TENNESSEE DEPARTMENT OF HEALTH

TENNESSEE EPI-NEWS

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Commissioner of Health

COMMUNICABLE AND ENVIRONMENTAL DISEASE SERVICES

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INSIDE THIS ISSUE:

An Update on SARS in Tennessee

The first two cases of SARS (1 suspect and 1 probable) were identified by the Memphis –Shelby County Health Department on May 14, 2003.

One (suspect) case occurred in a Shelby county resident who had traveled to Toronto, Canada. One (probable) case occurred in a Mississippi resident who had traveled to both Hong Kong and Taiwan. Both presented to healthcare facilities in Shelby County; neither required hospital care; both have recovered. A third (suspect) case of SARS, from Rutherford County, was identified on June 1, 2003. He traveled to Toronto, Canada. He did not require hospital care and has recovered. All close contacts have been notified by the local health department and have been requested to monitor their health. All have remained well.

SARS Cases among Healthcare Workers Wearing N95 Respirators in Canada

A recent *Mortality and Morbidity Weekly Report*[1] reports the transmission of SARS from an ICU patient to several healthcare workers (HCWs) in an ICU in Canada, despite the use of N 95 equivalent respirators. Factors that may have contributed include:

- high viral load (patient was in second week of illness)
- aerosol producing procedures (use of non-invasive ventilation- BiPAP, intubation of the patient)
- leakage of N-95 respirators (fit testing not required in Canada)
- incorrect removal of N-95 respirators leading to contamination of hands.

This cluster is part of a larger number of cases in HCWs in hospitals in the greater Toronto area who have become infected while caring for SARS patients since directives for contact, droplet, and airborne precautions were instituted at the provincial level on March 28. Further investigation is necessary to determine factors associated with transmission despite the apparent use of recommended infection-control precautions.

HCWs caring for SARS patients should be properly trained in the correct use and removal of personal protective equipment and reminded of the importance of hand hygiene. Patients who are experiencing rapid clinical progression with severe cough during their second week of illness should be considered particularly infectious. Procedures that might generate aerosols (e.g., nebulized medications) should be avoided if possible. When intubation is necessary, measures should be taken to reduce unnecessary

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exposure to HCWs, including reducing the number of HCWs present and adequately sedating or paralyzing the patient to reduce cough. Updated interim infection control precautions for aerosol-generating procedures on patients who have SARS are under development and will be available from CDC at http://www.cdc.gov/ncidod/sars/ic.htm.

[1]Centers for Disease Control and Prevention, Cluster of severe acute respiratory syndrome cases among protected health care workers, Toronto, Canada, April 2002. *MMWR* 2003;52:433-6.

Updated Interim U.S. Case Definition for Severe Acute Respiratory Syndrome (SARS)

The current CDC case definition as of June 27, 2003 includes the following elements:[1]

A person presenting with a respiratory illness of unknown etiology with an onset since February 1, 2003, that includes:

A measured temperature > 100.4ºF (38ºC)

AND

One or more respiratory signs or symptoms, including cough, shortness of breath, difficulty breathing, hypoxia, or radiographic findings of pneumonia or respiratory distress syndrome

AND

Either recent travel (including transit in an airport) to areas reporting community transmission of SARS (see below) or close contact with a person with respiratory illness after travel to a SARS area or suspected of having SARS.

In order to be able to institute measures to prevent or control a possible SARS outbreak in Tennessee, it is imperative that suspected cases be immediately reported to the local health department or the Tennessee Department of Health, day or night, at 615-741-7247. Physicians are available for consultation around the clock as well.

Travel criteria for suspect or probable U.S. cases of SARS

Area	First date of illness onset for inclusion as reported case	Last date of illness onset for inclusion as reported case
China (mainland)	November 1, 2002	Ongoing
Hong Kong	February 1, 2003	Ongoing
Hanoi, Vietnam	February 1, 2003	May 25, 2003
Singapore	February 1, 2003	June 14, 2003
Toronto, Canada	April 23, 2003	Ongoing
Taiwan	May 1, 2003	Ongoing

[1] Centers for Disease Control and Prevention. Updated Interim U.S. case definition of severe acute respiratory syndrome (SARS). June 5, 2003(online). http://www.cdc.gov/ncidod/sars/casedefinition. Accessed June 27, 2003.

Raccoon Rabies in Tennessee: A Significant First

On May 1, 2003, the Knoxville Regional Laboratory reported that a cat near Mountain City, Johnson County, and a raccoon from near Roane Mountain in Carter County were infected with the raccoon strain of rabies. These two counties are in the far northeast corner of the state and both rabid animals were found close to the North Carolina border where raccoon rabies has existed for several years. This report is the first confirmation of the raccoon strain of rabies in Tennessee. Additional rabid raccoons have been diagnosed in Carter County since.

