

# PROTECTIVE CLOTHING FOR AVIAN FLU

## What is Avian Flu?

Avian Influenza (AI) or the bird flu is a virus that infects wild birds (such as ducks, gulls, and shorebirds) and domestic poultry (such as chickens, turkeys, ducks, and geese). Influenza A viruses are subdivided into subtypes. These subtypes are differentiated by variations in two viral surface proteins, hemagglutinin (H) and neuraminidase (N). There are 16 different H proteins and 9 N proteins that have been identified. There are a total of 144 different subtypes that can be designated by numbering particular combinations of these proteins (such as H5N1, H7N9, etc.).

In addition to subtypes, these avian flu strains can be divided into two groups based on the ability of the virus to produce disease in poultry. These groups are known as low-pathogenicity avian influenza (LPAI) and high-pathogenicity avian influenza (HPAI). LPAI occurs naturally in wild birds and can spread to domestic birds. In most cases, it causes no signs of infection or minor symptoms in birds. HPAI spreads more rapidly than LPAI and has a higher death rate in birds. HPAI is often fatal in chickens and turkeys.

## How is Avian Influenza spread?

Avian influenza in humans is rare. The most common route of infection is via direct or indirect contact with nasal, oral or fecal secretions from infected poultry. LPAI or “low-pathogenicity” avian influenza poses little threat to human health. HPAI or “high pathogenicity” avian influenza can spread from birds to humans as a result of extensive direct contact with infected birds. HPAI causes the most public health concerns due to the potential for the HPAI virus to mutate into a form that could spread from human-to-human.

## Who needs to be protected?

The WHO provides guidance on protection of individuals engaging in activities involving high contact with poultry or wild birds that have been confirmed or highly suspected of being infected with avian flu.

([http://www.who.int/influenza/resources/documents/guidance\\_protection\\_h5n1\\_02\\_2008/en/](http://www.who.int/influenza/resources/documents/guidance_protection_h5n1_02_2008/en/))

These high contact activities include:

- Handling birds
- Collecting birds
- Transporting birds
- Culling and Disposal of birds
- Cleaning and Disinfection of contaminated areas

All individuals involved with these activities should:

1. Be registered with the animal health authority (or by the public health authority in collaboration with the animal health authority).
2. Wear appropriate personal protective equipment (PPE) including protective clothing, heavy gloves and boots, goggles, and masks, and receive adequate training on putting on, taking off, and hygienic disposal/disinfection of PPE.
3. Maintain diligence in personal hygiene, including frequent hand washing.
4. Receive adequate instruction on disinfection/disposal of potentially contaminated personal clothing and other personal articles.
5. Be monitored twice daily for fever (>38 °C) and influenza-like illness (ILI)<sup>1</sup> for 7 days after the last day of contact with poultry/contaminated environments. Any person experiencing fever or ILI should immediately report to health authorities for diagnostic testing and appropriate treatment<sup>2</sup>.

In case of a breach of PPE or in situations where full and appropriate personal protection was impossible, individuals might consider:

6. Commencing a course of prophylactic oseltamivir (75 mg once per day) on the date of first exposure, to be terminated 7–10 days after the last exposure. In this case, ongoing monitoring should include monitoring for adverse effects of chemoprophylaxis.

When possible, vaccination with seasonal influenza vaccine should be considered.

**NOTE:** such vaccination is not intended to protect against infection with avian H5 virus, but only to minimize other ILIs in exposed persons and facilitate identification of possible H5 infections.

<sup>1</sup> Abrupt onset of fever and upper respiratory symptoms such as sore throat, cough, sneezing, and/or nasal discharge.

<sup>2</sup> WHO Clinical management of human infection with avian influenza A (H5N1) virus

## What protective apparel is available?

For the high-contact activities discussed previously, the body protection recommended by OSHA ([http://www.osha.gov/OshDoc/data\\_AvianFlu/avian\\_flu\\_factsheet.pdf](http://www.osha.gov/OshDoc/data_AvianFlu/avian_flu_factsheet.pdf)) includes:

- Disposable outer garments or coveralls with an impermeable apron over them (such as DuPont™ Tyvek® coveralls with a DuPont™ Tychem® QC apron), or
- Surgical gowns with long, cuffed sleeves, plus an impermeable apron
- Disposable head or hair cover to keep hair clean
- Important considerations: Protective clothing can be more insulating than regular work clothing; precautions should be taken to protect employees from the effects of heat stress.

If during any of the high contact activities, especially cleaning, disinfecting and decontaminating, exposure to moderate-to-large volumes of liquid is anticipated, a sealed seam Tychem® garment may be appropriate to reduce the risk of liquid contact.

## References

Occupational Safety and Health Administration (OSHA) [www.osha.gov](http://www.osha.gov)

World Health Organization (WHO) [www.who.int](http://www.who.int)

U.S. Department of Agriculture (USDA) [www.usda.gov](http://www.usda.gov)

U.S. Food and Drug Administration (FDA) [www.fda.gov](http://www.fda.gov)

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