







Avian influenza (AI) advice for vets dealing with wild birds and backyard poultry

- Avian influenza is a disease of birds, which is notifiable in poultry and other captive birds.
 It commonly circulates in wild birds in the winter months, associated with the migratory season.
- All birds should be triaged, taking into account the history and biosecurity of their environment. When the risk of Avian Influenza is High (see gov.uk) all wild birds, and unhoused pet birds should be treated with caution, including initial examination outside the practice, appropriate PPE should be worn, and sick birds may need to be humanely culled.
- The risk levels are significantly lower in housed pet birds with good biosecurity, so such extensive measures are unlikely to be required unless based on clinical suspicion.
- Where cases arise, Defra may declare an Avian Influenza Prevention Zone (AIPZ) with biosecurity advice and restrictions on bird gatherings, housing, and movements. This essentially makes good biosecurity and record keeping a legal requirement.
- Al is a zoonotic disease, but human infection is rare. Previously, Asian lineage strains H7N9 and H5N1 have caused morbidity and mortality in humans only outside Europe. The strain currently circulating in the UK is not related to the older H5N1 Asian strains associated with human infections and according to public health agencies, current strains of H5N1 HPAI carry very low risk for public health.
- Clinical signs in birds are variable between species and individuals, some infected individuals may be asymptomatic. Galliform poultry will typically show signs of disease.
- There is still a requirement, for both regulatory and welfare reasons, for vets to provide at least emergency care (first aid and where necessary euthanasia) to ALL sick and injured birds, both wild and captive.
- Findings of dead wild birds should be reported to Defra via the <u>online reporting system</u> or the Defra Helpline - 03459 33 55 77

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Reporting

Avian influenza (AI) is a notifiable disease in poultry and other captive birds. All suspect AI cases in birds must be reported - this is a legal requirement:

- In England to Defra Rural Services Helpline on 03000 200 301.
- In Wales, contact 0300 303 8268.
- In Scotland, contact the local Field Services Office.
- In Northern Ireland contact the DAERA Helpline on 0300 200 7840 or your local <u>DAERA</u> <u>Direct Regional Office</u>.

Dead wild birds should also be reported to Defra online reporting system above.

As the situation is ever changing, vets, keepers of backyard flocks and any other types of poultry, and wildlife rehabilitators are advised to sign up to the APHA's Animal Disease alert subscription service to receive immediate notification of new cases and updated zones. Further details can be found at https://www.gov.uk/guidance/apha-alert-subscription-service

What is Avian influenza (AI)?

Al is a disease of animals caused by influenza A viruses. Influenza A viruses are classified according to the types of haemagglutinin (H1 - H18) and neuraminidase (N1 - N11) proteins on their surface.

All known influenza A virus subtypes have been found in birds (H1 - H16 and N1 - N9). Subtypes H17N10 and H18N11 have only been identified in bats. Wild birds act as natural, often asymptomatic carriers of influenza A viruses. Strains of influenza A virus may on rare occasions be transmitted from wild birds to other birds, pigs, horses, seals, whales, other mammals, and humans.

Al viruses are categorised as being High Pathogenicity Avian Influenza (HPAI) or Low Pathogenicity Avian Influenza (LPAI) depending on their virulence in poultry. Only strains with H numbers of 5 or 7 have the capability of being highly pathogenic and as such there is ongoing surveillance for H5 and H7 AI in both poultry and wild birds.

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment data/file/968566/Avian influe nza guidance and algorithms for managing incidents in birds.pdf

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Zoonotic risk²

The terms LPAI and HPAI relate to the virulence in poultry and do not reflect the seriousness of disease caused in humans; not all HPAI viruses infect humans, and some LPAI viruses can cause severe illness in humans. Avian influenza subtypes A(H7N9), and A(H5N1) have caused morbidity and mortality in humans outside Europe; there have, to date, been no cases in Europe.

