

Occupational Health Risk for staff engaged in HPAI H5N1 control in domestic or wild birds

The Information in this document may change in the light of experience in Ireland and internationally and if new information emerges.

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Staff potentially exposed include those:

- 1) dealing with positive, or highly suspicious, commercial flock
- 2) engaged in active surveillance in contiguous, and contact, flocks
- 3) dealing with infection in wild birds
- 4) exposed to contaminated or potentially contaminated material (specimens, litter, faeces, feed, equipment, environment)
- 5) dealing with isolated injured, sick or dead birds when AI has been confirmed on the Island of Ireland
- 6) dealing with isolated injured, sick or dead birds when AI has not been confirmed on the Island of Ireland
- 7) working in poultry processing plants when AI confirmed on Island of Ireland

Potential exposure to H5N1 virus

Potential exposure is higher:

- Where personnel are in direct contact with live infected poultry (< 1 metre).
- Where personnel are involved in activities that involve handling of birds -particularly where there is a high degree of wing flapping and dust/litter disturbance.
- Where there is contact with housed poultry as against free-range birds, and in houses that are poorly ventilated compared to those that are well ventilated.
- Where the number of infected birds is higher.

Potential exposure is lower:

- in dead birds (compared with live birds where virus is multiplying).
- in houses after preliminary cleaning and disinfection, and very low after secondary cleaning and disinfection
- in dead birds in the open air

NB

No case of H5N1 has to date been identified in personnel involved in culling activities in Asia and Europe despite the fact that 150 million birds have been culled to date.

Many staff assisting with outbreak control will have no exposure to hazardous material eg manning road blocks, checking paperwork etc (CATEGORY 6)

Risk reduction measures

A series of risk reduction measures will be employed. The key measures are to minimise the number of staff potentially exposed and to categorise the staff involved according to their probability of exposure and provide protection and training appropriate to their risk category. Risk reduction measures include personal protective equipment (PPE), antiviral drugs, hygiene measures, vaccination against human influenza and health monitoring.

1. Body Protection PPE

- Lightweight disposable overalls with hood or mob cap
- Wellington boots and disposable overshoes
- Mob cap or hair net
- Disposable nitrile or vinyl gloves (industrial weight gloves if involved in activities that are likely to tear gloves)
- Thin cotton gloves for wearing inside waterproof gloves, to prevent against contact dermatitis may be required by some individuals

2. P3 Respirator

- Positive pressure respirator with lightweight helmet and FFP3 filter (personnel with facial hair or those at highest risk i.e. Exposed to infected, or highly suspect (HS), live birds in confined space for prolonged period)
- Disposable FFP3 negative pressure respirator (personnel involved in surveillance, sampling, carcass removal, cleaning and disinfection and untreated litter handling activities)

3. Eye protection

- Close fitting goggles complying with EN standard, anti-mist, without vents (that can be worn over prescription glasses). Only types that fit with disposable masks or reusable half-masks should be used.

4. Training in use, removal and disposal of PPE

- Ensure personnel have been received training in the use of PPE
- Monitor appropriateness, quality, fit, maintenance and use of PPE

5. Using antiviral medication

- All DAFM and contract personnel in categories 1-4 (Table 1) should receive pre-exposure antiviral medication before being allowed to participate in outbreak control activities.
- Unprotected personnel that have been potentially exposed to the virus should receive post-exposure antiviral medication as soon as possible after exposure ideally within the first 48 hours after exposure.

6. Monitoring of health of personnel after exposure (according to “Guidance on Public Health actions to be taken on notification of Avian Influenza (March 2006)” Avian influenza Subcommittee of Pandemic Influenza Expert Group)

- Provide information on the signs of AI in humans
- Personnel to self monitor temperature twice daily
- Provide a contact point for advice and for reporting if symptomatic

7. Vaccinating with human influenza vaccine

- For personnel in categories 1-4 (Table 1)

8. Ensuring medical fitness

- Ensure that personnel are screened individually
- Ensure only personnel that are medically fit to take antivirals, to receive human influenza vaccine, to wear respiratory protection and to work in poultry houses are allowed to work in outbreak control activities

Table 1
Exposure category, protection and training required

| Worker Category | Exposure | Protection | Training on PPE, respirator fit & SOPs |
|------------------------|---|--|---|
| 1 | <ul style="list-style-type: none"> Exposure to infected, or highly suspect (HS), live birds in confined space for prolonged period | Flu vac (in season) Tamiflu PPE Positive Pressure Respirator (FFP3) | Yes |
| 2 | <ul style="list-style-type: none"> Exposure to infected, or HS, live birds in confined space for brief period Exposure to infected, or HS, live birds in open space Exposure to infected, or HS, dead birds in confined or open space Exposure to contaminated or potentially contaminated material (specimens, litter, faeces, feed, equipment, environment) | Flu vac (in season) Tamiflu PPE Disposable FFP3 negative pressure respirator* goggles | Yes |
| 3 | <ul style="list-style-type: none"> Engaged in active surveillance in contiguous flocks & contact flocks | Flu vac (in season) PPE Disposable FFP3 negative pressure respirator* Goggles Tamiflu if birds test positive | Yes |
| 4 | <ul style="list-style-type: none"> a) Exposure to injured, sick or dead wild birds in restricted zone when H5N1 on Island of Ireland b) Exposure in investigation large die off in wild birds | Flu vac (in season) Tamiflu PPE Disposable FFP3 negative pressure respirator* Goggles | Yes |
| 5 | <ul style="list-style-type: none"> a) Exposure to isolated injured, sick or dead wild birds outside restricted zone when H5N1 on Island of Ireland b) Exposure to isolated injured, sick or dead wild birds when H5N1 not on Island of Ireland | Disposable gloves Tamiflu if birds test positive | Information |
| 6 | <ul style="list-style-type: none"> Assisting in outbreak control not exposed to hazardous material | | Information |

