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 divided 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.

Full-body PPE apparel solutions

Disposable protective accessories

Helps prevent the spread of avian viruses

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 (low-pathogenicity avian influenza) poses little threat to human health. HPAI (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?

Individuals who engage in activities involving high contact with poultry or wild birds that have been confirmed or highly suspected of being infected with avian flu will require personal protection.

who.int/news-room/fact-sheets/detail/influenza-(avian-and-other-zoonotic)

These high-contact activities include:

- Handling birds
- Collecting birds
- Transporting birds
- Culling and disposal of birds
- Cleaning and disinfection of contaminated areas

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.

*Check local and country regulations for additional requirements.

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)[1] 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[2].

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 neuraminidase inhibitor treatment (oseltamivir, zanamivir) as soon as possible after first exposure.

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.

Similar precautions should be taken for healthcare workers treating individuals with known or suspected infections.

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

[2] 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 includes:

- Protective clothing, such as long-sleeved coveralls with impermeable aprons that can be discarded, such as DuPont™ Tyvek® 400 coveralls with DuPont™ Tychem® 2000 or Tychem® 4000 aprons
- Disposable shoe covers, such as slip-resistant Tyvek® 400 FC or DuPont™ ProShield® 70 shoe covers

Additional protective apparel & accessory considerations include:

- Disposable head or hair covers to keep hair clean, such as Tyvek® 400 hoods or Tyvek® IsoClean® bouffants
- Disposable protective sleeves to reinforce or enhance arm protection, such as Tyvek® 400 or Tychem® 2000 sleeves
- 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 taped-seam Tyvek® or Tychem® garment may be appropriate to reduce the risk of liquid contact.

References

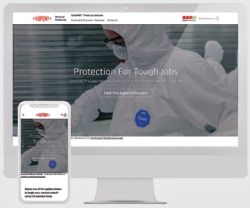
Occupational Safety and Health Administration (OSHA) osha.gov

World Health Organization (WHO) who.int

U.S. Department of Agriculture (USDA) usda.gov

U.S. Food and Drug Administration (FDA) fda.gov

Garment	Features
DuPont™ ProShield®	
ProShield® 70 – P3450S	Shoe Cover
DuPont™ Tyvek®	
Tyvek® 400 – TY125S	Coverall
Tyvek® 400 – TY127S	Hooded Coverall
Tyvek® 400 – TY657S	Hood
Tyvek® 400 – TY500S	Sleeve
Tyvek® 400 – TY454S option SR	Boot Cover
Tyvek® 400 FC – FC450S	Shoe Cover
Tyvek® 800 – TJ198T	Hooded Coverall
Tyvek® IsoClean® – IC729S option 0B	Bouffant
DuPont™ Tychem®	
Tychem® 2000 – QC127T	Hooded Coverall
Tychem® 2000 – QC273B	Bib Apron
Tychem® 2000 – QC275B	Sleeved Apron
Tychem® 2000 – QC500B	Sleeve
Tychem® 4000 – SL127T	Hooded Coverall
Tychem® 4000 – SL275T	Sleeved Apron
Tychem® 6000 – TF169T	Hooded Coverall



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WARNING: Cleanroom apparel should not be used around heat, flames, sparks or in potentially flammable or explosive environments. Cleanroom fabrics should have slip-resistant materials on the outer sole of boots, shoe covers or other garment surfaces in conditions where slipping could occur.

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