Al is considered notifiable in the UK when:

- the subtype is either H5 or H7
- any influenza A virus causing HPAI

Under the International Health Regulations (2015), all human cases of influenza infections caused by a new subtype would be assessed for notification to WHO due to the potential public health impact.

The UK Health Security Agency advises the risk to public health from the H5 HPAI strains of bird flu is very low. Some strains of avian influenza can pass to humans, but this is very rare and usually requires very close contact between the human and infected birds. Individuals are considered as potentially exposed if they have handled a diseased or dead bird or a bird which subsequently died or became unwell due to AI. Individuals may also be considered as potentially exposed if they have handled the faeces, litter, or eggs of a dead or diseased bird.

Clinical signs in birds

Clinical signs can vary according to species of bird, age of bird, individual immunity, and concurrent disease. Some species (eg ducks and geese) may show minimal clinical signs.

Low pathogenicity avian influenza (LPAI) is usually less serious and may show more vague clinical signs. It can cause mild breathing problems and reduction of egg production but affected birds will not always show clear signs of infection.

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Keepers of birds must keep a close watch on their birds for any signs of disease and seek prompt advice from a vet if they have any concerns. Avian influenza is a notifiable disease in poultry and other capt. Clinical signs indicative of avian influenza must be reported - this is a legal requirement:

- In England contact APHA via Defra Rural Services Helpline on 03000 200 301.
- In Wales, contact APHA on 0300 303 8268.
- In Scotland, contact the local <u>APHA Field Services Office</u>.
- In Northern Ireland contact the DAERA Helpline on 0300 200 7840 or your local <u>DAERA</u> <u>Direct Regional Office</u>.

Failure to report cases is an offence.

The clinical signs of HPAI in birds given on the Defra website can include any or a combination of the following³:

- sudden death
- swollen head
- closed and runny eyes
- lethargy and depression
- lying down and unresponsiveness
- lack of coordination
- eating less than usual
- lethargy
- sudden increase or decrease in water consumption
- head and body shaking
- · drooping of the wings
- dragging of legs
- twisting of the head and neck
- swelling and blue discolouration of comb and wattles
- haemorrhages and redness on shanks of the legs and under the skin of the neck
- breathing difficulties such as gaping (mouth breathing), nasal snicking (coughing sound), sneezing, gurgling or rattling
- fever or noticeable increase in body temperature
- discoloured or loose watery droppings
- stop or significant drop in egg production

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³ https://www.gov.uk/guidance/avian-influenza-bird-flu#public









This list is clearly extensive and could cover a whole variety of clinical conditions across all species of birds. For backyard poultry and wild birds the significance of these signs can be considered in the following way, although vets are reminded that any suspicion of AI is notifiable to Defra:

For ANY birds in shared housing the following signs of AI may be observed:

- **Unresponsive** quiet birds, who don't want to come out and engage as usual or come for treats. They may sit around, fluffed up. They may rally temporarily, but then soon tire.
- Huddling with each other or against coop furniture/equipment like in nests or around drinkers.
- **Unexpected deaths** sudden and rapid increase in the number of birds found dead with several other birds affected in the same shed or air space.

For ANY birds with severe disease consistent with, or at least suggesting notification of, AI the following signs are typical:

- Neurological signs shaking, twitching, lack of coordination and loss of balance, or just falling asleep & head nodding. Head and body tremoring.
- Twisted heads or necks leaving birds looking up at the sky or sideways.
- Swollen heads facial feathers may stick up in swollen areas.
- Blue discolouration of comb, wattles and/or legs
- **Weakness** unable to remain standing for long. Appear drunk and may struggle to control their wings. Drooping of the wings and/or dragging of legs.
- Bruising blood spots or swelling, haemorrhages on shanks of the legs and under the skin of the neck. Check in between the feathers.
- Severe dyspnoea without evidence of ascites or space-occupying mass (birds have no diaphragm), especially if presence of other symptoms listed.

