



Bulletin No. 4
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Measles Strikes Anchorage

On January 28, a 40-year-old health care worker was admitted to an Anchorage hospital with respiratory distress, fever, cough, conjunctivitis and a blotchy facial rash. The diagnosis of measles was confirmed by the presence of rubeola-specific IgM antibodies in serum drawn on the fourth day of rash. The source of infection was traced to a 40-year-old male patient with a recent history of international travel. This man, the presumptive index case, died from complications of measles. Two other workers at the hospital developed measles as a result of exposure to the index case. By March 3, a total of nine cases, eight of whom were serologically confirmed, had been reported to the Section of Epidemiology. All were residents of Anchorage. Five individuals were hospitalized because of the severity of their illness. Five of seven affected adults were health-care workers employed at either of two medical facilities in Anchorage. Two were children. **No measles transmission has been documented in Alaska schools or child care centers.**

Only one of the cases, an 11-year-old girl, had documentation of previous vaccination against measles. Of the other cases, three adults had been born before 1957 (an age group for whom routine measles vaccination is not recommended); two adults had had religious exemptions to vaccination in childhood; two vaccine-eligible adults, both health-care workers, had no documentation of previous measles vaccination; and one child had just reached the age of 15 months, the minimum age at which routine measles vaccination is recommended.

Measles Immunity:

Persons are considered immune to measles infection if they:

1. Can provide the date of previous receipt of one dose of live measles vaccine on or after the first birthday;
2. were born before 1957;
3. have documentation of physician-diagnosed measles; or,
4. have laboratory evidence of measles immunity.

Measles Transmission in Medical Settings:

Five of the cases in Anchorage's current outbreak were occupationally exposed in health care settings. Nationally, medical settings are the most common sites of measles transmission for adults older than 24 years. In the United States during 1985-89, health-care workers accounted for 22% of all cases infected in medical settings; they, in turn, transmitted measles to other health-care workers, patients, and family members. The risk of measles among physicians was at least eight times--and, among nurses, at least twice--that of non-medical persons of the same age.

Recommendations for Health Care Workers:

- All persons who work in health care settings (including volunteers, receptionists and technicians) who have direct patient contact and cannot provide evidence of immunity to measles should receive a dose of measles vaccine.

Identification and Control:

Ongoing epidemiologic investigation by public health authorities in Anchorage is concentrated on active and passive surveillance to detect new measles cases, and to identify and vaccinate susceptible contacts. Surveillance is critical to outbreak containment. **All suspected measles cases should be reported immediately to the Section of Epidemiology, 561-4406.**

Early measles infection is characterized by prodromal fever, conjunctivitis, coryza, cough and Koplik spots on the buccal mucosa. The red, blotchy measles rash usually occurs first on the face and then becomes generalized, lasting 4 to 7 days. Measles is infectious slightly before and during the prodromal period which begins three to seven days prior to rash onset. The infectious period continues for four days following rash onset. **Recognition of measles prior to rash onset is difficult; therefore, it is important for medical care providers to exercise a high level of suspicion of measles in any patient presenting with upper respiratory symptoms, fever and Koplik spots--particularly during times when measles is circulating in the community.**

Rapid serological tests for measles is available free of charge at the State Public Health Laboratory in Fairbanks (474-7756). Serum specimens should not be drawn before the third day following rash onset since specimens collected early in the course of disease may not have detectable levels of IgM antibody. The date the specimen was drawn and the rash onset date should be indicated on the lab slip. Serum specimens may be delivered to any of the three State Public Health Laboratories.

Health care providers should not wait for serologic confirmation before reporting a suspected measles case to the Section of Epidemiology. New cases can be prevented only if unimmunized contacts are quickly identified.

(Contributed by Janine Schoellhorn, M.S., M.P.H., Section of Epidemiology. Acknowledgments to Sherrill Kew, R.N., Carol Lewis, R.N., Adele Suiter, R.N., Mary Lee Cook, R.N., Jan Wills, R.N., Barb Pinney, R.N. and Joan Rogers, R.N., for contact investigation and follow-up.)