



Yakima Health District
1210 Ahtanum Ridge Drive
Union Gap, WA 98903
Phone (509) 249-6541
Fax (509) 249-6628

YHD MEASLES PREVENTION AND CONTROL GUIDELINES MAY 8, 2008

ROUTINE MEASLES, MUMPS AND RUBELLA (MMR) IMMUNIZATION

- All children should receive 2 doses of MMR vaccine
 - The first dose at age 12 to 15 months and the second at 4-6 years (entry to kindergarten or 6th grade, depending on year of birth).
 - The second dose can be given as early as 28 days after administration of the first dose.
- Adults born in or after 1957, should be immunized against measles unless they have documentation of immunity against measles.
 - Two doses are recommended for healthcare personnel, international travelers aged ≥ 12 months, and students at secondary and postsecondary educational facilities.
 - Older children and college entrants who have had only one dose of MMR should be given a second dose. (The minimum interval between doses is 28 days.)
- Immunizations given before the first birthday or before 1968 may not be protective and should be repeated.
- Children between 12 months and 5 years of age without documentation of prior MMR who present to medical facilities for any reason should be immunized. In previous measles outbreaks, many children with measles had missed opportunities for immunization at prior office visits.
- MMRV (live, attenuated measles, mumps, rubella, and varicella vaccine) may be used for children 12 months to 12 years of age. Please see the Advisory Committee on Immunization Practices web site (<http://www.cdc.gov/vaccines/pubs/ACIP-list.htm>) and the *AAP Red Book* for details.
- Contraindications to MMR Vaccination
 - History of severe allergic reaction (i.e., hives, swelling of mouth or throat, difficulty breathing, low blood pressure, shock) following a prior dose of measles vaccine or vaccine component (e.g., gelatin, neomycin). Egg allergy is not a contraindication to MMR vaccination
 - Pregnancy.
 - Recent receipt of immune globulin or other blood products.
 - Significant immunosuppression.
 - Moderate to severe acute illness is a precaution, not contraindication, and vaccination may be considered during an outbreak.

HEALTH CARE FACILITY STAFF IMMUNITY

- Assure all health care workers and facility staff is immune to measles through vaccination or serologic documentation of immunity (see below—“MANAGING MEASLESE EXPOSURES IN HEALTH CARE FACILITIES”).
- Review measles susceptibility of staff and identify potentially susceptible staff to assure that they are not exposed to suspected measles cases (including the room where such cases are seen).
- Cultivate and enforce the expectation that measles immunity is a prerequisite for healthcare work.
- Measles immunity for health care workers is defined as follows:
- Those born in or after 1957 are considered immune if they have one of the following:
 - documented evidence of receiving two doses of valid measles vaccine, OR
 - documented laboratory evidence of immunity, OR
 - documented history of physician diagnosed measles*Note: for simplicity in implementation and maximum effectiveness, facilities may choose to apply these criteria to staff born before 1957, as well.*
- Those born before 1957 may be considered immune if they have:
 - documented evidence of receiving one dose of valid measles vaccine, OR
 - documented evidence of seroimmunity, OR
 - documented history of physician diagnosed measles.

INFECTION CONTROL MEASURES

- Measles spreads through both respiratory droplets and airborne transmission.
- Post signs at facility entrances directing patients and visitors to immediately report rash and fever to facility staff upon arrival.
- Ask administrative staff to ask arriving patients about fever and rash. Those with rash illness should be kept out of the waiting room and away from other patients.
- Rapidly isolate persons with suspected measles. Airborne infection isolation rooms are recommended for use when available.
- Patients should wear a surgical mask when possible to contain respiratory secretions.
- Minimize contact between suspected measles patients and other patients and health care workers (HCW).
 - Consider separate entries and evaluation rooms for patients presenting with rash and fever.
 - Other alternatives include use of the patient’s home or automobile.
- Note that airborne transmission via aerosolized droplet nuclei has been documented in closed areas (e.g., exam rooms) for up to 4 hours after a person with measles occupied the area. Airborne isolation rooms should remain empty until sufficient time for air replacement has passed (generally 60 minutes for rooms with 6-12 air changes per hour). Other standard examination rooms should be closed to staff and patients until the following day (e.g., >8 hours).

