CRYPTOCOCCOSIS

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<th>Animal Group(s) Affected</th>
<th>Transmission</th>
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<td>Mammals, birds, rare in reptiles and amphibians</td>
<td>Inhalation of airborne organisms</td>
<td>Typically respiratory, central nervous system, ocular, or cutaneous signs; possibly in combination.</td>
<td>Moderate to severe; guarded prognosis with neurologic signs.</td>
<td>Antifungal drugs; in some cases, surgical excision of granulomas may be helpful</td>
<td>Avoid contact with pigeon droppings.</td>
<td>Not directly transmissible from animals to humans. Common source exposure can occur.</td>
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**Fact Sheet compiled by:** Cynthia Stadler  
**Sheet completed on:** 4 May 2011; updated 30 May 2013  
**Fact Sheet Reviewed by:** Jane Sykes; Julie Harris  
**Susceptible animal groups:** Mammals, birds, rarely in reptiles and amphibians  
**Causative organism:** Most often it is associated with *Cryptococcus neoformans* or *C. gattii*.  
**Zoonotic potential:** Animals and people may become infected by the same environmental source. Humans with HIV are at a greater risk for acquiring infection. Pet bird feces have been implicated as a possible source of *C. neoformans* infection for immunocompromised people but and no mammal-to-mammal transmission has been documented.  
**Distribution:** Worldwide, but especially southeastern and western Australia, British Columbia in Canada, and the west coast of the US. In specific, *C. neoformans* is considered global and ubiquitous while *C. gattii* likely is present in hotspots around the world, and recently associated with an outbreak in the Pacific Northwest US and British Columbia. Some implication has been made with *Eucalyptus* trees although other hardwood tree species have been implicated.  
**Incubation period:** Unknown. May be a few months to many years in some circumstances.  
**Clinical signs:** Rhinitis, sneezing, pulmonary granulomas (cryptococcomas); chorioretinitis; CNS signs include ataxia, circling, and blindness; cutaneous nodules or ulceration; lymphadenopathy, weight loss, lethargy, vomiting if disease is widely disseminated.  
**Post mortem, gross, or histologic findings:** Gross lesions may include gelatinous masses and granulomas. Histopathology reveals pyogranulomatous to granulomatous inflammation in affected organs with intralesional encapsulated yeasts that are round to oval with a distinctive capsule.  
**Diagnosis:** Cytology, fungal culture, tissue biopsy, antigen testing (serum and cerebrospinal fluid), PCR (not currently widely used). Distinction of *C. gattii* from *C. neoformans* requires specialized canavanine glycine bromothymol blue agar (Hardy Diagnostics).  
**Material required for laboratory analysis:** Samples of the tissue affected, serum, cerebrospinal fluid  
**Relevant diagnostic laboratories:** Many state, university and commercial laboratories run specific testing for cryptococcosis, although results of antigen tests may vary between laboratories. Culture is not hazardous for laboratory personnel and allows antifungal susceptibility testing and molecular typing.  
**Treatment:** Long term treatment (months to years) with fluconazole, itraconazole, voriconazole, ketoconazole, and/or amphotericin B. Flucytosine can be used in combination with one of these antifungal agents but should never be used alone due to rapid development of resistance and it may be prohibitively expensive. Surgical excision of cutaneous nodules can assist with drug penetration into poorly perfused tissues.
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**Prevention and control:** Avoid accumulations of bird droppings (especially from pigeons) for *C. neoformans*. Prevention difficult to achieve for *C. gattii* due to implications of contact with contaminated soil and tree bark.

**Suggested disinfectant for housing facilities:** accelerated hydrogen peroxide, potassium peroxymonosulfate, 1% sodium hypochlorite, iodine, chlorhexidine.

**Notification:** None

**Measures required under the Animal Disease Surveillance Plan:** None

**Measures required for introducing animals to infected animal:** N/A

**Conditions for restoring disease-free status after an outbreak:** N/A

**Experts who may be consulted:**
Jane Sykes, BVSc, PhD, DACVIM
University of California
2108 Tupper Hall
Davis, CA 95616
Phone: 530-752-1363
jesykes@ucdavis.edu

**References:**


