

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

May 2010 Topics

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Tick Surveillance in North Dakota

After a cold North Dakota winter, we're all happy to see the arrival of warm summer days, but, unfortunately, summer brings with it pests that carry disease. Ticks are one particular type of bothersome pest that can carry disease.

Several tick-borne diseases are reportable to the North Dakota Department of Health (NDDoH). These include tularemia, Rocky Mountain spotted fever (RMSF) and Lyme disease. In the past, North Dakota residents were not considered to be at risk for Lyme disease unless they traveled outside of the state, since the tick vector, the deer tick or *Ixodes scapularis*, was not previously found in North Dakota. However, in recent years, the NDDoH has received increasing reports of Lyme disease. Some of the reported cases did not indicate travel outside of the state. In addition, North Dakota borders Minnesota, a highly endemic state for Lyme disease. Minnesota tick surveillance has documented a northwesterly expansion of the *Ixodes* population. Also, Manitoba has reported the presence of *Ixodes* sp.

This summer, the NDDoH is collaborating with North Dakota State University and the University of North Dakota to conduct tick surveillance throughout the state to determine whether the deer tick is in North Dakota. Ticks will be collected at sites throughout the

state, with an emphasis on the eastern side of the state where the habitat is more likely to support a deer tick population. The ticks will be collected through a process called dragging that involves pulling a white piece of cloth across the ground in areas where ticks are thought to live. Any ticks that cling to the white cloth are then collected and taken back to the laboratory, where they are counted and examined to determine species. In addition to dragging, some ticks will be collected from trapped small mammals. Testing will be performed on a portion of the ticks collected to determine if they are carriers of disease.

The data collected through this summer's efforts will help the NDDoH determine the risk of Lyme disease and other tick-borne diseases in the state. In the meantime, simple prevention measures such as wearing long pants and sleeves and applying insect repellent containing DEET when entering tick-infested areas will reduce the risk of having a tick attach to the skin.

For more information, visit the new tickborne disease website at www.ndhealth.gov/disease/tickborne/ or call the NDDoH at 800.472.2180 or 701.328.2378.



Summertime Foodborne Illness

Incidence of infections associated with foodborne illnesses increase in the summer. Since summertime is when many people enjoy backyard barbecues, picnics or dinners around a campfire, it is important to remind people of proper handling and preparation of food to prevent illnesses this summer.

Improper handling and cooking of poultry products and ground beef are common sources of foodborne illnesses, such as salmonella, campylobacter and *E. coli*. These diseases can cause diarrhea, bloody diarrhea, abdominal cramping, nausea and vomiting. Young children and the elderly are at greatest risk for severe illness, including dehydration, infection of the bloodstream and kidney failure.

The following tips can help keep summer barbecues and outdoor trips safe from foodborne illness:

- Always wash your hands before preparing food, after handling raw foods and before eating. If warm running water and soap are not available, use an alcohol-based hand sanitizer.
- Do not utilize or drink water from a lake, stream or river.
- Keep cold foods – such as sliced fruits and vegetables, cold salads and meat trays – cold. During summer picnics, it is important to pack a refrigerator thermometer in your cooler to ensure the food in the cooler is kept at 40 degrees F or below.
- Keep raw foods separate from other foods.
- Completely thaw meat and poultry before grilling so it cooks evenly.
- Marinate food in the refrigerator, not on the counter. Poultry can be marinated up to two days. Beef, pork and steaks may be marinated up to five days.
- Cook foods properly. Cook meat to proper internal temperatures.
 - Poultry breasts to 165 degrees F.
 - Hamburgers, beef to 155 degrees F.

- Pork and fish to 145 degrees F.
- Wash fruits and vegetables before slicing and serving.

Some foodborne illnesses – including norovirus, hepatitis A, shigella and *E. coli* – also can be spread easily in contaminated water and from direct contact with infected people. For that reason, people who have diarrhea should not go swimming, work as food handlers or in a health-care setting, or attend day care. Prompt identification and reporting from physicians and laboratories are necessary to prevent the illness from spreading. Notify your local or state public health department for more information if any cases are identified associated with these risk factors.

For more information or to report a possible foodborne illness, call the North Dakota Department of Health, at 701.328.2378 or 800.472.2180 or visit www.ndhealth.gov/disease/GI.



Managing a Possible Rabies Exposure

The NDDoH receives numerous telephone calls about possible rabies exposures. Encounters involve both domestic and wild animals. In North Dakota, the skunk is the most common wild animal identified with rabies. Other wild animals that have tested positive in recent years include raccoons and bats. However, the majority of potential human rabies exposures investigated by the NDDoH each year involve domestic animals (dogs and cats). Many of these animals are unvaccinated, not up-to-date on rabies vaccines or have unknown vaccine histories. Responsible pet ownership, including keeping pets current on rabies vaccinations, is fundamental to help protect people from exposure to the rabies virus and avoid undergoing expensive rabies vaccination.

