

Psittacosis in Birds & Humans

What is psittacosis?

Psittacosis is an infectious disease of birds and people caused by *Chlamydia psittaci*, formerly known as *Chlamydophila psittaci*. Psittacosis, also known as parrot fever, refers to the disease in parrots, while ornithosis refers to the disease in other birds, such as turkeys.

People usually catch psittacosis after exposure to an infected bird. Birds associated with reported human psittacosis include:

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| • Parrots and parakeets | • Finches and canaries |
| • Turkeys | • Mynah birds |
| • Pigeons and doves | • Shorebirds |
| • Birds of prey | • Cranes |

Persons at risk include:

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| • Bird fanciers | • Wildlife rehabilitators |
| • Employees in poultry slaughtering and processing plants | • Zoo workers |
| • Veterinarians | • Pet shop employees |
| • Veterinary nurses | • Laboratory personnel |
| | • Workers in avian quarantine stations |

Psittacosis is challenging to diagnose and control as some birds may be carriers. These individuals may seem healthy but intermittently shed the organism in their stool. Birds stressed from other health problems, reproductive activity, temperature extremes, shipping, and/or overcrowding are most likely to shed *C. psittaci*.

Psittacosis infection in man

Infected birds can shed *C. psittaci* in feces as well as discharge from the eyes and nose. There is usually a 5-14 day period between exposure to the organism and signs of disease. The symptoms of psittacosis in people range from mild flu-like illness to serious pneumonia requiring hospitalization.

Symptoms of psittacosis in human patients may include:

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| • Sore throat | • Headache |
| • Fever up to 105°F (40.5°C) | • Nausea |
| • Chills | • Vomiting |
| • Muscle aches | • Diarrhea |
| • Chest pain | • Sensitivity to light |
| • Weakness | • Cough |

Because these symptoms are so non-specific, physicians rarely suspect psittacosis unless the patient has obvious recent exposure to birds. Unfortunately, human infection can result from only brief contact with infected birds or their contaminated excretions or secretions.

Human patients with psittacosis are treated with antibiotics, usually doxycycline, tetracycline, azithromycin, or erythromycin, for 2-3 weeks. Response to antibiotic therapy is usually prompt, with improvement observed within 1-2 days.

From 1988-2003, 935 human cases of psittacosis were reported to the Centers for Disease Control (CDC) with up to 200 cases of psittacosis occurring annually. Since 2010, fewer than 10 confirmed cases of psittacosis were reported to the CDC in the United States each year. Improved diagnostic tests that distinguish *Chlamydia psittaci* from more common *Chlamydia pneumoniae* infections may account for this decline in reported psittacosis case. These numbers probably underestimate the true number of cases since psittacosis is difficult to diagnose and often goes unreported.

Psittacosis in birds

Signs of psittacosis in birds include “pea soup” greenish diarrhea, lethargy, loss of appetite, weight loss, ruffled feathers, conjunctivitis, and respiratory problems. Carriers of disease will show no signs but are still capable of infecting others birds and humans.

Several tests are available to attempt diagnosis of psittacosis in birds. Your veterinarian can sample feces or other bodily fluids to look for the organism or a blood test may be performed to detect antibody, which shows evidence of exposure (past or present) to the organism. Birds should be tested for psittacosis before they are boarded or after purchase.

Psittacosis screening is particularly important in households with people that may be more susceptible to infection such as:

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| • The very old or the very young | • Pregnant women |
| • People that are sick | • Those on chemotherapy |
| • HIV-positive individuals | |

Also consult your veterinarian about testing birds with frequent public contact, such as birds in nursing homes or schools.

Always bring sick birds to an avian veterinarian promptly. Many birds with psittacosis can be successfully managed if treatment is started promptly and given over a sufficient time period. Under the supervision of a licensed veterinarian, infected birds and potentially exposed birds should be isolated and treated for 45 days with doxycycline or other appropriate medications. Treatment periods as short as 21 days may be effective treatment in certain circumstances. Your veterinarian may want to retest treated birds 2-4 weeks after treatment and again in 3-6 months.

Does infection with psittacosis lead to immunity?

Neither a person nor a bird with psittacosis will develop lasting immunity despite having had an infection. Infection can recur after re-exposure to the organism.

What can be done to prevent psittacosis?

Use husbandry practices that will minimize the spread of disease:

- Position cages to prevent the transfer of feces, food, and other materials from one cage to another.
- Do not stack cages, and use solid-sided cages or barriers for adjoining cages.
- Select cages with grates on the bottom and use substrates that do not produce dust, such as newspaper, to line the cage bottom.
- Quarantine all new birds for at least 30 days in a separate air space from other birds. Also isolate birds that have been to shows, exhibitions, fairs, and other events, and consult your veterinarian before returning these birds to the group.

Clean and disinfect appropriately:

- Clean food and water bowls and cages daily, or at least often enough that feces cannot collect, dry up, and become airborne.
- Minimize fecal dust by misting cage bottoms with water prior to cleaning.
- Thoroughly scrub the soiled cage to remove all organic debris, rinse the cage, then apply disinfectant and allow this to contact cage surfaces for at least 5-10 minutes, thoroughly rinse the cage again to remove the disinfectant.
- *Chlamydia psittaci* is susceptible to most disinfectants and detergents, such as chlorine dioxide (Dentagene, Oxyfresh), 1:1000 dilutions of quaternary ammonium compounds, or dilute household bleach (1/2 cup per gallon water). Many disinfectants are respiratory irritants and should be used in a well-ventilated area away from birds. Avoid mixing disinfectants with any other product.

What is the role of your local Health Department in psittacosis?

Psittacosis is infectious and is designated as a reportable disease. This means that physicians and laboratories are required by law to notify the local health department whenever a person is suspected of having psittacosis. There is no requirement to report an infected bird.

Local health departments may follow up on human cases to determine if they can identify the birds most likely to be the source of the infection. The investigation may require that a veterinarian examine suspect birds and conduct laboratory testing, with quarantine and treatment required if diseased birds are found.

For further information on psittacosis contact your:

- Physician
- Veterinarian
- Local or state health department

References

Balsamo G, Maxted AM, Midla JW, et al. Compendium of measures to control Chlamydia psittaci infection among humans (psittacosis) and pet birds (avian chlamydiosis). *J Avian Med Surgery* 31(3):262-282, 2017. Available at <http://www.nasphv.org/Documents/PsittacosisCompendium.pdf>. Accessed March 19, 2019.

Centers for Disease Control. Surveillance and reporting. CDC website. Available at <https://www.cdc.gov/pneumonia/atypical/psittacosis/surveillance-reporting/index.html>. Accessed March 19, 2019.

Committee on Infectious Diseases, American Academy of Pediatrics. Tetracyclines. In: Kimberlin DW, Brady MT, Jackson MA, et al (eds). *Red Book: 2015 Report of the Committee on Infectious Diseases*, 30th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2015:873.

Guzman DSM, Diaz-Figueroa O, Tully T Jr, et al. Evaluating 21-day doxycycline and azithromycin treatments for experimental Chlamydia psittaci infection in cockatiels (*Nymphicus hollandicus*). *J Avian Med Surg* 24(1):35–45, 2010.

Kalmar ID, Dicxk V, Dossche L, et al. Zoonotic infection with Chlamydia psittaci at an avian refuge centre. *Vet J* 199(2):300–302, 2014

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