* Staff with beards, or moustaches, should shave or use a positive pressure respirator. There are several models of disposable P3 negative pressure respirator and those staff whose face shape doesn't allow a good fit with the standard model will be offered an alternative.

Post exposure health monitoring and serology will be required for all staff according to the Guidelines of the Avian Influenza Subcommittee of Pandemic Influenza Expert Group (Annex 1)

Table 2
Individuals assisting in the control of an outbreak in a poultry flock*

| INFECTED PREMISES | |
|---|-----------------|
| Individuals Potentially Exposed | Category |
| Farm staff, manager, owner | 1 or 2 |
| DAF veterinary Inspector/TAO on site | 2 |
| Sealing crew: (1 vet, 2 AOs) | |
| o Inside house | 1 |
| o Outside house | 2 |
| Gas delivery driver | 2 |
| Fire brigade staff : | |
| o 2 to go inside, | 2 |
| o 2 outside | 6 or 2 |
| o 1 supervisor on periphery/outside house | |
| | 1 |
| (If not gassing) Catching and slaughter crew | 2 |
| Collection team (s) for dead birds | 2 |
| Driver of waste transport vehicle | 2 |
| Staff in intake area of Rendering Plant receiving waste | 2 |
| Dealing with litter, feed and water | |
| Staff involved in erecting and operating: | |
| • Porto cabins for office, rest rooms etc | 6 |
| • Canteen on site | 6 |
| • Porto loos on site | 6 |
| Personnel removing PPEs (already bagged & binned) | 6 |
| Engineers/environmental technicians assessing burial composting sites | 6 |
| TAO/Garda security at periphery of infected premises | 6 |
| STAFF WORKING OFF SITE: | |
| Active surveillance in contiguous flocks | 3 |
| Operating road checks | 6 |

*Individuals may be moved into a higher risk category if need arises but if so must receive the appropriate protection

Table 3
Individuals assisting in control of incident in wild birds*

| Individuals Potentially Exposed | Category if H5N1 not in IRL | Category if H5N1 in IRL (restricted zones) | Category if H5N1 in IRL (outside restricted zones) |
|--|---|--|---|
| <ul style="list-style-type: none"> • Wild life rangers • DAF Veterinary Inspector • DAF TAOs • LA Veterinary Inspector • Other LA staff • Wild birds collection teams (large die off, where H5N1 is officially suspected) <ul style="list-style-type: none"> ○ DAF staff ○ Farm relief ○ Army ○ Civil Defence ○ Others | 5 5 5/6 5 /6 5/6 4 4 4 4 4 | 4 4 4/5/6 5/6 5/6 4 4 4 4 4 | 5 5 5/6 5 /6 5/6 4 4 4 4 4 |
| <ul style="list-style-type: none"> • Drivers of waste transport vehicles • Staff in intake area of rendering plant • Staff manning road blocks (if present) | 5 5 6 | 2 (large die off) 2 6 | 5 5 6 |

*Individuals may be moved into a higher risk category if need arises but if so must receive the appropriate protection.

Annex 1

Post exposure health monitoring

All staff exposed to infected birds, or contaminated material, will be monitored while they are engaged in the cull activities and for 7 days afterwards to ensure that they do not develop any signs, or symptoms, suggestive of infection with the avian flu virus.

They will be required to check their own temperature twice daily with disposable thermometers provided and report any fever or flu like symptoms to the designated public health, or occupational health, doctor assigned to them at the commencement of their activity.

Fever is a temperature of 38⁰C, or 100.4⁰F, or higher

Flu like symptoms include:-

- Cough, shortness of breath
- runny nose
- Sore throat, myalgia/arthritis (painful muscles or joints), or headache
- Watery diarrhoea – This is often present in the early stages of illness and may precede respiratory symptoms by up to one week
- Abdominal pain and vomiting
- Headache

If staff have to visit their GP, or a hospital Accident and Emergency department, with any of the above symptoms they must inform the health professionals in the health facility that they might have been exposed to avian influenza so that they can receive the appropriated tests and treatment without delay.

Staff exposed to infected birds, or contaminated material, may have a blood sample taken four weeks after commencing outbreak control activities to check to see if there is any serological response indicating that they have been exposed to the avian influenza virus. This will be considered on a case by case basis, in conjunction with the NVRL.

Passive monitoring /follow up of individuals on antiviral prophylaxis will be instituted. Staff are required to report any fever or flu like symptoms to the designated public health or occupational health doctor assigned to them at the commencement of the activity.

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