Post-exposure prophylaxis (PEP) may be required for humans who experience an animal exposure. An exposure is defined as a bite that breaks the skin or saliva that comes in contact with an open cut, sore or wound or to a mucous membrane such as the mouth, nose or eyes. If the exposure involves a wild carnivorous animal or a bat that is unavailable to be tested, the person should receive PEP. Depending on the circumstances, PEP may be deferred if the animal is available for prompt testing.

If a person is exposed to a dog, cat or ferret, the animal should be either euthanized and tested for rabies or evaluated by a veterinarian to confirm that it is healthy. The animal should be confined and observed daily for 10 days. Unwanted animals may be euthanized and tested. If the animal becomes ill or there is a change in behavior during the 10-day isolation period, it should be euthanized immediately and tested for rabies. The decision to initiate PEP should be based on the circumstances of the exposure, vaccination status of the animal and when rabies testing results will be available. If there is no change in the animal's health during the 10-day confinement, which is verified by a veterinarian's evaluation at the end of the 10 days, the animal can be released and PEP does not need to be initiated or can be discontinued if it had been initiated.

The NDDoH provides technical assistance when an exposure to an animal has occurred. For questions about rabies exposure, please contact the NDDoH at 800.472.2180, or visit www.ndhealth.gov/disease/Rabies/FactSheets.htm to view an algorithm that can be used to help assess rabies exposure and the need for post-exposure prophylaxis.



Acute Viral Gastroenteritis Activity Update

Since Dec. 1, 2009, nine viral gastroenteritis outbreaks (with four confirmed as norovirus outbreaks) have been reported to the NDDoH by long-term-care facilities. Additionally, seven community events have resulted in acute gastroenteritis symptoms, and six have been confirmed as norovirus outbreaks. Fifteen viral gastroenteritis outbreaks, including 10 confirmed norovirus, have occurred in Burleigh, Cass, Dickey, Grand Forks, Mountrail, Pierce, Ransom, Renville, Walsh, Ward and Williams counties.

The outbreaks of viral gastroenteritis that occurred this season were reported from a variety of settings. These outbreaks were associated with long-term-care facilities, a wedding, a family gathering, schools, restaurants and hotels.

Outbreaks of gastroenteritis most often occur in the winter and early spring. Norovirus is the most common cause of viral gastroenteritis outbreaks and is often called the “winter vomiting disease” or “stomach flu.” Although it is commonly referred to as the stomach flu, it has no relationship to the influenza virus that causes respiratory infections. The Centers for Disease Control and Prevention estimates noroviruses cause 23 million cases of acute gastroenteritis each year and about 50 percent of all foodborne outbreaks.

Practice good hand hygiene, disinfect contaminated surfaces and do not return to work or school until 24 to 72 hours after symptoms resolve are recommended measures for the prevention and control of norovirus infections. Please visit www.cdc.gov/mmwr/preview/mmwrhtml/mm5633a2.htm for more information about the prevention of norovirus.

To report an acute viral gastroenteritis outbreak, please contact the NDDoH at 800.472.2180 or 701.328.2378 or submit an online report form at www.ndhealth.gov/disease/GI/.



Anthrax in North Dakota, 2010

On May 19, 2010, the State Board of Animal Health distributed a news release indicating confirmation of a case of anthrax found in a cow located in eastern Sioux County. According to Dr. Susan Keller, state veterinarian, this was the first reported case in that area in many years and the first confirmed case in the state this year.

Anthrax has been reported most frequently in northeast, southeast and south central North Dakota, but it has been found in almost every part of the state. North Dakota often records a few anthrax cases every year. In 2005, however, the disease resulted in more than 500 confirmed animal deaths from anthrax, with total losses estimated at more than 1,000. The dead animals included cattle, bison, horses, sheep, llamas and farmed deer and elk.

Anthrax is caused by the bacteria *Bacillus anthracis*. Spores of the bacteria can lie dormant in the ground for decades. When animals graze or consume forage or water contaminated with the spores, they are exposed to the disease.

People are most likely to become infected with anthrax through cutaneous exposures. Inhaling spores is most likely to occur when handling wool or hair from diseased animals. Inhalational infections with naturally occurring anthrax are rare. Infection of the intestinal tract can occur by eating undercooked meat from diseased animals. There are no reports of the disease spreading from person to person.

Additional information is available on North Dakota Department of Health website at www.ndhealth.gov/Disease/Documents/faqs/Anthrax.pdf or the North Dakota Department of Agriculture website at www.agdepartment.com.

Contributing authors of The Pump Handle include, Michelle Feist, Dr. Jennifer Cope, Julie Wagendorf, Kirby Kruger, Tracy Miller and Sarah Weninger. For questions, suggestions or inquiries, or to be removed from the mailing list, please contact Sarah Weninger of the Division of Disease Control at 701.328.2366 or by email at sweninger@nd.gov.

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



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