the difference?**

*Aspergillus* is a fungus commonly found in the environment. It grows on dead leaves, stored grain, bird droppings, compost piles or other decaying vegetation. Diseases caused by *aspergillus* are called '*aspergillosis*'. Most people are naturally immune and do not develop diseases caused by aspergillus.

**Aspergillosis can be deadly**

The type of diseases caused by aspergillus are varied:

- Allergic bronchopulmonary aspergillosis (ABPA) is seen in patients with long-standing asthma, particularly in patients taking oral corticosteroids for a long period of time. This is usually the least serious and most treatable form.
- Aspergilloma refers to the mass formed when fungal spores settle into or colonize areas of the lung that have been pitted and scarred as a result of tuberculosis or prior pneumonia.
- Invasive aspergillosis occurs when the fungus spreads throughout the body via the bloodstream to other parts of the body such as the heart, brain, kidneys and eyes. People who get infected by invasive aspergillosis usually have seriously damaged or impaired immune systems (e.g. people who have low white cells after cancer treatment, who have AIDS or major burns or who have had a bone marrow transplant). This form of aspergillosis can be deadly with a mortality rate ranging from 65 to 100 percent.[1]

**Symptoms & diagnosis**

People with invasive aspergillosis can have symptoms such as headache, fever, chills and respiratory problems (e.g. cough, chest pain/discomfort or breathlessness) which do not respond to standard antibiotics. Unfortunately diagnosis of invasive aspergillosis is difficult but X-rays and scans can help localise the disease. Bronchoscopy (inspection of the inside of the lung with a small tube inserted via the nose) is often used to help to confirm the diagnosis.

(more)

**Treatment options**

The method of treatment selected depends on the form of aspergillosis. Until recently options for treating invasive aspergillosis have been limited to older antifungal drugs such as amphotericin B and/or itraconazole. A newer class of antifungal drugs called echinocandin (a glucan synthesis inhibitor), such as caspofungin acetate, attacks the fungal cell wall by inhibiting the production of β (1,3)-D-glucan, an integral component of the fungal cell wall that is not found in human cells.

**Reference:**

1. Health Canada, Bureau of Infectious Diseases, *Construction-related Nosocomial Infections for Hospitalized Patients: Decreasing the Risk of Aspergillosis, Legionella and other Infections*, March 1999