



Bulletin No. 12

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## High School Students Receive Rabies Postexposure Prophylaxis

During the evening of May 7, as part of a high school extra credit project, two 16-year-old students used a knife to cut and scrape the brain out of a red fox skull. Both students received minor injuries from the knife: one sustained a deep scratch approximately 1 inch long on the right index finger; the other jammed the knife under the right thumbnail, apparently puncturing the skin. Although both injuries resulted in bleeding, neither wound was cleaned until the students completed work on the skull approximately 2 hours later.

The fox head was provided to the students by a teacher who had obtained several fox heads from a Bethel area trapper in 1989. The teacher considered the heads to be safe from rabies, since they had been kept frozen for 3 years. The teacher said he was assured that freezing for this length of time would inactivate rabies virus. Although the students had placed the fox head in steaming water for 30-40 minutes before beginning their work, the central part of the brain appeared to be raw and bloody when it was removed. The neural tissue from the fox had been washed down a drain and could not be tested for the presence of rabies virus.

Because the students had percutaneous exposure to potentially rabies virus infected material, we recommended postexposure prophylaxis for both students. Human rabies immune globulin (HRIG; 20 international units per kg) and human diploid cell vaccine (HDCV; 1.0 ml intramuscularly) were given on May 8 at the Yukon-Kuskokwim Delta Regional Hospital. Four additional 1.0 ml doses of HDCV were scheduled to be given 3, 7, 14, and 28-35 days after the first dose.

Twelve additional frozen fox heads had been distributed by the teacher and either brought home or worked on by 13 other students. These students were contacted and interviewed by staff from the Office of Environmental Health. None had any contact with neural tissue in a manner which could have transmitted rabies virus. All twelve fox heads were retrieved from the students and incinerated.

### Comments and recommendations:

1. Rabies is enzootic in the fox population of rural Alaska. Periodic epizootics have occurred, the most recent being during the winter of 1988-1989. Rabid animals have high concentrations of virus in saliva. Because rabies virus is neurotropic, high concentrations of virus also are found in neural tissue, especially the brain.
2. There are no rabies vaccines licensed for use in wild animals. Elimination of rabies in wildlife in Alaska has proved to be impossible. Freezing does not inactivate rabies virus; in fact, the virus is very well preserved by freezing. School officials in Alaska should not allow students to handle foxes, whether living or dead. Appropriately preserved animals or specimens do not pose a hazard.
3. The single most important step to prevent rabies following exposure to a potentially rabid animal is immediate, thorough cleansing of the wound. Medical consultation following a potential rabies exposure is available around-the-clock from the Division of Public Health (please see the call list published in the Epidemiology Bulletin, August 26, 1991). If indicated, HRIG and HDCV are available free-of-charge from the Section of Epidemiology.

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