

## PSITTACOSIS

### Bioterrorism Agent Profiles for Health Care Workers

**Causative Agent:** Psittacosis is an avian illness that can also cause disease in humans. It is caused by the rickettsia-like bacteria *Chlamydophila psittaci* (formerly *Chlamydia psittaci*).

**Routes of Exposure:** Humans are primarily exposed to psittacosis through inhalation of dried secretions from infected birds.

**Infective Dose & Infectivity:** The infective dose is unknown and all people are considered susceptible, though older adults may be more severely affected.

**Incubation Period:** The incubation period ranges from 1 to 4 weeks.

**Clinical Effects:** An acute, generalized chlamydial disease with variable clinical presentations; fever, headache, rash, myalgia, chills, and upper or lower respiratory tract disease are common. Respiratory symptoms are often disproportionately mild when compared with the extensive pneumonia demonstrable by x-ray. Cough is initially absent or nonproductive; when present, sputum is mucopurulent and scant. Pleuritic chest pain and splenomegaly occur infrequently; the pulse may be slow in relation to temperature. Encephalitis, myocarditis, and thrombophlebitis are occasional complications; relapses may occur. Although usually mild or moderate in character, human disease can be severe.

**Lethality:** The mortality rate for untreated psittacosis ranges from 15-20%. However, with appropriate treatment, the mortality rate drops to less than 1%.

**Transmissibility:** Infection with *C. psittaci* generally occurs when a person inhales the organism, which has been aerosolized from dried feces or respiratory secretions of infected birds. Psittacosis can also be acquired through mouth-to-beak contact and the handling of infected birds' plumage and tissues. Rare person-to-person transmission has been reported to occur during the acute illness with paroxysmal coughing. However, *Chlamydophila pneumoniae*, rather than *C. psittaci*, organisms may have caused these cases.

**Primary contaminations & Methods of Dissemination:** As a bioterrorism weapon, psittacosis would most likely be delivered via aerosolization.

**Secondary Contamination & Persistence of organism:** Secondary cases cannot be proven and are extremely rare. Diseased as well as seemingly healthy birds may shed the agent intermittently, and sometimes continuously, for weeks or months.

**Decontamination & Isolation:**

*Patients* – Standard precautions should be practiced. Specific isolation procedures are not indicated.

*Equipment, clothing & other objects* – 0.5% hypochlorite solution (one part household bleach and 9 parts water = 0.5% solution) is effective for environmental decontamination.

**Laboratory testing:** Most diagnoses are established by using microimmunofluorescence (MIF) to test for antibodies to *C. psittaci* in paired sera. Since there is some antibody cross-reactivity between chlamydial species, polymerase chain reaction (PCR) assays can be used to further distinguish *C. psittaci* infection from other chlamydial species.

**Therapeutic Treatment:** Tetracyclines are the drugs of choice. Most patients respond to oral therapy, but for severely ill patients doxycycline can be administered intravenously. Though remission of symptoms usually is evident within 48-72 hours, relapse can occur. Therefore, treatment must continue for at least 10-14 days after fever abates. Erythromycin is an alternative when a tetracycline is contraindicated.

**Prophylactic Treatment:** There is no vaccine available for human use. Post-exposure chemoprophylaxis is not indicated.

**Differential Diagnosis:** The differential diagnoses should include illnesses with fever and respiratory symptoms including illnesses such as Q fever, mycoplasma, legionnaires' disease, and influenza.

**References:**

Chin J. Control of Communicable Diseases Manual, Seventeenth Edition, American Public Health Association; 2000.

National Association of State Public Health Veterinarians. Compendium of Measures to Control *Chlamydophila psittaci* (formerly *Chlamydia psittaci*) Infection Among Humans (Psittacosis) and Pet Birds, The American Veterinary Medical Association; 2004  
Available at <http://www.avma.org/pubhlth/psittacosis.asp>

For more information call (602) 364-3289

## Frequently Asked Questions About Psittacosis

### What is psittacosis?

Psittacosis is an illness caused by infection with bacteria known as *Chlamydia psittaci*. Also known as parrot fever or ornithosis, it is usually transmitted to humans from birds including parakeets, parrots, pigeons, turkeys, and ducks.

### Who gets psittacosis?

Since birds spread the disease, human illness is apt to occur in people who are most likely to be exposed to an infected bird such as pet store workers, pigeon breeders, poultry workers, and people who have recently purchased an infected bird.

### How is psittacosis spread?

Psittacosis is usually spread by inhaling bacteria that is in the dust from dried bird droppings of infected birds or by handling infected birds in slaughterhouses. Other potential sources of exposure include bird bites, mouth-to-beak contact and handling feathers and tissue from infected birds. Some birds infected with psittacosis may appear healthy, but can still spread the infection to other birds or humans. Human-to-human spread is very rare.

### What are the symptoms of psittacosis?

The symptoms of psittacosis include fever headache, chills, muscle aches, and sometimes pneumonia with a relatively nonproductive cough.

### How soon after infection do symptoms occur?

The period between exposure and the beginning of symptoms can range from 5 to 19 days but is usually 10 days.

### Does past infection with psittacosis make a person immune?

Infection does not provide permanent immunity from this disease.

### How is psittacosis diagnosed?

Psittacosis is usually diagnosed by clinical symptoms and a history of exposure to birds. A blood test to check for antibodies to psittacosis can confirm the diagnosis.

### How is psittacosis treated?

Several commonly available antibiotics are used to treat psittacosis in humans. With appropriate treatment, the vast majority of people fully recover.

### How can psittacosis be prevented?

Exposed birds should be treated with feed that contains tetracycline to reduce the risk of infection. If birds are kept as pets, clean the cage often so that feces does not accumulate, dry up, and become airborne. Birds should be purchased from a reliable source that adheres to federal recommendations for psittacosis control.

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