For photos of AI cases, including pathology, see:

- https://www.flickr.com/photos/defragovuk/sets/72157694543861305
- https://bvajournals.onlinelibrary.wiley.com/doi/epdf/10.1002/vetr.1146
- https://bvajournals.onlinelibrary.wiley.com/doi/10.1002/vetr.731

Clinical signs in domestic backyard poultry flocks

There are a number of clinical signs which are typical of common diseases in domestic hens, and do not necessarily indicate HPAI when seen in individual birds in an otherwise well flock. However, when

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combined with those listed above, or when multiple birds are acutely affected, the following signs are suspicious:

- Coughing, sneezing gurgling or rattling or gaping
- Focal facial swelling, eg around the eyes.
- Ocular discharge
- Cessation or marked reduction in egg production
- Loss of appetite or marked decrease in feed consumption
- Sudden increase or decrease in water consumption
- Recumbency and unresponsiveness
- Lethargy and depression
- Fever or noticeable increase in body temperature
- Diarrhoea discoloured or loose watery droppings.

Clinical signs in wild birds

Although Al has been isolated in a very wide range of wild bird species (see: https://www.gov.uk/government/publications/avian-influenza-in-wild-birds), the most common species affected are waterbirds, such as swans, ducks and geese, and scavenging birds, such as corvids, some birds of prey and seagulls.

Clinical signs, involving the respiratory, digestive and/or nervous system, are hugely variable (see lists above) both between species and between individual birds. For example:

- Swans frequently present with neurological signs including head shaking, twisting of the neck, and swimming in circles.
- Birds of prey often present with ocular and respiratory signs.
- Ducks and geese may show very few clinical signs.

The extent to which clinical signs are recognised is also affected by proximity to man, for example seabirds may present dead or dying when washed up on beaches, whilst swans on a local pond may be seen with early clinical signs. Individual birds are likely to be separated from the flock in gregarious species.

All wild birds with neurological or respiratory signs should be examined carefully and reported to Defra where necessary.

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Spread of Al

Avian influenza is transmitted between birds by direct contact with an infected bird, or indirectly through contaminated body fluids and faeces, as well as by direct or indirect contact with infected wild birds and their secretions/faeces. It can also be spread by contaminated feed and water and other environmental matrices, or by dirty vehicles, clothing, footwear, and equipment. It is not an airborne virus, however there is the risk of droplet transmission, and only ten virus particles are needed.

Control of the disease, both between birds and to humans, is controlled by scrupulous biosecurity, hygiene and appropriate PPE (see below).

Biosecurity guidance

Biosecurity guidance for bird keepers is available at:

- England: https://www.gov.uk/guidance/bird-flu-avian-influenza-how-to-prevent-it-and-stop-it-spreading
- Scotland: https://www.gov.scot/publications/avian-influenza-bird-flu/pages/biosecurity/
- Wales: https://gov.wales/avian-influenza-bird-flu
- Northern Ireland: https://www.daera-ni.gov.uk/articles/biosecurity-checklist-and-biosecurity-guidance

APHA have produced two helpful videos to support poultry keepers in adopting good biosecurity:

- How not to walk AI into your poultry coop: https://www.youtube.com/watch?v=t3Aq0iCaKS0
- Measures for housing birds https://www.youtube.com/watch?v=57xlu_Jdael&t=1s
- Changing your footwear https://www.youtube.com/watch?v=y6wGh8tTnw0&t=1s

DEFRA have also published guidance for keepers on housing birds safely: https://www.gov.uk/guidance/bird-flu-avian-influenza-housing-your-birds-safely

Keepers can check where disease control zones are located and if they are in a zone on the Animal and Plant Health Agency (APHA) interactive map.

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For further information on the measures that apply in the disease control zones see https://www.gov.uk/guidance/avian-influenza-bird-flu-cases-and-disease-control-zones-in-england. This is particularly important where there are overlapping zones.

