



Bulletin No. 21
September 14, 1994
Measles Alert

Between June 1 and September 13, 1994, ten cases of measles (rubeola) were identified by the Section of Epidemiology (Table 1). All but two of the cases were laboratory confirmed (ie, measles-specific IgM antibody positive). The cases lacking laboratory confirmation were a 5-year-old child (no. 2) whose parents refused testing but who was epidemiologically linked to a laboratory confirmed case (no. 3) and the sibling (no. 10) of a confirmed case (no. 9). Five cases had received at least one dose of a vaccine containing measles antigen; the others were not vaccinated, three of these were not in an age-group which is routinely offered vaccine.

The Section of Epidemiology also investigated a number of other persons who had febrile rash illness during the above time period. In each case, rubeola was suspected based upon the clinical presentation but was ruled-out on the basis of a negative serologic test for measles-specific IgM antibody.

The incubation period for measles- 7 to 18 days from exposure to onset of fever-was used to determine the most likely location where each case was exposed. The place of exposure for one case (no. 4) was either Alaska or out-of- state. Except for one other person (case no. 1 was exposed to measles either in Anchorage or during a 3 day trip to the Kenai Peninsula), the remaining cases were most likely exposed in their home town. Except for direct transmission of measles from case no. 2 to case no. 3, and the two cases who were siblings (nos. 9 and 10), no other epidemiologic linkages could be established between the cases.

Since most, or perhaps even all, of the measles cases acquired their infection in Alaska, it is very likely that measles was transmitted from other Alaskans whose illness was not recognized. Alternatively, it is possible that measles was introduced by multiple visitors to the state. Such an occurrence would be difficult to document. With the occurrence of measles in the state, it is important for physicians and other health care providers to remember the following:

1. Classic measles appears as a febrile rash illness following a prodrome of fever, cough, coryza, and conjunctivitis. A red, blotchy rash usually beginning on the face and then becoming generalized appears on the third to seventh day of illness.
2. Measles is less likely, but still possible, in persons who have been previously vaccinated. Vaccination induces active, probably lifelong, immunity in more than 95% of vaccinees. This leaves a small proportion of previously vaccinated persons who are susceptible to measles.
3. In a highly vaccinated population, such as Alaska, most febrile rash illness is not measles. Many other acute viral infections can cause a febrile rash illness. Examples include echovirus, parvovirus, and enterovirus.
4. Clinical diagnosis is unreliable--even for a person with classic symptoms of measles--and laboratory confirmation should be sought. An acute blood specimen should be obtained on or after the fourth day of rash. Testing for measles-specific antibody is available free-of-charge from the State Public Health Laboratory, Fairbanks.
5. Measles, mumps, and rubella (MMR) vaccine is recommended at 15 months of age. Health-care providers should regularly review their records of each pediatric patient to identify any children in need of an MMR. Such children should be promptly vaccinated.
6. Suspected measles should immediately be reported to the Section of Epidemiology at 561-4406. In addition to expediting laboratory testing, the Section of Epidemiology will conduct contact investigations to identify unvaccinated persons who were exposed to measles. MMR vaccine may be recommended for close contacts down to 6 months of age; such children should be revaccinated at 15 months.

Table 1. Selected characteristics of ten measles cases; June 1 - September 14, 1994, Alaska

Case no.	Date rash onset	Age	Measles IgM antibody	Place of residence	Vaccination status
1	June 19	24 years	positive	Anchorage	single antigen measles @ 13 months; MR* @ 25 months
2	June 21	5 years	parents refused	Kenai	unvaccinated
3	July 6	24 years	positive	Kenai	MR @ 24 months
4	July 6	16 years	positive	Anchorage	unvaccinated
5	July 10	43 years	positive	Kenai	unvaccinated
6	July 22	2 years	positive	Seward	MMR+ @ 21 months
7	August 12	11 months	positive	Soldotna	unvaccinated
8	August 23	5 months	positive	Anchorage	unvaccinated
9	September 5	3 years	positive	Anchorage	MMR @ 16 months
10	September 7	9 years	equivocal [§]	Anchorage	MMR @ 15 months

* MR = Measles, and rubella vaccine

+ MMR = Measles, mumps, and rubella vaccine

§ Blood specimen was obtained on second day of rash, 2 days before laboratory testing can predictably identify the presence on IgM antibody.

Contributed by Michael Beller, MD, MPH, Sue Anne Jenkerson, RNC, MSN, FNC, and Sherry Kew, RN, BSN, Section of Epidemiology)