West Nile update – Preparing for summer 2004

In the summer of 2003, West Nile virus (WNV) moved westward, with most human cases occurring in Saskatchewan, Alberta and Manitoba. There were fewer infections in Ontario than in the previous summer and, as in 2002, only a few cases in Quebec. Sporadic infections in British Columbia, Nova Scotia, New Brunswick and the Yukon were considered likely to have been related to travel and not to acquisition in these provinces. There were a total of 1335 cases, compared with 426 cases in the previous year. The virus has been detected in birds in New Brunswick and Nova Scotia, so only Newfoundland, Prince Edward Island, British Columbia, Yukon, Northwest Territories and Nunavut have remained virus-free (1). Because movement of this virus is unpredictable, all regions of Canada remain on alert for 2004.

The disease continues to be seen mainly in adults. Nevertheless, severe disease may occur in healthy children (2). Based on the experience in adults, immunocompromised children are expected to be most at risk (3).

Diagnostic serology is now available through most provincial laboratories, thus increasing accessibility and reducing turnaround times (1). There is still no specific treatment but intravenous immunoglobulin with high titre against WNV and interferon alpha-2b are being investigated. A vaccine trial is underway in adults (4).

Since July 2003, all blood products used in Canada are screened for WNV, as are organ, cell and tissue donors (1).

Following the first report of transmission from mother to fetus in 2002, the American Centers for Disease Control is investigating outcomes of infection in pregnancy and recently published guidelines for follow-up of pregnant women with WNV infection and their infants. Fetal ultrasound should be performed two to four weeks after onset of illness in the mother. The newborn should undergo a thorough clinical evaluation including assessment for neurological abnormalities, hearing deficits, dysmorphic features, splenomegaly, hepatomegaly and rash. Cord blood or infant serum obtained within two days of birth should be tested for immunoglobulin M and immunoglobulin G antibody to WNV. If onset of maternal illness was less than or equal to eight days before delivery and the results of the initial tests are negative, testing should be repeated two weeks later. Histopathology examination should be performed on the placenta and specimens of placenta and cord frozen for possible further analysis. If there is clinical or laboratory evidence suggestive of WNV infection in the newborn, further evaluation should include cranial computerized tomography, examination of cerebrospinal fluid, ophthalmological exam, complete blood count and liver function tests. Close continued follow-up should be ensured (5).

Protection against mosquito bites remains the most important preventive measure. Many parents have concerns about the use of mosquito repellents in young children. Repellents containing N,N-diethyl-3-methylbenzamide (DEET) are most studied and are reliable and safe if used appropriately. Experience with other products is limited. A repellent containing p-methane 3,8,diol, a derivative of eucalyptus, protects for up to two hours and may be used twice a day but is not recommended for children less than three years of age. Soybean oil based products are effective for 1 h to 3.5 h and are registered for use as repellents in Canada but are not readily available at present. As the active ingredient is edible grade soybean oil, these are expected to be safe for the use in young children. Citronella and lavender products provide a shorter duration of protection and are currently being re-evaluated by Health Canada for safety and effectiveness. These are not recommended for children less than two years old. While plant-derived products are often thought of as safe, plant oils may be potent skin sensitisers. Whichever product is chosen, it should carry a Health Canada Pest Control Products Act registration number and be labelled as an insect repellent for use on humans (1,6).

For information about WNV infection and preventive measures, please refer to the Paediatric Infectious Disease Note published in 2003 (7). The current note is an update and should be considered as an addendum to the previous one.

REFERENCES

Correspondence: Dr Dorothy Moore, The Montreal Children’s Hospital, 2300 Tupper Street, Montreal, Quebec, H3H 1P3. Telephone 514-412-4485, fax 514-412-4494, e-mail dorothy.moore@muhc.mcgill.ca

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**Members:** Drs Upton Allen, The Hospital for Sick Children, Toronto, Ontario; H Dele Davies, East Lansing, Michigan, USA; Simon Richard Dobson, BC’s Children Hospital, Vancouver, British Columbia; Joanne Embree, The University of Manitoba, Winnipeg, Manitoba (Chair); Joanne Langley, IWK Health Centre, Halifax, Nova Scotia; Dorothy Moore, Montreal Children’s Hospital, Montreal, Quebec; Gary Pekeles, Montreal Children’s Hospital, Montreal, Quebec (Board Representative)

**Consultant:** Drs Gilles Delage, Héma Québec, Saint-Laurent, Québec Noni MacDonald, Dalhousie University, Halifax, Nova Scotia

**Liaisons:** Drs Scott Halperin, IWK Health Centre, Halifax, Nova Scotia (IMPACT); Susan King, The Hospital for Sick Children, Toronto, Ontario (Canadian Paediatrics AIDS Research Group); Monica Nuss, BC Centre for Disease Control, Vancouver, British Columbia; Larry Pickering, Centre for Disease Control and Prevention, Atlanta Georgia, USA (American Academy of Pediatrics, Committee on Infectious Diseases)

**Principal author:** Dorothy Moore, Montreal Children’s Hospital, Montreal, Quebec

The recommendations in this statement do not indicate an exclusive course of treatment or procedure to be followed. Variations, taking into account individual circumstances, may be appropriate. This article also appears in Paediatr Child Health 2004;9(5):301-302.

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**ERRATUM**


The Canadian Paediatric Society (CPS) would like to apologize for any errors or omissions found in the January/February 2004 Paediatric Infectious Disease Note entitled “Routine immunization schedule: Update 2004.” The editors have found that the charts did not accurately report all provincial vaccination programs. In addition, several provinces have added vaccine programs to their respective routine immunization schedules since January. Therefore, the charts have been republished on the CPS Web site at <http://www.cps.ca/http://www.cps.ca/english/statements/ID/PIDNoteImmunization.htm> and will be updated regularly with new data as it becomes available.

We apologize for any inconvenience this may have caused.