

# ZOONOTIC DISEASES IN BACKYARD POULTRY: HOW TO KEEP YOUR FAMILY SAFE!

## INTRODUCTION

Although backyard chickens have been growing in popularity during the last decade, studies show that caregivers are often unaware of the common backyard poultry diseases that can be zoonotic (contagious to people).

### Some chicken diseases can make people sick.

While backyard poultry have historically been kept for eggs and meat, they are increasingly being treated as pets. Thus, it is important to understand the organisms healthy chickens can carry and how they may cause disease in people. Additionally, there are organisms that cause illness in both chickens AND people; so, if your chickens are sick, it is important to understand what organisms may be present and how best to protect yourself from possible infection. The bacterial, viral, parasitic and fungal infections that chickens can transmit to people are outlined in **Box 1**.

In humans, clinical signs associated with these pathogens are diverse and can include skin rashes, fever, respiratory disorders, headache, conjunctivitis, chest pain, lymph node swelling, abdominal pain, diarrhea, vomiting, neck stiffness, tremors, convulsions or other neurological signs, weight loss, exercise intolerance and death.

Salmonellosis and campylobacteriosis are the most commonly reported zoonotic diseases in chickens. The risk associated with these agents can be limited through vaccination. These vaccines reduce excretion of *Salmonella enteritidis* and *Salmonella typhimurium*. However, these vaccines do not eliminate the risk of egg or meat contamination so good hygienic measures are mandatory to limit risk of bacterial transmission to people.

### BOX 1: Infectious diseases in chickens that are contagious to people

#### Viruses

Avian influenza, Newcastle disease, Eastern & Western equine encephalitis

#### Bacteria

**Food-borne:** *Salmonella enteritidis*, *Campylobacter* spp., *Escherichia coli*, *Clostridium perfringens*, *Staphylococcus* spp., *Listeria monocytogenes*, *Yersinia* spp.,

**Others:** *Chlamydia psittaci*, *Erysipelothrix rhusiopathiae*, *Mycobacterium avium*, *Pasteurella multocida*

#### Parasites

*Cryptosporidia*

#### Fungus

*Microsporium gallinae*



### Never eat, drink or put things into your mouth in animal areas.

Other diseases not directly transmitted by backyard poultry can also be associated with pet chickens.

First, backyard poultry can attract rodents and the diseases associated with them including Leptospirosis, rat bite fever, and Hantavirus. Mosquitoes can also develop in water and can transmit certain viral diseases from chickens to humans. Controlling the rodent and mosquito populations inside and outside of the coop is important. Presence of rodent holes and feces is a sign of a rodent problem. Obstruct the holes and make sure feed is in rodent-proof containers and there is no food spill readily available.

Second, some pathogens can grow in bird droppings such as the fungal organisms *Histoplasma capsulatum* and *Cryptococcus neoformans*, even though backyard poultry are not carriers of these fungi. This is one of the reasons why litter/organic material in the coop should be removed frequently. Also, routinely wash the ceiling, walls, nests and floors with a disinfectant approved for use around poultry to prevent contamination of the environment.



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Third, humans can develop an allergic reaction called allergic pneumonitis which is a reaction to avian proteins found in feather dander or the dry dust of bird droppings. To help avoid this, feathers should be removed regularly and appropriate airflow should be provided in the coop to minimize potential respiratory irritants.

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## Older adults, pregnant women, young children and immune-compromised people should be extra careful around chickens.

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Older adults, pregnant women, young children and immunocompromised people should be extra careful around animals. These individuals have a higher susceptibility to the diseases potentially transmitted by chickens; additionally, the seriousness of an infection is usually higher in these groups. However, for most healthy people, backyard poultry can be safely cared for, their eggs eaten and chickens can even be treated as both indoor and outdoor pets—as long as common sense and proper hygiene are applied.

## Wash your hands with soap and water right after visiting the chicken coop/yard.

Most of the zoonotic diseases affecting chickens are transmitted by inhalation of contaminated fecal dust, respiratory aerosols or ingestion of water or food contaminated with fecal matter; therefore, wearing a facial mask when cleaning litter and thoroughly washing hands after working with the chickens or their environment can reduce potential exposure to zoonotic diseases. Diseases transmitted by eggs (such as *Salmonella*) can be best prevented with good kitchen hygiene and thorough cooking of eggs.

Some pathogens can persist on clothes/shoes and be brought into the home after a visit in the coop. Ideally, a cover-up garment should be used as protective clothing when spending time in or around the coop; this garment should stay outside of the house when not in use. A separate set of shoes or boots should be used while working in the coop.

Prevention of zoonotic disease transmission relies mostly on proper hygiene and sanitation. However, also be aware of any major epidemics affecting your area such as avian influenza or Newcastle disease; these situations will require specific measures to prevent contamination of your flock.

## How should you react in case of suspected transmissible disease?

If you are sick, please contact a physician and make sure to inform him or her that you keep birds when you seek medical care. If backyard chickens are suspected to be the cause of your illness, contact your veterinarian for screening of your birds.

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## Mention that you raise birds when seeing your physician for medical care.

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If your birds are sick, a veterinarian should be contacted. If a zoonotic disease is diagnosed, your physician should be contacted in order to determine the potential risk for you and your family and to implement any medical care needed. Any dead birds should be necropsied as soon as possible by an avian veterinarian and disposed of in heavy duty plastic bags.



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## AAV: Setting the Standard in Avian Care

Avian medicine is a distinct and very specialized field that requires extensive training, advanced skills, and facilities specifically designed and equipped to treat and hospitalize birds. The Association of Avian Veterinarians was established to provide veterinarians with this special education, and to keep them up to date with the latest information on bird health. The AAV holds an annual conference on avian medicine and publishes the peer-reviewed *Journal of Avian Medicine and Surgery*. AAV also makes annual contributions toward avian conservation and sponsors studies advancing the understanding of avian medicine.



## For More Information

For more information on birds, ask your veterinarian for copies of the following AAV Client Education Brochures:

- Avian Chlamydiosis and Psittacosis
- Veterinary Care for Your Pet Bird\*
- Basic Care for Companion Birds\*
- Behavior: Normal and Abnormal
- Caring for Backyard Chickens
- Digital Scales
- Feather Loss
- Feeding Birds
- Injury Prevention and Emergency Care
- Managing Chronic Egg-laying in Your Pet Bird
- Signs of Illness in Companion Birds\*
- Ultraviolet Lighting for Companion Birds
- When Should I Take My Bird to a Veterinarian?\*
- Zoonotic Diseases in Backyard Poultry\*

*\*Available in multiple languages. All others are available in English only at this time.*

## Online Resources

Follow AAV on Facebook ([www.facebook.com/aavonline](http://www.facebook.com/aavonline)) for great tips and the latest news for pet bird owners. You can also find us on Twitter ([@aavonline](https://twitter.com/aavonline)) and YouTube!

Our website, [www.aav.org](http://www.aav.org), offers a Find-a-Vet tool to help pet bird owners locate avian veterinarians around the world. We also offer a variety of resources such as basic bird care instructions and more. Visit the website today!



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