Vets and keepers are reminded that the duty of care to provide for the basic needs for animals under their care according to the relevant country-specific animal welfare legislation must be ensured at all times, both for healthy and sick birds, unless otherwise directed by the UK Health Security Agency (UK HSA)

Dealing with birds in veterinary practice

Although the zoonotic risk of Al is very low, members of the public should not pick up obviously sick birds or handle dead birds, and veterinary practices should advise accordingly.

Defra have a reporting system for wild birds at: https://www.gov.uk/guidance/report-dead-wild-birds

Defra ask that members of the public, veterinary staff and others (e.g. wildlife rehabilitation centre staff) should be directed to use this service when the following is found:

- 1 or more dead birds of prey (such as an owl, hawk or buzzard)
- 3 or more dead birds that include at least 1 gull, swan, goose or duck
- 5 or more dead wild birds of any species

The system can also be used to report other types or numbers of dead wild birds.

Triage and examination of birds

Birds should be triaged prior to examination. This should ideally include telephone triage prior to the bird being brought to the practice and use of photos and videos as appropriate. In the case of captive birds this should include information about how and where the birds are being kept, any new recent introductions, and the number of birds affected.

If suspect cases of AI are identified, it is likely that the location where the bird(s) are present will be placed under restrictions pending results. It is therefore sensible for veterinary practices and others to consider the possible impact on the practice if restrictions are served, to try and limit disruption to normal work. Whilst this may seem overly cautious, the consequences of AI cases on some wildlife centres, sanctuaries and zoos in the UK has already been devastating. Birds should be assessed on a case-by-

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case basis, alongside a practice-based AI risk assessment to include consideration of practice layout and avian case number. In most instances the following guidance will be appropriate;

- Wild birds: At the current time it is prudent for veterinary practices (and wildlife rehabilitation centres), where possible, to assess and examine all wild birds outside, wearing appropriate PPE and minimising the number of staff involved.
- Backyard poultry: telephone triage and full consideration of the history and clinical signs, alongside practice-based AI risk assessment, can be used to make an appropriate decision as to if to see the bird outside or inside the veterinary practice.

Appropriate PPE for dealing with any suspected cases and all wild birds, should take into consideration the pathogenicity of the relevant circulating strain and where possible, should include FFP3 mask (or full-face respirator), coveralls, safety goggles, rubber/polyurethane boots (or disposable shoe covers) and disposable nitrile/vinyl/heavy duty rubber (not latex) gloves. PPE should be Fit Tested.

Care should be taken when removing and disposing of or cleaning PPE and hands washed well afterwards. Appropriate disinfectants should be used for both footbaths and environmental disinfection.⁴

Where clinical signs suspicious of AI are identified in sick live wild birds, the bird should first be humanely euthanised on welfare grounds. Contact should be made with the Defra Rural Services Helpline (in GB) or DAERA (in Northern Ireland) as above ('Clinical signs in birds'). The affected bird(s) should then be double bagged and labelled until further instruction is received.

Appropriate methods of euthanasia outside the practice will depend upon the clinical situation but the preferred method is intravenous barbiturate injection using the medial metatarsal vein (or the right jugular or ulnar vein). Intrahepatic (not Intracoelomic) injection in small birds (up to 100g) or in larger birds (over 100g) following sedation. Physical techniques (where operators are confident and competent in these) may also be used where there is no other option available.⁵

Testing for AI

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⁴ http://disinfectants.defra.gov.uk/DisinfectantsExternal/Default.aspx?Module=ApprovalsList_SI

⁵ Meredith A (2016) Wildlife triage and decision-making. In: BSAVA Manual of Wildlife Casualties, 2nd edition, ed. L Mullineaux and E Keeble, p. 27-36









APHA has issued a guidance note on the use of antigen tests to detect avian influenza, along with clarification on interpretation and reporting: http://apha.defra.gov.uk/documents/ov/Briefing-Note-4722.pdf

Vets should carefully consider the use of influenza tests and ensure that colleagues and clients are aware of their responsibilities for reporting suspicion of notifiable avian disease. In particular:

