State of Alaska Epidemiology **Bulletin**

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Psittacosis - Veterinary Considerations

Human psittacosis is most often acquired by close contact with an infectious bird. Transmission occurs either by inhalation of aerosols containing droppings or secretions infected with the causative agent, *Chlamydia psittaci*, or by inhalation of infected droppings after they become dissicated and turn to dust. Psittacines (including parrots and parakeets), pigeons, and turkeys are the birds most susceptible to infection. Apparently healthy birds can carry *C. psittaci* for months or years and may begin shedding only when subjected to stresses such as crowding, shipping, or other changes of environment. Even birds that have received an appropriate course of antimicrobial treatment may shed *C. psittaci*.

When *human* psittacosis is traced to a pet store or aviary, the Section of Epidemiology, in cooperation with the Department of Environmental Conservation, will quarantine birds and require that they be treated. The purpose of these activities is to stop infectious birds from transmitting *C. psittaci* to humans or to other birds. Quarantine and treatment will also be initiated if it is determined that there are infectious birds at a store or aviary. **Cases of avian psittacosis should be reported to the State Veterinarian (745-3236)**.

Veterinarians have a number of tests available to help diagnose psittacosis and ornithosis (*C. psittaci* infection of psittacine and other birds, respectively). Unfortunately, the interpretation of test results can be problematic both for patient (i.e., bird) management and public health decision making. The Section of Epidemiology, with assistance from interested veterinarians, has developed the following guidelines to assist in the interpretation of laboratory results. These guidelines will be used by the Section when investigating possible *C. psittaci* infections.

1. A positive culture for *C. psittaci* obtained from either the cloaca or from droppings is the "gold standard" for establishing that a bird is infectious. Although cultures are relatively easy to obtain, specimens require special handling and must be shipped out-of-state for examination.

   Furthermore,the usefulness of cultures is limited by the fact that infectious birds often excrete *C. psittaci* on an intermittent basis. Thus, a single negative culture does not rule-out infectiousness.

2. Necropsy and examination of tissues, when conducted by a veterinary pathologist, is a reliable method of determining if a bird was infectious. Obviously, examination is limited to dead birds.

3. A positive Chlamydia *antigen* ELISA test is probable evidence that a bird is infectious. Because the sensitivity and specificity of this test is variable, results must be interpreted cautiously. A bird with a positive cloacal or choanal antigen test and clinical findings consistent with acute infection (elevated WBC, etc.) should probably be considered infectious. If a bird otherwise appears healthy, it is recommended that additional testing be obtained - either a repeat antigen test, antibody titer, or Chlamydia culture - before deciding if the bird is infectious or needs to be treated.

4. A positive Chlamydia *antibody* test does not establish that a bird is infectious. Because many pet birds have Chlamydia antibody, a positive result means only that a bird was infected *at some time*, it does not mean that the bird is *currently* infected or shedding. Although a high titer is suggestive of acute infection, ill birds should have additional testing - either cloacal antigen or Chlamydia culture - before making a diagnosis. A well bird requires careful evaluation to determine if treatment for asymptomatic current infection is warranted.

5. Acute and convalescent Chlamydia antibody titers (taken 4-6 weeks apart) are useful for diagnosis of most species of ill birds. A fourfold change in titers is strong evidence that a bird had acute *C. psittaci* infection. Testing is valid for antimicrobial treated or untreated birds. Birds with acute *C. psittaci* infection require additional testing - cloacal antigen or Chlamydia culture - in order to determine if the bird is infectious.

(Thanks to Kim Joyner, DVM, MPVM and Pam Tuomi, DVM for assisting in the development of these guidelines. Contributed by Michael Beller, MD, MPH, Section of Epidemiology.)