



Case Definition

Avian Chlamydiosis (Psittacosis or Ornithosis, *Chlamydia psittaci*, (AC)) (Monitored)

April 2025

1. Disease Information

1.1 General Disease and Pathogen Information: Avian chlamydiosis (AC) is caused by intracellular bacteria *Chlamydia psittaci*. The disease in ducks and turkeys is of particular concern due to significant economic loss and a risk of transmission to humans from airborne exposure to the agent during handling and slaughter. Transmission between birds also commonly occurs by inhalation of infectious dust or airborne particles and by the ingestion of infectious material, including carcasses. *C. psittaci* can be found worldwide but is particularly common among psittacine birds in tropical and subtropical regions. Outbreaks of AC in psittacine birds and domestic poultry farms cause considerable economic damage. The infection can lead to systemic and occasionally fatal disease in birds. Most zoonotic infections are acquired from exposure to psittacine birds. Transmission is not common with domestic poultry. Historically, infection in humans is called psittacosis, which still applies for disease contracted from psittacine birds. Later the term ornithosis was introduced to identify the disease contracted from or occurring in domestic and wild fowl.

1.2 Clinical Signs: Clinical signs vary greatly in severity and depend on the species and age of the bird and strain but can include lethargy, hyperthermia, abnormal excretions, nasal and ocular discharges, and reduced egg production. In pet birds, the most frequent clinical signs are conjunctivitis, anorexia and weight loss, diarrhea, yellowish droppings, sinusitis, biliverdinuria, nasal discharge, sneezing, lacrimation, and respiratory distress. Some birds, especially older psittacine birds, carry the organism asymptotically and can shed it intermittently for long periods. Turkeys may develop pneumonitis and myocarditis when infected.

2. Laboratory Criteria

2.1 Agent Isolation and Identification: Appropriate samples can be collected from respiratory, reproductive, systemic (i.e., whole blood), and less commonly from gastrointestinal or neurologic tissues. *C. psittaci* can be cultured only in biosafety level 3 facilities with isolation and identification being time- and resource-intensive and requiring high quality samples. Due to these issues, other techniques are often used, mainly molecular methods. Nucleic acid amplification tests, such as PCR and sequencing techniques, are also available and have been replacing isolation and immunohistochemical staining for the detection of *C. psittaci* from tissue samples. Isolation of chlamydiae requires the inoculation of embryonated eggs or cell cultures. Immunohistochemical staining of impression smears from the liver, heart, and spleen may be utilized in the absence of molecular methods.



- 2.2 Agent Characterization:** Whole genome sequencing is the preferred characterization method.
- 2.3 Serology:** The recommended serologic methods used to detect *C. psittaci* antibodies is the enzyme-linked immunosorbent assay (ELISA). Complement fixation (CF) may be suitable in very limited circumstances. Other serologic assays such as elementary body agglutination (EBA) may be in use.
- 3. Case Classification**
- 3.1 Suspect Case:** A bird with
- 3.1.1** history or clinical signs consistent with avian chlamydiosis; **OR**
 - 3.1.2** an epidemiologic link to *C. psittaci*.
- 3.2 Presumptive Positive Case:** A suspect case with a positive result by ELISA.
- 3.3 Confirmed Positive Case:**
- 3.3.1** detection of *C. psittaci* by PCR; **OR**
 - 3.3.2** isolation and identification; **OR**
 - 3.3.3** direct characterization by sequencing methods.
- 4. Reporting Criteria:** Avian chlamydiosis (AC) is a U.S. Monitored disease that is reportable monthly under the APHIS [National List of Reportable Animal Diseases \(NLRAD\)](#).
- 4.1** NLRAD reporting in accordance with the [NLRAD Standards](#) for Monitored diseases; and by APHIS to the [World Organisation for Animal Health](#) (WOAH).