MANAGEMENT OF MEASLES EXPOSURES IN HEALTH CARE FACILITIES

- Start exposure management based on clinical diagnosis; do not wait for laboratory confirmation.
- Communicate with YHD early and often throughout the post-exposure management period.
- Identify susceptible patients, staff, and visitors exposed to the case.
- Cases are infectious up to 5 days before through 4 days after rash onset.
- The incubation period is generally 7-14 days (range 5-21).
- Potential exposures include all susceptible persons who were in the same indoor airspace as a case
 - Starting time: arrival of the measles case
 - Ending time: 4 hours after departure of the case
- Patients and visitors who should be presumed susceptible to measles include:
 - all infants less than 12 months of age, OR
 - anyone ≥ 12 months of age who also:
 - was born in 1957 or later AND
 - is lacking all three of the following possible criteria that define immunity
 - documented evidence of receiving at least one dose of valid measles vaccine, AND
 - documented serologic evidence of immunity, AND
 - documented history of physician diagnosed measles disease.

Note: measles vaccination before one year of age or before 1968 are not considered valid doses

- Consider immunoprophylaxis of susceptible (non-immune) contacts, depending on the nature and degree of exposure and the risk for severe disease.
 - Measles vaccine given within 72 hours after first exposure is sometimes successful in preventing infection and is routinely recommended.
 - Immune globulin (IG) is recommended primarily for the following exposed persons who are at higher risk for complications:
 - Infants under 1 year of age
 - Susceptible pregnant women
 - Immunocompromised persons
 - IG is effective in preventing or modifying illness if given within 6 days after first exposure. The usual dosage is 0.25 ml/kg intramuscularly (IM) or 0.5 ml/kg IM for immunocompromised persons. The maximum dose in either instance is 15ml.
- Notify all exposed persons (even if immunized or given IG) that they may develop measles within the next 21 days and to be alert for prodromal symptoms (fever, cough, coryza, photophobia, conjunctivitis). Administration of IG may prolong the incubation period and attenuate symptoms of measles.
- Exposed persons who develop prodromal symptoms should isolate themselves and contact their employer, health care provider, and YHD immediately. If they need medical attention, they should call ahead to alert medical staff to permit planning for use of an alternative to routine patient care areas and thereby avoiding nosocomial transmission.

- For health care workers lacking the immunity criteria set forth above (see: “HEALTH CARE FACILITY STAFF IMMUNITY”)
 - Draw a serum specimen within 6 days after exposure and submit to a commercial laboratory for measles IgG or total antibody.
 - If the HCW has had ≤ 1 valid dose of measles vaccine, give an additional dose of vaccine while awaiting the serologic result.
 - Consider the HCW immune only if
 - the serologic result is “positive” OR
 - if the vaccine dose administered represents a second valid dose and is given within 72 hours of exposure.
 - Exposed, non-immune HCWs (as defined above) should be excluded from work from 5th to the 21st day after exposure, even if they were given vaccine or IG after exposure.
 - Although not recommended by YHD, a lesser alternative is temperature and symptom monitoring from days 5 through 21 after exposure with immediate exclusion if temperature is over 99.6°F or prodromal symptoms develop. This screening procedure must be followed rigorously to prevent staff members with prodromal phase measles from infecting others.
 - HCW who develop measles should be excluded from work and isolated at home until cleared for return by YHD (at least 4 full days after rash onset).

- Immediately report known and suspected measles cases in Yakima County to the Yakima Health District. During regular business hours call 509-249-6541 or 509-249-6509. After hours and on weekends call 509-575-4040 and press#1 at the prompt.

Resources

- CDC Measles Resources: www.cdc.gov/vaccines/vpd-vac/measles/dis-resources.htm
- ACIP vaccine recommendations: <http://www.cdc.gov/vaccines/pubs/ACIP-list.htm>

Acknowledgement: adapted from Public Health Seattle-King County materials