

The Pump Handle

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"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

April 2004 Topics

- SARS in China
- Pertussis Contacts Traced Across Four Counties
- Reptile-Associated Salmonellosis
- Gonorrhea Spread Among College Students



SARS in China

As of April 30, 2004, China reported nine SARS cases either clinically confirmed or under investigation: seven in Beijing and two (including a single fatality) in Anhui Province. Two of the nine possible SARS case-patients worked at the National Institute of Virology Laboratory of China's Center for Disease Control in Beijing. The laboratory is known to conduct research on SARS coronavirus and is likely where the outbreak originated. A flow chart depicting the current SARS outbreak in China can be viewed by clicking [here](#). Currently, there has been no known SARS transmission outside Beijing.

Updates on the World Health Organization's investigation in China and information about guidelines and travel advice can be viewed at www.who.int/csr/sars/en/index.html.



Pertussis Contacts Traced Across Four Counties

On March 8, 2004, a 6-week old infant with pertussis was reported to the North Dakota Department of Health (NDDoH). The infant had a cough onset of Feb. 26, 2004. Additional symptoms included cough, apnea and pneumonia with an elevated white blood cell count. The infant was positive for pertussis by polymerase chain reaction (PCR) testing and was culture-confirmed positive March 22. Pertussis in infants younger than 6 months often presents with atypical symptoms. The characteristic "whoop" is often absent, but apnea is common. The infant was hospitalized for 47 days. The infant, who was only 6 weeks old, was too young to have received pertussis containing vaccine and therefore had no protection against the disease.

Infection control personnel from the hospital were notified and a list of contacts was obtained by the NDDoH from the infant's family. All household and other close contacts were notified and recommended to contact their primary care physician for prophylaxis. Symptomatic contacts were recommended to be tested for pertussis.

Nine symptomatic contacts were tested and one was positive for pertussis by PCR. The positive contact was an adult relative who had a cough onset of Feb. 4, 2004, and had previously been diagnosed with bronchitis. Immunity to pertussis from vaccine decreases with age and symptoms in adults are often mild and atypical. Adults and older children are commonly the source of infection in infants and young children. This relative was living with the infant at the time of onset and is likely to have been the source of the infant's pertussis infection.

Five close contacts to the adult index case were identified in four different counties and notified of their possible exposure. None of the additional contacts were tested.

People who have been in contact with a pertussis case should be monitored for respiratory tract symptoms for 21 days after contact. The Centers for Disease Control and Prevention (CDC) recommends that all symptomatic contacts be excluded from work, childcare or school until antibiotics have been taken for five days or for 21 days if antibiotics were not taken.

A total of seven pertussis cases were reported to the NDDoH in 2003. Four of these cases were younger than 5 and three were related to an exposure at a day care. In 2004, five pertussis cases were reported to the NDDoH as of May 1. Three were younger than 5 and two were related.

Pertussis infection, caused by the bacteria *Bordetella pertussis*, can be laboratory confirmed by testing for the presence of bacterial DNA in nasopharyngeal samples by PCR or by culturing the bacteria from a nasopharyngeal sample onto the appropriate culture media. Pertussis testing kits are available from the NDDoH [Division of Microbiology](#). The NDDoH provides free pertussis testing during case investigations. Tests are performed at the Division of Microbiology twice per week, and positive results are reported immediately upon test completion, which usually takes about eight hours. Information regarding pertussis is available by calling Molly Sander, Immunization Surveillance coordinator, at 701.328.4556 or by e-mail at msander@state.nd.us.



Reptile-Associated Salmonellosis

An adult female had onset of diarrhea on Feb. 1, 2004. Other symptoms included abdominal cramps, hematuria and symptoms indicative of a urinary tract infection. Non-typable *Salmonella* was confirmed from a urine sample taken on Feb. 19, 2004.

An investigation revealed that the family had a pet iguana kept in an upstairs room of the house. The iguana was bathed in the bathtub which also was used by other family members. The owners indicated iguana feces and urine in the tub were cleaned using a bleach with water solution after each bathing session. However, the bleach solution was not made fresh daily; rather it was used over a one- to two-week time period. The patient's teenage son also reported experiencing diarrhea and abdominal cramps.

Specimens from the son were not obtained. A stool specimen from the iguana was tested and found positive for non-typable *Salmonella*. The isolate was sent to the CDC for subtyping.

A case of salmonellosis was reported from another North Dakota county in early March 2004. The patient was a 20-year-old female with diarrhea, abdominal cramps, nausea and back ache. *Salmonella*, serotype un-typable, was isolated from a stool specimen. This person also reported owning a pet iguana that was not kept in a cage, but was free to roam the household. A specimen from the iguana was unavailable for testing.

Animals can carry *Salmonella* and pass it in their feces even when the animal appears well. People can contract *Salmonella* infections if they do not wash their hands properly after touching the feces of animals. According to the CDC, reptile and amphibian contacts are estimated to account for 74,000 (6%) of the approximately 1.2 million sporadic *Salmonella* infections that occur each year in the United States. Reptiles (lizards, snakes and turtles), baby chicks and ducklings are especially likely to pass salmonellosis to people and are not recommended in the homes of people at high risk of infection, including infants, children younger than 5, organ transplant patients, people with HIV/AIDS and people receiving treatment for cancer. CDC guidelines for handling pets for people at high risk of infection are available at www.cdc.gov/healthypets/index.htm.

A bleach disinfecting solution can be used for cleaning nonporous surfaces. An appropriate solution can be made by mixing $\frac{3}{4}$ cup of 5.25 percent bleach (most brands of bleach in the store are 5.25 percent but read the label to be sure) with one gallon of water. Wash the surface with the disinfecting solution, let stand for five minutes, rinse thoroughly and let air dry. Using a bleach solution to disinfect is more effective if mixed fresh each day, as the strength of the solution weakens over time. Note that a bleach solution used to sanitize eating utensils and food-contact surfaces is much less. If the solution exceeds 200 ppm or 1 tablespoon of 5.25 percent bleach in one gallon of water, the utensils or surface should be rinsed thoroughly before coming in contact with food.

Investigations by the NDDoH have identified previous reptile-associated *Salmonella* cases. In March 1998, two-week-old twins were found to be infected with *Salmonella* Marina from exposure to a pet iguana. For additional information about these cases, see the Dec. 12, 2003, issue of the [MMWR](#).



Gonorrhea Spread Among College Students

From September 2003 to Feb. 15, 2004, eight cases of gonorrhea were reported among students attending North Dakota State College of Science (NDSCS). This compares to two cases, both diagnosed in May 2003, for the entire previous school year. Four of the eight cases diagnosed during the current school year were male. Four of the cases were diagnosed as a result of being identified during partner notification. Two cases also were co-infected with chlamydia. The cases were treated according to [CDC recommended treatment regimens](#) and interviewed by NDDoH field epidemiologists.

Coordination was conducted between the NDDoH, NDSCS and the Richland County Health Department. Notices of the outbreak were sent to public health and health-care providers in Richland and Cass counties, as well as to providers in Breckenridge, Minn.

The information recommended providers maintain a high degree of suspicion for gonorrhea when evaluating sexually active adolescents and young adults. Testing of urine samples using newer nucleic amplified technology for both chlamydia and gonorrhea infections and gonorrhea cultures of symptomatic people also were recommended.

Following these interventions, no other gonorrhea or chlamydia infections have been identified at the college.

Contributing authors of The Pump Handle include Molly Sander, Julie Goplin, Tracy Miller, Kirby Kruger and Larry Shireley. 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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