- 1. Failure to report suspicion of avian notifiable disease within GB to APHA is an offence. This includes any delay caused by carrying out a rapid antigen test prior to reporting when there is already reason to suspect disease.
- 2. If an antigen test is used as a screening test (for example during the current AI outbreak, a pathologist may wish to routinely carry out an antigen test routinely on all avian carcase submissions where AI is not suspected), the results must be interpreted with caution.
- 3. A negative antigen test should not be interpreted as indicating freedom from AI and any decisions must be made according to the full picture. This includes any findings subsequent to the negative test result (e.g. a change in clinical presentation, PME findings). If disease is suspected at any point, it must be reported immediately, irrespective of any negative antigen test result. APHA will decide whether further investigation is required, including any official laboratory testing.
- 4. A rapid antigen test must not be used to confirm or negate existing suspicion of disease or to inform the decision to report that suspicion to APHA. This also applies to serological tests for AI.
- 5. Delay in reporting disease suspicion whilst carrying out further testing is an offence, as is failure to report disease suspicion because a non-official test gives a negative result.

Ongoing clinical care

Where clinical signs of AI are not detected, the bird(s) should be clinically treated as appropriate and according to a practice-based AI risk assessment. Considerations for ongoing care within the practice may include:

- species of bird treated and potential AI risk
- available isolation facilities
- practice layout
- number of birds routinely treated by the practice.

As the incubation period for AI is 2-8 days (and can be up to 14 days), it is sensible to barrier nurse birds where possible and continue to use of PPE as above. Footbaths should be used at entry points to

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isolation facilities. Waste material from all birds should be bagged and disposed of as infectious clinical waste following BVA guidelines⁶, and appropriate disinfectants for AI used.⁷

Additional considerations specific to backyard poultry and wild birds are given below.

General considerations for backyard poultry

All poultry owning clients should be encouraged to register their poultry with Defra; registration is a legal requirement for people owning 50 or more birds. Poultry includes chickens, ducks, turkeys, geese, pigeon (bred for meat), partridge, quail, ratites, guinea fowl, partridges and pheasants.

When there is an AIPZ in place this means that all bird keepers in Great Britain (whether they have pet birds, commercial flocks or just a few birds in a backyard flock) are required by law to take a range of biosecurity precautions.⁸ Additional precautions, including housing of birds, may be required and further quidance on this is available⁹.

If clients report birds with clinical signs suggestive of AI in poultry, there is a legal obligation to report these to APHA or DAERA as above, irrespective of the type or size of the flock. Birds presented to veterinary practices should be examined as above.

Where clients have collections of birds of special genetic or conservation status special guidance on enhanced biosecurity is available.¹⁰

Further information on backyard poultry is available in BSAVA's 'Avian influenza in backyard poultry' Q&A and their collection in the BSAVA Library.

NOTE: The Food Standards Agency has said that on the basis of the current scientific evidence, avian influenza poses a very low food safety risk for UK consumers. Properly cooked poultry and poultry products, including eggs, are safe to eat.¹¹

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⁶ https://www.bva.co.uk/resources-support/practice-management/handling-veterinary-waste-guidance-posters/

⁷ http://disinfectants.defra.gov.uk/DisinfectantsExternal/Default.aspx?Module=ApprovalsList SI

⁸ https://www.gov.uk/guidance/avian-influenza-bird-flu

⁹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1036185/biosecurity-poultry-guide.pdf

¹⁰ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/669573/fangr-culling-derogation-guidelines.pdf

¹¹ https://www.gov.uk/guidance/avian-influenza-bird-flu









General considerations for wild birds

Al has been isolated in a wide range of species of wild birds. The most common species affected however are waterbirds (waterfowl and waders, such as swans, ducks and geese) and birds that may feed off other dying or dead birds (corvids, some birds of prey, seagulls). Swans and geese are by far the most commonly affected species groups.¹²

Members of the public finding dead wild birds should be asked to report them to Defra via the online reporting system (https://www.gov.uk/guidance/report-dead-wild-birds) or the Defra helpline (03459 33 55 77) in Great Britain or DAERA in Northern Ireland. Members of the public should not touch, pick up or transport dead or sick birds.

