

The Pump Handle



"I had an interview with the Board of Guardians of St. James's parish, on the evening of Thursday, 7th September, and represented the above circumstances to them. In consequence of what I said, the handle of the pump was removed on the following day."

John Snow, 1855

June 2005 Topics

- *Salmonella* Typhimurium Outbreak Investigation
- Skunk Attack in State Park
- West Nile Virus Update
- Anthrax Alert for Livestock Owners



Salmonella Typhimurium Outbreak Investigation

Mercy Hospital in Williston reported a cluster of four *Salmonella* Typhimurium cases on June 2, 2005, that were later found to be associated to consumption of rotisserie chicken purchased hot and ready-to-eat at a local grocery store. Three cases were admitted to the hospital and one patient died. Incubation of the four cases ranged from 23 to 30 hours.

Ten additional cases from the Williston area were reported between June 11 and June 24. Another previously reported case from eastern North Dakota was found to have a 100 percent matching DNA pattern to the Williston cases, moving the total to 15. The eastern North Dakota case was not epidemiologically linked to the Williston cluster.

Ten of the 15 *Salmonella* Typhimurium cases reported in this time frame had 100 percent matching DNA patterns when tested with pulse-field gel electrophoresis at the Division of Microbiology. The other five cases either matched within 90 percent or were epi-linked to the Williston area. However, only one of the 11 additional cases reported after June 11 had a history of consuming rotisserie chicken purchased at the same grocery store as the original cluster. Laboratory confirmation linking cases to the grocery store or its products has not been found. No other common denominators were identified between the 15 cases.

The Division of Food and Lodging inspected the grocery store and educated the employees on handling, cooking and holding procedures. Two samples of whole, raw

chickens from the same manufacturer but different lot numbers of those purchased by the ill cases were tested for salmonella, as were environmental swabs of the deli and produce departments at the local grocery store. The environmental swabs were taken after the grocery store employees sanitized and disinfected all surfaces in both departments. The chicken samples and environmental swabs tested negative for salmonella. The grocery store has implemented additional steps beyond those recommended of the health department. These include employee safe-food training and ongoing environmental assessments.

Salmonellosis can cause serious and sometimes fatal infections in young children, elderly people and others with weakened immune systems. Otherwise healthy individuals may suffer short-term symptoms such as high fever, severe headache, vomiting, nausea, abdominal pain and diarrhea. Long-term complications can include severe arthritis. This outbreak of salmonella is a reminder to all of us about how serious the infection can be. Handling and preparing food properly is important in preventing the transmission of salmonella.

For information about preventing the spread of salmonella and other food-borne illnesses, visit the Centers for Disease Control and Prevention website at www.cdc.gov/ncidod/diseases/food/safety.htm.



Skunk Attack in State Park

Four people received rabies shots after being pursued by a skunk at the Devils Lake State Park in North Dakota this May.

The first victim was a fisherman who was disturbed by the skunk while fishing on the dock late into the night. He tried to run away, but the skunk followed in pursuit. The fisherman tripped and fell and the skunk bit his shoe and scratched his calf.

Around 5:15 a.m. the following morning, a family of three males in a tent awoke to a scream when the youngest was awakened by the skunk climbing onto his chest. The boy was scratched and bitten by the skunk. The campers were able to throw a blanket over the skunk to trap it and notify state park officials. It has been assumed that the same skunk was the perpetrator in both instances.

The skunk was immediately dispatched, tested and later confirmed to be positive for rabies. All individuals exposed to the skunk received the post-exposure rabies prophylaxis and remain healthy. Devils Lake State Park has a zero tolerance for skunks in the campgrounds or surrounding areas. Live-trapping occurs in the campgrounds throughout the summer season to control and prevent humans from exposure to wild animals.

All skunks should be presumed rabid unless rabies testing indicates otherwise. Post-exposure prophylaxis should be initiated before test results are available and can be discontinued if the skunk tests negative.



West Nile Virus (WNV) Update

Five dead birds and 16 horse samples have been submitted to the veterinary diagnostic laboratory for testing. As of June 26, 2005, one horse has tested positive for WNV and

one bird is still pending. An additional 28 dead birds from across the state have been reported online. One hundred and ninety-five sentinel chicken serums have been tested with no positive samples identified. One hundred and twenty humans have been tested at the Division of Microbiology. There are no human cases reported in North Dakota as of June 26, 2005.

On June 24, 2005 South Dakota reported two human cases for 2005, with two more reported on June 28. For more about the South Dakota human cases, visit westnile.sd.gov. Other states that have reported human WNV cases in 2005 include Kansas, Missouri and Texas.

For more information about WNV, visit the North Dakota Department of Health website at www.ndwnv.com.



Anthrax Alert for Livestock Owners

Recent heavy rains and flooding in much of North Dakota have created prime conditions for anthrax, a bacterial disease generally contracted by livestock after consuming spores found in the soil. The anthrax spores can survive in the soil for many years, and areas where anthrax has been recorded in the past are at risk of reoccurrence. In North Dakota, cases of anthrax have been recently confirmed on four premises near areas where outbreaks of anthrax occurred in 1997, within a 30 mile radius in Ransom and Barnes counties. Cattle, bison and horses have been involved.

Anthrax is not uncommon in North Dakota and occurs sporadically in animals when weather conditions are conducive. It is not highly contagious, and the risk to human health is very low. Anthrax is primarily an occupational disease, affecting people who have contact with the blood or tissue of infected animals, and is occasionally identified in individuals who are exposed to dead animals and animal products such as wool and hair.

The serious forms of human anthrax are inhalation anthrax, cutaneous anthrax and intestinal anthrax. The symptoms vary depending upon the type of exposure, but usually occur within seven days after exposure. Humans may become infected with anthrax by inhaling contaminated soil particles or by handling wool or hair from diseased animals. With respiratory exposure, symptoms may resemble the common cold and may progress to severe breathing problems and even death. With skin exposure, a boil-like lesion appears which eventually forms a black center. A swelling of the lymph gland under the arm may occur. Infection of the intestinal tract can occur by eating undercooked meat from diseased animals.

For more information about anthrax, visit www.health.state.nd.us/EPR/public/bacterial/anthrax.htm.

Contributing authors of The Pump Handle include Julie Goplin, Tracy Miller and Kirby Kruger. For questions, suggestions or inquiries, or to be removed from the mailing list, please contact Julie Goplin of the Division of Disease Control at 701.238.2375 or by email at jgoplin@state.nd.us.

The pump handle picture in the title was obtained from the website www.ph.ucla.edu/epi/snow.html.



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