

Communicable Disease UPDATE

Newsletter of the Bureau of Communicable Disease Control, Massachusetts Department of Public Health Vol. 14, No.3 Summer 2006

Epidemiology

Salmonella Outbreak Related to Owl Pellets

The Epidemiology Program conducted an investigation of an outbreak of gastrointestinal illness which occurred among 46 out of 98 fifth-graders (attack rate = 47%) at an elementary school in June, 2006. Secondary cases were seen in 12 additional pre-kindergarten, first, third and fourth graders, most of whom were close contacts of fifth grade students. After common activities and exposures were investigated, a class project involving the dissection of owl pellets was identified as the source. *Salmonella* Typhimurium tyvar Copenhagen was isolated from stool specimens of ill students, as well as from dissected and unopened owl pellets. PFGE patterns were indistinguishable.

Owl pellet dissection is a popular science project in Massachusetts and across the country. Because owls cannot chew their food, they swallow small prey whole. The indigestible parts of these prey such as fur, bones, teeth and feathers, are compressed into a pellet which the owl must regurgitate before it can eat again. These pellets are then collected, mostly in the Pacific Northwest, by companies that "heat sterilize" them by various methods and then sell them for science projects. School children, either individually or in groups, dissect these pellets to discover and reconstruct the skeletons of animals eaten by the owl. Through this activity, school children learn about the food chain and ecosystems. However, there exists the potential for these young scientists to be exposed to microbes from commercial owl pellets. The owl pellet industry is unregulated with no standardized or proven methods for eliminating infectious organisms. The assumption these pellets were sterile, based on the company's claim, may have led to a more casual approach to the project by both teachers and students, especially in regards to hygienic practices. If the pellets are not sterile and contain *Salmonella*, students' hands may be contaminated by touching them. If students do not wash their hands properly, and put their hands in their mouth, or put their hands on their lunch and eat it, they may become sick.

To help ensure the safety of this activity without eliminating the project from the curriculum, schools should consider the following recommendations:

- Conduct owl pellet dissection in one day, in as few classrooms as possible, and separate from all eating areas.
- Make sure there is adequate adult supervision during the activity.
- Have students wear disposable gloves during both dissection and subsequent clean up.
- Supply students with disposable trays, plates and dissection tools.
- Assist students in thoroughly cleaning and sanitizing work surfaces after the activity, using disposable paper towels and appropriate cleaning agents and sanitizers.
- Keep handwashing sink areas well stocked with liquid soap, paper towels and handwashing posters.
- Make sure students thoroughly wash their hands after removing gloves.

Guide to Surveillance, Reporting and Control, 2nd Edition, Now Available

The Massachusetts Department of Public Health released the second edition of the Guide to Surveillance, Reporting and Control. The revised edition includes updated chapters on all of the diseases that are reportable to the Bureau of Communicable Disease Control, including chapters on diseases not included in the first edition. The manual has been released on CD and has been sent to all local health departments, school nurses and infection control practitioners. The manual has also been posted to the MDPH website (go to <http://www.mass.gov/dph/pubstats.htm> and select "Guide to Surveillance and Reporting"). Case report forms have been revised for all diseases and are available by calling the Division of Integrated Surveillance and Informatic Services (ISIS) at (617) 983-6801. Hard copies of the manual have not yet been printed, but additional copies of the CD can be obtained by boards of health, hospital staff and other community partners by calling Cathy McKenna at (617) 983-6856.



Avian Influenza: New

An article outlined in the *Weekly Epidemiological Record* of the World Health Organization (WHO) suggests several conclusions drawn from avian influenza outbreaks from December 2003 to April 2006:

- The number of new countries reporting human cases increased from 4 to 9 after October 2005.
- Half of the cases occurred in people under the age of 20 years; 90% of cases occurred in people under the age of 40 years.
- The overall case-fatality rate was 56%. Case fatality was high in all age groups, but was highest in persons aged 10 to 39 years.
- Assessment of mortality rates and the time intervals between symptom onset and hospitalization, and between symptom onset and death suggests that the illness pattern has not changed during the three years.
- The incidence of human cases peaked during the period roughly corresponding to winter and spring in the northern hemisphere in each of the three years in which cases have occurred.

For more information, visit http://www.who.int/csr/don/2006_06_30/en/index.html.