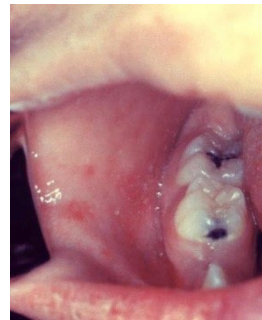


Dental Professionals Can Aid in Early Diagnosis of Measles – Koplik Spots



On April 7, 2025, the Indiana Department of Health (IDOH) reported the first laboratory confirmed case of measles in Indiana this year.

Dental professionals can play an important role in the early diagnosis of measles by identifying distinctive Koplik spots during oral examinations. According to CDC, Measles is very contagious and 90 percent of unvaccinated people who are exposed to measles will become sick. Hence, early diagnosis and interventions are important. Symptoms of measles include cough, high fever, runny nose, watery, red eyes, skin rash, and sore throat.



How to detect and diagnose Koplik spots:

- **Patient history:** Inquire about the patient's recent travel history and exposure to individuals with measles or measles-like symptoms. Keep in mind that completion of two doses of vaccination gives 97% protection against measles. Due to overlapping symptoms from various viral syndromes, it is important to get an appropriate history to determine epidemiologic risk.
- **Oral examination:** Conduct a comprehensive oral examination using good lighting and dental mirrors to inspect the mucous membranes inside the cheeks, particularly near the molars. Koplik spots are commonly found on the buccal mucosa.
- **Characteristics of Koplik spots:** Koplik spots are small, white, or bluish-white spots, typically about the size of a grain of salt. They have an irregular shape and are often surrounded by a reddish halo. www.cdc.gov/measles/signs-symptoms/photos
- **Timing:** Koplik spots usually appear two to three days after symptoms of measles begin. In contrast, a rash usually appears three to five days after symptoms start, making Koplik spots an early indicator of measles infection.
- **Differential diagnosis:** Koplik spots can be mistaken for other oral lesions such as Fordyce granules (lack a bright red background), aphthous ulcers (painful and are less numerous), and parvovirus B19 infection. www.ncbi.nlm.nih.gov/books/NBK549793

Recommendations for dentists:

- If a patient is suspected of having measles they should immediately be masked, if tolerated, and placed into airborne isolation or a single room with the door shut. This should occur whenever the patient is identified as a measles suspect, anytime from waiting room to mid-examination.

- Post-examination the patient should be referred to a nearby healthcare facility capable of evaluating a patient for measles.
 - Note: Dental professionals should call ahead to ensure awareness and proper preparation at the receiving healthcare facility.
- Appropriate infection control practices should be promptly implemented when caring for patients suspected of having measles.
- Staff should follow airborne precautions, including wearing an N95 respirator. Only personnel with evidence of immunity to measles should provide care to patients suspected of having measles.
 - Presumptive evidence of immunity includes:
 - Written documentation of vaccination with two doses of live measles or MMR vaccine administered at least 28 days apart
 - Laboratory evidence of immunity
 - Laboratory confirmation of disease
- The room should not be used for at least two hours after the patient has left and should be disinfected before use by another patient
- Collaborate with healthcare professionals for early diagnosis and management
- For further guidance on measles diagnosis, treatment, and reporting protocols, refer to the latest recommendations from Centers for Disease Control and Prevention (CDC) at www.cdc.gov/measles

Details on measles reporting, laboratory testing, infection control, clinical guidance and additional resources are included in the attached Indiana Health Alert Notification. Testing for measles is available through the IDOH Laboratories **with prior authorization**. To request testing authorization, clinicians and laboratories should contact the IDOH Infectious Disease Epidemiology and Prevention Division at 317-233-1325. As a reminder, all suspect cases of measles must be called into IDOH regardless of final testing facility of the specimen.

Clinicians should be vigilant for additional cases of measles and immediately report suspected cases measles to IDOH. An FAQ for clinicians is available on the IDOH website: www.in.gov/health/idepd/diseases-and-conditions-resource-page/measles. A measles provider letter and Clinician Outreach and Communication Activity (COCA) update to healthcare providers from the CDC are also attached.