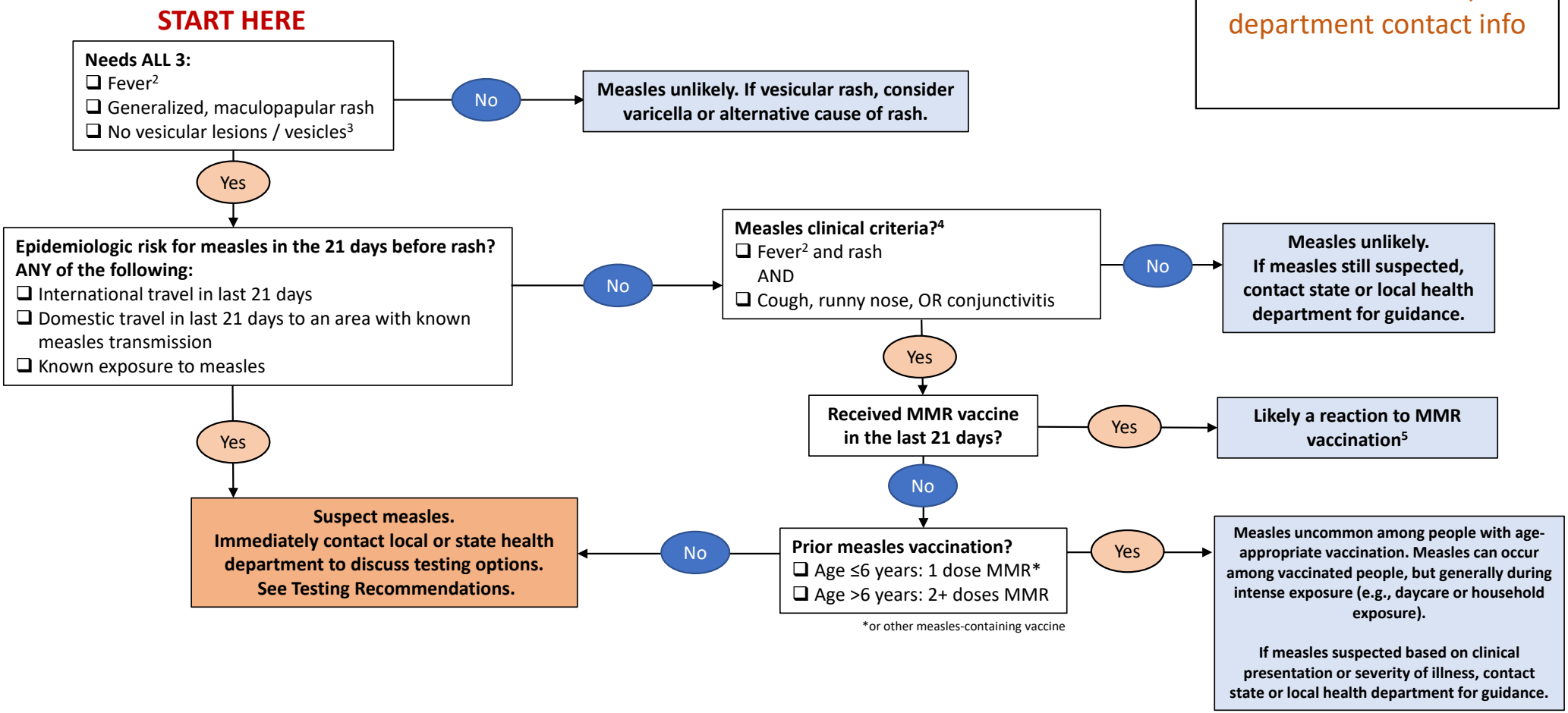
Evaluating a patient presenting with rash when there is no local measles transmission[1]

Placeholder for state/local department contact info



Notes

1. This testing algorithm is intended to be used by bedside providers in settings where there is not local measles transmission. This assumes that the pre-test probability for most people without known epidemiologic risk for measles and who do not meet case criteria will be low. In settings with active measles transmission, the threshold at which to pursue testing may be lower, and a more permissive algorithm could be considered.
2. Either a measured or patient/family-reported fever is adequate; fever may not be measured at the time of healthcare evaluation due to normal fluctuation or to use of anitpyretics (e.g., ibuprofen).
3. A vesicular rash is not consistent with measles, and should prompt consideration for other causes of rash (e.g., varicella/chickenpox)
4. Measles clinical criteria (per CSTE* case definition) include ALL of the following:
   - ❑ Generalized maculopapular rash
   - ❑ Fever
   - ❑ Cough, coryza (runny nose), or conjunctivitis (also known as the "3 C's")
5. Up to 5% of MMR recipients will get a short-lived, mild febrile rash. This is more common with the first dose of MMR. People who experience this vaccine reaction are not contagious to others around them. If a person has received MMR within 21 days before rash onset, but also has epidemiologic risk for measles, then specialized testing may be required and should be discussed with local or state public health authorities.

*CSTE: Council of State and Territorial Epidemiologists: https://ndc.services.cdc.gov/case-definitions/measles-2013/

Testing Recommendations

- ❑ Immediately contact the state or local health department to report a suspect measles case and arrange testing
- ❑ Collect a nasopharyngeal (NP) or oropharyngeal/throat (OP) swab for measles* RT-PCR
  - Follow state/local guidance for specimen collection (e.g., type of swab, media).
  - If directed by public health authorities, urine can also be obtained for measles PCR.
    - At least 50cc of urine should be voided into a sterile container and stored refrigerated (not frozen).
- ❑ Obtain serum for measles* IgM and IgG

*Measles virus is also referred to as “rubeola” in some lab orders, not to be confused with rubella virus

Measles Characteristics

- Classic symptoms
  - Fever (up to 105F) + generalized maculopapular rash + one of the “3 C’s”
    - 3 C’s: Cough, coryza (runny nose), conjunctivitis
  - Clues to measles:
    - Prodrome of fever and at least 1 of 3 C’s often starts 2–4 days before rash
    - Rash starts on head or face and spreads downwards
    - Fever continues through onset of rash, often peaking around the time when the rash starts
- Measles is rare in vaccinated people, especially with 2 prior doses of MMR
    - 1 dose generally provides 93% protection, and 2 doses provides 97% protection from measles infection

Other common causes of febrile rash in children

- **Parvovirus B-19 (“Fifth Disease”)**
  - Classic “slapped cheek” rash
  - More common in school-aged children than infants
- **Human Herpesvirus 6 (HHV-6, “Sixth Disease”, “Roseola”)**
  - Common cause of febrile rash in infants
  - Rash commonly starts on trunk (measles rash starts on face/hairline)
  - Fever often resolves before start of rash (measles fever peaks around time of rash onset)
- **Enteroviruses**
  - Common cause of Hand/Foot/Mouth, rash can involve hands/feet which are generally spared in measles
  - Rash can be urticarial, which is not typical for measles

“Slapped Cheek” rash

HFM