Other Names: Psittacosis, ornithosis, parrot fever

Cause
Avian chlamydiosis is an infectious disease of birds that is caused by the bacteria *Chlamydophila psittaci*. There are several strains of *C. psittaci* that cause varying degrees of disease severity in different avian species. The disease was originally called psittacosis because humans contracted it from psittacine birds (parrots, parakeets, macaws, and cockatiels). It is currently understood that many other species of domestic and wild birds can be infected with this disease and can transmit it to humans, so the disease is now known as avian chlamydiosis.

Significance
Humans usually contract avian chlamydiosis from pet birds, pigeons, and domestic poultry; though pet birds are by far the most common source of infection for humans. In humans, infection with *C. psittaci* can range from mild or asymptomatic to potentially fatal with severe pneumonia. People who are at greater risk of contracting this disease include bird owners, pet shop employees, veterinarians, wildlife biologists, and poultry processing plant employees. People working with potentially infected birds or contaminated areas should wear protective clothing, gloves, and respirators (masks may not be effective). To avoid aerosolizing the bacteria, dusty areas with waste from infected birds should be wetted with disinfectant before cleaning. Bird carcasses should be wetted prior to necropsy, which should be performed under a hood.

Species Affected
All bird species are susceptible to avian chlamydiosis. In North America, the disease is most common in waterfowl, herons, and pigeons. Gulls, terns, shorebirds, songbirds, and upland gamebirds are occasionally infected. Large die-offs have been observed in pigeons, doves, gulls, geese, and ducks. Pet parrots, parakeets, macaws, and cockatiels are also commonly infected. Avian strains of this bacteria have been implicated in outbreaks of disease in snowshoe hares, muskrats, and cattle. Humans are also susceptible to this disease.
**Distribution**
Avian chlamydiosis is distributed worldwide in both wild and domestic birds, including in Pennsylvania.

**Transmission**
The efficiency of transmission depends on the strain of *C. psittaci*, the susceptibility of the host species, stress status of the host, and environmental conditions.

Infected birds shed *C. psittaci* in feces, and nasal and eye secretions. Active shedding of the bacteria increases when birds are under stress. The bacteria are transmitted primarily by ingestion or inhalation, though *C. psittaci* can be transmitted from parent to offspring in species that regurgitate to feed their young. Infection by way of ingestion of contaminated material is more common in species that flock and feed together. Predatory and scavenging birds may acquire the disease by consuming the carcasses of infected birds. Inhalation of aerosolized contaminated feces and secretions is a major mode of transmission in avian species that nest together in dense populations. Parasites may be able to transmit the bacteria, but they are not believed to be an important mode of transmission.

Avian chlamydiosis is typically transmitted to humans via inhalation of aerosolized dusty feces and secretions from infected birds. Human to human transmission rarely occurs, and is not a major concern as a source of infection.

**Clinical Signs**
The severity of disease depends on the strain of the bacteria, the species and condition of the host bird, as well as environmental conditions. Highly susceptible species of birds may experience severe acute illness and sudden death. Sick birds may exhibit lethargy, loss of appetite, loss of body condition, ocular and nasal discharge, and diarrhea. Birds with severe disease that have stopped eating will become emaciated and may have dark green feces. Sick birds will have ruffled feathers and will not move much. Respiratory distress is also a common clinical sign. Birds usually die within 1 to 2 days of the onset of clinical signs. Wild birds often show no clinical signs of chlamydiosis and may remain chronically infected and act as asymptomatic carriers of the bacteria, but may also be found dead without any observation of clinical signs.

Immature little blue heron with chlamydiosis. Photo courtesy of USGS by Milton Friend
At necropsy, the spleen and/or liver are often enlarged to 3 to 4 times their normal size. The air sacs and pericardial sac (sac surrounding the heart) may be thickened. The lungs may be fluid filled and darker in color.

**Diagnosis**  
Bacterial isolation and antibody tests are used to diagnose avian chlamydiosis. Lungs, spleen, liver, and air sacs are preferred tissues for isolation of *C. psittaci*.

**Treatment**  
Antibiotics may be used to treat humans, their pets, individual birds of rare species, and captive birds. Treatment is not feasible for wild populations.

**Management/Prevention**  
During outbreaks of avian chlamydiosis, sick birds should be euthanized and carcasses should be removed and burned. Human activity should be limited in outbreak areas because it could facilitate the spread of the bacteria to new sites. Programs involving bird translocation and captive release should implement quarantines and should periodically test birds for chlamydiosis to ensure the release of uninfected birds. People working with any birds (dead or alive) or environments that may be infected with chlamydiosis should take the precautions mentioned in the *Significance* section.

**Suggested Reading**  

