



Measles case in Lane County: Testing has confirmed two new measles cases in Oregon, one of whom resides in Lane County. Both cases traveled on the same flight as a confirmed measles case -- Delta Air Lines Inc. 0179 from Amsterdam (AMS) to Portland (PDX) on Saturday, 12 October 2019. The Lane County case was partially vaccinated.

At this time we have identified two sites of possible exposure in Eugene during the case's infectious period. Exposure may have occurred on Wednesday, October 23rd :

- 4-5:30 p.m., Blue Mist, 1400 Valley River Dr., Suite 130
- 6-7:30 p.m., North Fork Public House, 2805 Shadowview

Additional sites may be added as the investigation continues.

Measles, also known as rubeola, is a potentially severe viral infection. **Any clinical suspicion of measles, or any known exposure, should be reported to Lane County Public Health immediately at 541-682-4041.**

Recognizing a potential case of measles:

It is easy to diagnose a classic presentation of measles, which consists of conjunctivitis, cough, coryza, Koplik spots, and a maculopapular rash beginning on the neck and face, then spreading peripherally. Unfortunately, not all cases present classically. With a confirmed case in Lane County, area health providers should raise their index of suspicion regarding measles. The characteristics of the disease are as follows:

- **Prodrome:** Measles has a distinct prodromal phase, despite presenting initially like many common upper respiratory infections. It begins with a mild to moderate fever accompanied by malaise. Typically, within 24 hours, the "3 C's" (cough, coryza [nasal congestion & discharge], and conjunctivitis) are seen. Patients may also develop occipital, post-auricular, or cervical lymphadenopathy, and Koplik's spots (punctate blue-white spots on the bright red background of the buccal mucosa, seen only for a day or two before and after onset of rash).
- **Rash:** The rash begins with faint, flat eruptions of the neck, behind the ears, along the hairline, and on the posterior parts of the cheeks. The rash may appear 1–7 days after the onset of the prodrome, but usually appears within 3–4 days. Initially, it blanches with pressure. The rash then spreads downward and outward (i.e., to the arms, chest, back, etc.) over about 3 days, and in later stages most lesions do not blanch with pressure. The rash lasts 5 to 6 days before fading in the same order in which it appeared, i.e., from head to extremities.

- **Fever:** Fever is mild to moderate early in the prodrome, increasing with rash appearance. Temperatures may exceed 40 C (104°F), usually falling 2–3 days after rash onset. Most patients with measles are quite ill at some point in their infection.
- **Note:** While the differential diagnosis of measles is large, the common agents include infectious mononucleosis, scarlet fever, roseola, and enteroviral/adenoviral infections.

Protecting your staff:

Determine your entire staff's measles immunity status. Have they received two doses of MMR? If not, consider drawing a titer, then, as appropriate, consider another MMR. Staff absences are expensive and may cause your organization to incur liability.

What to do if you suspect your patient has measles:

Susceptible people who have been exposed to a measles case may develop fever and respiratory symptoms up to 21 days after initial exposure, but most commonly develop symptoms 10 – 12 days after exposure. From the current Lane County case, if secondary cases do occur, they will most likely not become symptomatic before October 30th. Patients are contagious up to four days BEFORE the onset of rash and four days after rash onset. If your patient develops symptoms as noted above, please take the following steps:

- Determine if your patient could have been exposed in Eugene (NOTE: Up-to-date vaccination status makes measles much less likely.)
- If your patient is potentially exposed and ill with a compatible syndrome including fever, cough, coryza (runny nose) and conjunctivitis, contact Lane County Public Health at 541-682-4041 immediately.
- Determine **by a phone evaluation** if the patient needs medical attention; if so, then arrange for an evaluation that minimizes spread to others by:
 - Contacting the facility where the patient will be evaluated so preparations for airborne precautions are in place
 - Having the patient wear a mask and placing them immediately in a room
 - Performing evaluation in a negative pressure room if possible
 - Considering all relevant potential diagnoses; if measles is still suspected then specific testing can be facilitated by contacting the Lane County Public Health
 - Instructing the patient to isolate at home if measles is possible
- If the patient does not need immediate medical evaluation, contact Lane County Public Health to obtain advice on specific testing.

Measles Testing

- **IgM:** A single positive serum sample, collected 72 hours or more after rash onset, is nearly diagnostic for measles infection. If a serum sample is obtained less than 72 hours after rash onset, is negative, and measles is strongly suspected, simply repeat the test.
- **PCR:** Only available at select laboratories serving Lane County, but available via Oregon State Public Health Laboratory. PCR testing is most accurate when collected on the first day of rash through 3 days following rash onset. Follow the instructions for the laboratory serving your facility, or call Lane County Public Health at 541-682-4041 to arrange testing.

Measles Complications

- *Pneumonia* occurs in about 6% of cases and is the most common cause of measles related death.
- Acute encephalitis occurs in about 0.1%. Onset occurs roughly 6 days (range, 1–15) after rash onset, and is characterized by fever, headache, vomiting, stiff neck, drowsiness, convulsions, and coma; 15% of measles encephalitis cases die. The overall measles case-fatality rate in the USA is about 0.2% (i.e., 1 in 500 cases dies). Less serious manifestations include diarrhea (8%) and otitis media (7%).

If you suspect measles, contact the Lane County Public Health Department **IMMEDIATELY BY CALLING 541-682-4041**. This number is operational **24 hours per day, 365 days per year**.

To avoid a delay in diagnosis and contact investigation, please do not wait for serologic or other lab confirmation to report a suspect case of measles. Control measures are most effective if they are applied within 72 hours of exposure.



PUBLIC HEALTH
PREVENT. PROMOTE. PROTECT.

Patrick Luedtke, MD, MPH
Senior Public Health Officer
Communicable Disease Epidemiology Team
Lane County Public Health Services
151 W. 7th Ave., Eugene, OR 97401

24/7/365 REPORTING: 541-682-4041