

TO: Va Tech Faculty, Staff, Students working with migratory birds

FROM: Sarah Owen, MPA, MEd, Industrial Hygienist

DATE: 3/31/06

SUBJECT: Avian flu infection control policy for VA Tech wildlife personnel working with migratory birds

Avian influenza (AI) is a disease that is not uncommon in wild and domestic birds. The naturally occurring subtypes of AI are classified as low pathogenic avian influenza (LPAI) and cause few clinical signs in birds. However, the LPAI strains are monitored because two strains (H5, H7) can mutate into one of the highly pathogenic avian influenza (HPAI) strains. HPAI can prove fatal to birds, is easily transmissible, and can often move from birds to another species.

This virus is found in feces, saliva and nasal discharges of infected birds and is relatively stable in the environment. According to World Health Organization (WHO) frequently asked questions: "The virus can survive, at cool temperatures, in contaminated manure for at least three months. In water, the virus can survive for up to four days at 72F and for more than 30 days at 32F". The virus can also survive in mud or other debris found on equipment or on the feet of humans and animals.

Currently efforts are underway world wide to track the H5N1 strain of HPAI. This strain first appeared in Hong Kong in 1997 and has spread to nearly every continent since. In 2003 the first cluster of human cases of H5N1 were detected in Asia. The virus has since been found in people in several countries outside of Asia with a fatality rate exceeding 50%. Just over 100 people worldwide have contracted this disease from close contact with domestic poultry.

According to Hon Ip, director of the United States Geological Survey's Diagnostic Virology Laboratory at the National Wildlife Health Center in Madison, Wisconsin, most of the spread of the H5N1 virus initially was as the result of the legal and illegal movement of poultry products. The recent spread of H5N1 through Europe to Africa, however, has been strictly due to the movement of migratory birds.

In order to detect the presence of H5N1 in the US as soon as it arrives, the USDA and University of Alaska have been working together since 1998 to test more than 12,000 migratory birds in AK. The USDA has been working with the University of Georgia to test 4000 birds in the Atlantic flyway since 2000. In addition, others have been testing birds in other migratory bird flyways that would impact the US. As of March 2006, there is no evidence of H5N1 in the US either in migratory birds or commercial/backyard poultry flocks.

With no evidence of H5N1 in the US one could reasonably ask why take precautions now to avoid the disease? There are several reasons:

1. Information is changing almost daily regarding the spread of this disease in birds and the incidence of human cases. Clearly migratory birds are an important means for H5N1 to travel around the world. Therefore, individuals working with migratory birds could be exposed before we even know the virus is in the US.
2. The H5N1 type of avian flu mutates rapidly and has shown a tendency to acquire genes from viruses infecting other species which makes it possible for this type to cause disease in other species.
3. Typically, birds or swine are the 'mixing bowls' for genetic material in viruses to acquire the ability to spread from one species to another. There is increasing evidence that some of the 15 avian flu subtypes can use humans as the 'mixing bowl' which increases the likelihood of a mutation that can cause serious disease in humans.

In order to prevent an individual's exposure to a potentially fatal disease and to reduce the probability of the virus mutating into a form that is highly infectious to humans, **allowing opportunities for the virus to enter humans must be avoided.** Therefore, personal protective equipment (PPE) use when working with migratory birds must be enforced before the H5N1 strain is discovered in birds in the US.

The recommendations below should be considered valid as long as there continues to be no evidence of H5N1 in birds in the US.

- Wash hands frequently. Especially after removing gloves. Use soap and water and scrub for a minimum of 15-20 seconds then rinse thoroughly. If soap and water is not available, use a prepackaged wipe to remove visible debris. Baby wipes work quite well for this. Alcohol based gels may be used for disinfection purposes on skin after debris is removed.
- Do not eat, drink, smoke, apply chapstick/sunscreen/makeup, or use chewing gum when working with birds.
- Avoid touching anywhere on your face when gloved or when hands are not clean.
- Wear impermeable gloves appropriate to the task. Latex or nitrile disposable gloves provide protection for tasks requiring fine motor skills, heavier rubber or nitrile 'diswashing' type gloves provide more scratch/cut protection for tasks where the thinner gloves may be punctured. The heavier gloves can be disinfected and re-used as long as they are not punctured. Light weight glove liners can be worn under either type of glove in cold conditions. EHSS staff can assist with glove selection.
- Respiratory protection must be worn. Please contact Anca Bejan (ab4@vt.edu) to discuss appropriate respiratory protection. Respirator users must be entered into EHSS's Respiratory Protection Program (RPP). To get entered into the RPP, contact Lisa Kenny (lckenny@vt.edu) to make an appointment for pulmonary function testing.
- Use goggles or face shield when handling birds that may become agitated in order to protect the face and eyes from material that the bird may 'splash' onto the face.

- Wear coveralls or long sleeved shirt and long pants over other clothing (such as shorts and t-shirt) to protect arms, legs, inner clothing from contamination. Since the virus can live for several days in feces and mud or dirt, coveralls or other outer wear should not be worn again until laundered. Waders or rain gear may be worn instead of coveralls and would be easy to disinfect on site. Use of rain gear would also protect workers from any disgruntled birds who choose to 'dive bomb' the work area. Unless disinfected before removal, the outer layer must be removed carefully to prevent contamination of skin or the inner layer of clothes.
- Rubber boots that may be cleaned and disinfected on site or disposable, impermeable boot/shoe covers should be worn to prevent tracking virus laden material into vehicles, public areas, and housing.
- Staff should be very aware of their health status for 10 days or so post exposure to migratory birds. Any conjunctivitis (eye inflammation), illness with fever, respiratory symptoms should receive appropriate medical attention. Medical providers MUST be notified, prior to arrival, that the individual has been working with species of concern and may have been exposed to avian flu.

Once the virus is detected in birds in the US (either migratory or domestic poultry flocks), recommendations established by CDC/OSHA for individuals working with flocks known to be infected with H5N1 must be followed. Currently, the recommendations are similar to the above list with the addition of impermeable outerwear protection such as plastic aprons over coveralls or use of impermeable coveralls and some recommendations for prophylactic medications. These recommendations may change once the virus is discovered in the US and so will not be distributed in this document until that time.

Links to References used to develop this policy:

file:///U:/IHBIOP~1/AVIANF~1/WHB_05~1.HTM

http://www.doi.gov/issues/birdflu_strategicplan.pdf

<http://www.doi.gov/issues/avianflu.html>

<http://www.nwhc.usgs.gov/>

<http://www.osha.gov/dsg/guidance/avian-flu.html>

http://www.nwhc.usgs.gov/publications/fact_sheets/index.jsp

<http://www.cdc.gov/flu/avian/professional/protect-guid.htm>

http://www.who.int/csr/disease/avian_influenza/en/

Please feel free to contact Sarah at sowen@vt.edu with any questions regarding this document.