

For Health Professionals

Health Alerts

Health Advisory #53 - Respiratory Diphtheria In Pennsylvania - 10/27/2003

This is an official CDC Health Advisory

On 10/18/03, the Pennsylvania Department of Health and CDC were notified of a case of respiratory diphtheria in a 63-year-old male. This Pennsylvania resident had reportedly never been vaccinated against diphtheria. From October 3-10, this man and seven other men from New York, Pennsylvania, and West Virginia had worked in a rural village in Haiti. On return to Pennsylvania, the man was admitted to a hospital because of his severe sore throat and respiratory distress. Respiratory diphtheria was suspected when, during a tracheostomy procedure, a pseudomembrane was seen throughout his upper airways consistent with respiratory diphtheria. Several days later, a sample of the pseudomembrane was PCR positive for *Corynebacterium diphtheriae* tox genes. Based on his history of travel to Haiti where diphtheria is endemic, his clinical symptoms, and the positive PCR results, this patient has a confirmed case of respiratory diphtheria.

Diphtheria is caused by toxigenic strains of the bacterium *Corynebacterium diphtheriae*. The mainstay of therapy is administration of diphtheria antitoxin (DAT). DAT should be given when diphtheria is suspected without waiting for laboratory confirmation. In the U.S., DAT is only available from the CDC (770-488-7100). Suspected diphtheria case-patients should also receive antibiotics to eradicate carriage of *C. diphtheriae*. When respiratory diphtheria is suspected in a patient, Td vaccination is recommended for the patient's close contacts (i.e., those who may have been exposed to respiratory secretions or who are close household contacts) if Td has not been administered within the last 5 years. These contacts should have nasal and pharyngeal specimens obtained for culture and should also be given antibiotic prophylaxis. Contact investigations identified the diphtheria case-patient's seven travel companions, several health-care providers, and his wife as close contacts, and they received these interventions; other passengers on the commercial airliner that the case-patient took while in the infectious period were not considered to be close contacts.

Diphtheria is uncommon in the United States. From 1980 to 2002, only 54 cases of probable or confirmed respiratory diphtheria were reported to the CDC's National Notifiable Diseases Surveillance System. Diphtheria is endemic in Algeria, Egypt, sub-Saharan Africa; Brazil, Dominican Republic, Ecuador, and Haiti; Afghanistan, Bangladesh, Cambodia, China, India, Indonesia, Iran, Iraq, Laos, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Syria, Thailand, Turkey, Vietnam, and Yemen; and Albania and all countries of the former Soviet Union. Travelers who travel to these areas may be at substantial risk for exposure to toxigenic strains of *C. diphtheriae*, especially with prolonged travel, extensive contact with children, or exposure to poor hygiene.

Primary diphtheria immunization with diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP) is recommended for all persons aged 6 weeks to 6 years of age. The five DTaP

doses are administered at ages 2, 4, and 6 months, at 15-18 months and at 4-6 years. Adolescents and adults should receive the adult formulation of tetanus and diphtheria toxoids (Td) every 10 years.

Health care providers should ensure that travelers to all countries with endemic diphtheria are up-to-date with diphtheria and other vaccinations according to the ACIP guidelines. For additional information on diphtheria, please see the CDC website at:

<http://www.cdc.gov/nip/publications/surv-manual/default.htm>

For additional health information for international travel, please see the CDC website at

<http://www.cdc.gov/travel/yb/index.htm>.