Wild birds should be assessed <u>outside</u> the practice as described above. This has the advantage of these birds remaining classed as 'wild' for the purposes of Defra/APHA controls if AI is identified. Where signs of AI are suspected affected birds should be euthanised and reported to Defra or DAERA.¹³

If dead wild birds are presented at the practice, they should not be taken into the premises, instead they should be double bagged (the outside of the bag should be disinfected with a government-approved disinfectant) and reported to the Defra helpline (03459 33 55 77) or DAERA. The exact location using What3words, postcode, or map coordinates of where the carcase was found is required. Not all dead wild birds will be collected; if arrangements have not been made for collection within 48 hours of reporting, the carcases should be disposed of as clinical waste.

Sick birds may also be reported to the RSPCA (0300 1234 999) where an in-situ assessment and further course of action will be taken, including euthanasia and disposal if appropriate. However, members of the public should be aware that ultimately the local council is responsible.

Where birds are injured and show no clinical signs of AI then a normal approach to first aid and emergency care in British wildlife should be taken.¹⁴ Vets are obliged to provide appropriate first aid and emergency care under the RCVS Code ¹⁵ and this will not always be immediate euthanasia. A blanket approach that all wild birds, regardless of clinical AI signs are euthanised, is not appropriate.

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¹² https://www.gov.uk/government/publications/avian-influenza-in-wild-birds

¹³ Rowena DE Hansen, Lévon Stephan, Catherine Man, Sophie Hepple, Fabian ZX Lean Caution needed when treating wild birds this winter. 19 November 2021 https://bvajournals.onlinelibrary.wiley.com/doi/10.1002/vetr.1200

¹⁴ https://www.bornfree.org.uk/resources-for-vets

¹⁵ https://www.rcvs.org.uk/setting-standards/advice-and-guidance/code-of-professional-conduct-for-veterinary-surgeons/supporting-guidance/24-hour-emergency-first-aid-and-pain-relief/









In common with all wildlife casualties, birds should be 'triaged' according to the likelihood of an eventual return to the wild. This should include consideration of the following:

- A suitable casualty a bird that can be treated with a good likelihood of eventual release back to the wild. This may include treatment by the attending veterinary surgeon or referral (after appropriate first aid) to an alternative veterinary surgeon and/or a rehabilitation centre with appropriate veterinary care. Availability of referral services may differ during an AI outbreak and should be checked before making a treatment plan.
- Suitable rehabilitation and release facilities veterinary practices are rarely suitable places for rehabilitation of wildlife. Availability of wildlife rehabilitation centre care may be limited in an Al outbreak. Practices should liaise regularly with local centres to check cases can be referred before embarking on a treatment plan.

Veterinary surgeons should remember that all wild birds are protected under the Wildlife and Countryside Act, 1981. Whilst euthanasia of a wild bird may be necessary in many cases, a blanket approach to euthanasia, without full consideration of all options, may be considered unnecessary, unethical, and potentially illegal. At the same time RCVS supporting guidance to the Code of Professional Conduct makes it clear that the responsibility for wild animals and decision making around their clinical care, including euthanasia decisions, rests firmly with the attending veterinary surgeon.¹⁶

Where an appropriate wildlife rehabilitation centre, with strict biosecurity in place, is not available to take a case for ongoing care, birds should not be cared for in the home of an individual, because of the considerable disease risks associated with this. Where appropriate rehabilitation centre care is not available, birds should be euthanised.

Further information on British wildlife care is available in the BSAVA Manual of Wildlife Casualties (2nd Edition), 2016

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¹⁶ https://www.rcvs.org.uk/news-and-views/features/standards-and-advice-update/