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Low Risk of Human Infection Related to Avian Influenza Outbreak in South Africa

A number of poultry farms in South Africa are experiencing outbreaks of avian influenza. Avian influenza is a highly contagious viral infection that affects poultry and wild birds. Currently, two different strains are causing avian influenza outbreaks in South Africa, these are influenza A(H5N1) and influenza A(H7N6).

According to the Department of Agriculture, Land Reform and Rural Development (DALRD), the current influenza A(H5N1) outbreaks have been ongoing since April 2023 and to date, 10 outbreaks in poultry (Western Cape and KwaZulu-Natal) and 39 outbreaks in non-poultry birds (Western Cape, KwaZulu-Natal, Eastern Cape, Gauteng, Mpumalanga and North West provinces) have been reported. The influenza A(H7N6) outbreaks have been ongoing since June 2023, and to date, 50 outbreaks to date have been reported in poultry farms (Free State, Gauteng, Mpumalanga, Limpopo, North West and KwaZulu-Natal provinces) and non-poultry birds in Gauteng¹.

Internationally, sporadic cases of influenza A(H5N1) infection have been reported in humans, related to outbreaks in birds but infection in humans remains very rare. Globally, only 8 cases of influenza A(H5N1) in humans have been reported to the World Health Organization (WHO) in 2023, despite large outbreaks in poultry and wild birds across the globe³. These cases have been linked to close contact with infected birds (handling, culling, slaughtering or processing). Current circulating strains of avian influenza have not been shown to transmit from person to person². The risk of transmission of influenza A(H5N1) and influenza A(H7N6) from infected birds to humans is extremely low.

In the uncommon instance where avian influenza is transmitted to humans, the most common route of transmission of avian influenza is airborne, through aerosolisation of virus particles from live birds or during the culling process². Poultry products including commercially available eggs, and fresh and frozen chickens are safe to consume.

Any persons with known or suspected close contact with dead or sick birds (especially birds with confirmed A(H5N1) or A(H7N6) infection) and who presents with upper or lower respiratory tract symptoms (cough, runny nose, scratchy throat, or pneumonia) and/or conjunctivitis should be investigated. This should include the collection of respiratory samples (detailed below) and testing for avian influenza. All exposed individuals should be monitored for 14 days for respiratory symptoms and encouraged to seek care as soon as possible after the onset of symptoms. Clusters of three or more cases of severe respiratory illness (hospitalisation or death) which are epidemiologically linked should also be investigated even if there is no documented bird or poultry exposure.

Clinicians who suspect avian influenza infection in their patients should contact the National Institute for Communicable Diseases (NICD) doctor on to discuss the case before a sample is collected. Nasal or nasopharyngeal swab/s (preferably a flocked swab) should be collected from the patient. The swab/s are placed in viral or universal transport media (VTM, UTM). If two swabs are collected they can be placed in the same tube of VTM/UTM. Samples may be stored in the fridge (2-8°C) until submitted in a cooler box with ice packs to (NICD) for testing (preferably within 72 hours of collection). Please complete the case investigation form and laboratory request form in the link below to accompany the sample.

Persons who are in contact with live or dead birds, especially those in the poultry industry are advised to wear personal protective equipment including safety goggles, gloves, boot covers, disposable aprons/clothing (fluid resistant), disposable head covers and masks (N95) capable of preventing inhalation of aerosolised virus particles⁴. Handwashing with disinfectant soap after contact with poultry or birds is essential.

The public health response remains; prevention of avian influenza at source (biosecurity at farms, good hygiene and vaccination of poultry in some situations), rapid detection, reporting and response to animal outbreaks and strengthening of surveillance in animals and humans (including collaborations with animal and human health sectors). In addition, laboratory confirmation of the strains involved (PCR and sequencing) and sharing of genetic sequencing data is important.

The following resources are available on the NICD webpage (<https://www.nicd.ac.za/diseases-a-z-index/avian-influenza/>)

1. **Avian influenza guidance:** https://www.nicd.ac.za/wp-content/uploads/2022/11/Avian-Influenza-Guidance_Nov-2022-002.pdf
2. **Standard operating procedures for the collection of nasal swabs:** https://www.nicd.ac.za/wp-content/uploads/2022/11/SOP_collectionofNasalOPSwabs_20221104.pdf
3. **Avian influenza case investigation forms** <https://www.nicd.ac.za/wp-content/uploads/2022/11/Case-Investigation-form-Avian-Influenza- November-2022.pdf>
4. **Avian influenza screening and case definitions:** https://www.nicd.ac.za/wp-content/uploads/2022/11/Screening-and-Case-Definition_Avian-influenza_Nov-2022.pdf
5. **Avian influenza frequently asked questions** https://www.nicd.ac.za/wp-content/uploads/2017/06/NICD-Avian-influenza-FAQ_final1-1.pdf

DALRD is providing veterinary support including diagnostics, surveillance and control measures. Farmers who suspect infection in their poultry/ birds should notify the local provincial Veterinary office or Extension officer who will visit the farm, investigate the incident and collect samples from the birds to rule out the disease.

References:

1. <https://www.gov.za/speeches/update-highly-pathogenic-avian-influenza-outbreaks-25-sep-2023-0000>

2. <https://www.who.int/news/item/12-07-2023-ongoing-avian-influenza-outbreaks-in-animals-pose-risk-to-humans>
3. <https://www.who.int/publications/m/item/cumulative-number-of-confirmed-human-cases->
4. <https://www.cdc.gov/flu/avianflu/h5/worker-protection-ppe.htm>

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