Raccoons have been recognized as a reservoir for rabies in the southeastern US since the 1950s. An outbreak that began during the late 1970s in the mid-Atlantic states was attributed to the translocation by humans of animals infected with rabies from the Florida. Although previously identified as separate foci prior to 1994, the mid-Atlantic and southern foci have merged and raccoon rabies is now enzootic in all of the eastern coastal states as well as Alabama, Pennsylvania, Vermont, West Virginia, and possibly Ohio.[1] As late as 2000, CDC reported, "rabies had been found in western North Carolina in Watauga County, approximately 6 miles

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from the Tennessee border. No cases of rabies among raccoons have been reported in neighboring Tennessee counties".[2]

The public health significance of the raccoon strains appearing in an area is that human and companion animal exposure to rabies greatly increases when compared to skunk and bat strains of rabies. Bat rabies occurs at a low level in all counties, but bats normally avoid humans and other animals. Skunk rabies exists in middle and northeast Tennessee but rabid skunks are slow-moving, not aggressive, and easy to avoid.

Raccoon rabies presents unique and dangerous problems for three reasons: raccoon populations are thickest in suburban areas where there is a higher population density; raccoons are extremely aggressive when rabid and thus bite more humans, dogs, and cats; and, aggressive raccoons infect a greater variety of other species such as foxes, ground hogs, and squirrels so that there are more indirect rabies threats to people, livestock, and companion animals.

The use of raccoon oral rabies vaccine and depopulation of raccoons near areas such as campgrounds are being reviewed by USDA Wildlife Services in conjunction with state agencies as a means to reduce the human threat in northeast Tennessee.

Most potential human exposures to rabies come from dog and cat bites. Tennessee law requires that all dogs and cats have a current rabies vaccination. This may be on an annual or a three year interval basis depending on the vaccine. The two most important actions that Tennesseans can take to protect themselves from rabies are: 1) keep all dogs and cats currently vaccinated, and 2) stay away from all wild animals, especially any appearing ill, hurt or unusually friendly.

[1] Krebs JW, Noll HR, Rupprecht CE, Childs JE. Rabies surveillance in the United States during 2001. *JAVMA* 2002;(12):1690-1701.
[2] Centers for Disease Control and Prevention. Update: raccoon rabies epizootic—United States and Canada, 1999. *MMWR* 2000; 49:31-5.

Monkeypox: An Emerging Infectious Disease in North America

Monkeypox is a rare viral disease that is found mostly in the rainforest countries of central and West Africa. It has recently been reported as a new and emerging infection in the United States. The following information comes from the Centers for Disease Control and Prevention.

The disease is called "monkeypox" because it was discovered in laboratory monkeys in 1958. Studies of animals in Africa later found serologic evidence of infection in ground squirrels, which are thought to have an important role as a natural host for the disease. Laboratory studies showed that monkeypox infection also can occur in rats, mice, and rabbits. In 1970, monkeypox was identified as the cause of a smallpox-like illness in humans in remote African locations. In early June 2003, monkeypox was reported among several residents in the United States who became ill after having contact with sick prairie dogs. This is the first evidence of community-acquired monkeypox virus infection in the United States.

Cause of Monkeypox

The disease is caused by *Monkeypox virus*, which belongs to the orthopoxvirus group of viruses. Other viruses in this group that can cause infection in humans include variola (smallpox), vaccinia (used in smallpox vaccine), and cowpox viruses.

Signs and Symptoms

In humans, the clinical features of monkeypox are similar to those of smallpox, except that swelling of lymph nodes is associated with monkeypox. About 12 days after exposure, the illness begins with fever, headache, muscle aches, backache, swollen lymph nodes, a general feeling of discomfort, and exhaustion. Within one to three days (sometimes longer) after onset of fever, the patient develops a papular rash (i.e., raised bumps), often first on the face but sometimes initially on other parts of the body. The lesions usually develop through several stages before crusting and falling off. The illness typically lasts for two to four weeks.

Spread of Monkeypox in Humans

People can get monkeypox from an infected animal through a bite or direct contact with the infected animal's blood, body fluids, or lesions. The disease also can be spread from person to person, but it is much less infectious than smallpox. The virus is thought to be transmitted by large respiratory droplets during direct and prolonged face-to-face contact. In addition, monkeypox can be spread by direct contact with body fluids of an infected person or with virus-contaminated objects, such as bedding or clothing.

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Treatment and Prevention

There is no specific treatment for monkeypox. Smallpox vaccine has been reported to reduce the risk of monkeypox among previously vaccinated persons in Africa.

Monkeypox in Tennessee

There are currently no cases of this disease in Tennessee. Prairie dogs, and exotic mice and rats from Africa are possible sources of monkeypox; ill persons who exhibit the signs and symptoms discussed above should be questioned about their exposure to these animals. The isolation of ill animals is essential to controlling the spread of this disease. They should not be released into the wild; doing so has the potential to make monkeypox endemic among wild animals. Because it is difficult to trace the origin of exotic animals in pet stores, people should be discouraged from purchasing them. Animal swap meets, another source for obtaining exotic pets, should also be discouraged.

The federal government recently issued a ruling prohibiting the import, sale, trade or release of prairie dogs and six species of African rodents in all areas of the United States. For more information, visit www.cdc.gov/ncidod/ monkeypox or call the CDC public response hotline at (888) 246-2675 (English), (888) 246-2857 (Español), or (866) 874-2646 (TTY).

West Nile Information

To receive the latest information and statistics access the following CEDS website: http://tennessee.gov/health, under the heading Featured Topics, click on West Nile Virus.

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