Measles Provider Town Hall March 2025 Q&A

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Q: Will it be recommended for adults and previously vaccinated adolescents to check titers and make sure they are still immune? Are boosters recommended if it has been a certain number of years since last vaccine or is immunity considered to be life-long?

A: No, titers do not need to be checked if you have one of the following that indicate presumptive evidence of immunity:

- written documentation of two doses of a live MMR vaccine with the first dose being administered at ≥ 12 months of age and the second dose being given at ≥ 28 days after the first for adolescents and high-risk adults; (high risk adults = students at post-high school education institutions, healthcare personnel, international travelers, close contacts of immunocompromised people, people with HIV infection)
- written documentation of one dose of a live MMR vaccine with the dose being administered at ≥ 12 months of age for adults not at high risk
- laboratory confirmed infection
- birth before 1957

If they don't meet any of those categories, then they should get a measle IgG to document evidence of immunity (and equivocal IgG results should be considered negative). Boosters are not recommended if you have presumptive evidence of infection. Even during an outbreak there is no recommendation to receive a third dose of MMR as two, appropriately given doses, are considered to provide long-lasting immunity

Q: What are recommendations about how to handle patients calling in for sick visits who have i.e, fever if they are too young to have received a vaccine? Should we limit to telehealth first? What are best practices? if we refer out to EDs, what guidance should we give them about going to another health center?

A: At this time, I would not move kids with fever who are too young to be vaccinated or those with fever who are unimmunized to telemed unless you know upfront that they had possible (via travel or other exposure) or definitive exposure to measles, in which case I would move them. However, this advice will change if we have additional cases in our area. Please do not refer a patient to a local ED or other health center to confirm suspicion of measles in a fever/rash patient or for testing as this puts many more people at risk. Contact your local health department for advice on testing or for help confirming a diagnosis. (You can also reach out to ID at CNH in addition to your local health department). If there is concern for measles complications and transfer is indicated, then please call ahead to the ED (if going to the ED), infection prevention, and infectious diseases at the institution you are sending the patient to so they can plan ahead.

Q: CDC says people who were vaccinated prior to 1968 w/either inactivated measles or vaccine of unknown type should be revaccinated with at least one live measles vaccine. inactivated was available 1963 - 1967. Should providers born between 1963 to 1967 get another dose?

A: The CDC recommends that anyone with a history of receipt of inactivated measles vaccine or anyone who was vaccinated between 1963-1967 with an unknown type of vaccine be immunized

again with 1 or 2 doses (depending on if they are a high-risk adult) as their prior vaccine is not considered valid. Healthcare providers who are considered high risk adults should receive 2 doses.

Q: Should health care providers with known documentation of 2 MMR vaccines consider getting a titer to confirm immunity or a third dose?
A: No, titers do not need to be checked if healthcare providers have written documentation of two doses of a live MMR vaccine with the first dose being administered at ≥ 12 months of age and the second dose being given at ≥ 28 days as this is considered presumptive evidence of immunity. Boosters are not recommended if you have presumptive evidence of infection. Even during an outbreak there is no recommendation to receive a third dose of MMR as two, appropriately given doses, are considered to provide long-lasting immunity.

Q: Are there any other resources/websites you recommend for up-to-date information since access to the CDC and WHO websites is rapidly changing?
A: The CDC website currently has up to date information on measles so I would continue to check it. Similarly, the WHO website is also up to date for information on measles hotspots outside the US. I also recommend checking the DOH of websites for specific states to get information for patients who are traveling/have traveled. For the current outbreaks in TX and NM both their DOH websites have helpful information. Other resources include IDSA and PIDS and the AAP, yourlocalepidemiologist (social media account on instagram and bluesky), CIDRAP, ProMED
(listserv)

Q: Parents are asking if patients can get second vaccine earlier?
A: We don't need to give a second dose early as the protection 2 weeks after receiving a single dose is 93-95% (unless traveling internationally or to a current outbreak location in the US). Plus, we have good local immunization rates, and we are not currently in an outbreak locally. So, we should reserve vaccine for those who have a clear indication to receive a dose. If we get into a true outbreak situation then the local departments of health will likely suggest getting the second dose before 4 years of age to help curb continued spread. However, if the first dose or MMR is given after 12 months of age then the second dose can be given any time after at least 28 days after the first dose. But it is important to note that some schools don't go by the interval between doses and will make the child get another dose at age greater than 4 years.

Q: Why is dose number 2 not routinely given earlier since it is to cover non-responders? Would you do that now?
A: Dose 2 is given after 4 years of age in the US based primarily on administrative considerations. When the 4–6-year-old dose was recommended there were other vaccines that were recommended at the same time (DTaP and IPV). Giving MMR at the same time reduced the number of office visits required. Also, by vaccinating at this age, schools could identify and track children with incomplete immunization. However, I still wouldn't recommend giving the second dose early (unless traveling internationally or to a current outbreak location in the US) as the protection 2 weeks after receiving a single dose is 93-95%. Plus, we have good local immunization rates, and we are not currently in an outbreak locally. So, we should reserve vaccine for those who have a clear indication to receive a dose (we don't want to get into a vaccine shortage). If we get into a true outbreak situation then the local departments of health will appropriately suggest getting the second dose before 4 years of age to help curb continued spread.

Q: Are these all kindergarteners or just those enrolled in public school?
A: This is data collected from a CDC household survey so it should include kids from all times of schools.

Q: Many parents are asking if it is recommended to vaccinate their 6-12 mo old if they are not traveling. I've read some studies say it may hamper the efficacy of the 1 yr and 4 yr vaccines? What do you recommend?
A: As we are not in a current outbreak setting in our region and our local MMR vaccination rates are good (herd immunity), there isn't a reason to give the vaccine earlier than 12 months if kids are not traveling internationally or to a current outbreak location in the US. However, this recommendation would change if we had an outbreak in our region. The studies that have noted that an early first dose may hamper the efficacy of later doses have looked at antibody levels post vaccine. However, this data is difficult to interpret as we don't have great correlation between those levels and immunity. Due to immune memory (T and B cells) people can have undetectable titers but still have protection from getting an infection they have been immunized against after exposure. So, the finding in those studies may not be important in practice and I wouldn't use those studies as a reason to not give the vaccine early if indicated, like for international travel.

Q: What protocol do you have for PCPs to follow if a patient calls with measles concern? Telemed/nurse triage? As our offices don't have negative pressure rooms.
A: If a patient calls with a measles concern, I recommend having a healthcare provider talk to the family before the patient comes in to ask further history to ascertain what the providers level or concern should be. If you have a true concern for measles after obtaining more history then you can schedule the patient for a telemed visit (if there is no concern for severe measles with complications) and notify your local health department for help with testing and you can also call the CNH ID physician on call for further advice.

Q: Would be great to know whether children 1-3 yo who have received 1 dose should receive an early dose #2 if there are more cases in Maryland/if present in DC?
A: If we have more than 3 cases in the area (so are considered to have an outbreak) then the local departments of health will likely suggest getting the second dose early to help curb continued spread.

Q: So, will the fever continue with rash development?
A: Yes, the fever will persist when the rash appears (the fever often also spikes higher when the rash appears) and the fever will continue for several days with the rash (as the rash is evolving). See the time course graph of the clinical course of measles in the slides set from the presentation

Q: For the pediatricians who have their own titers IgG positive, what is the likelihood of contracting measles from exposure and the chances of transmission to their own vaccinated kids at home?
A: The risk of vaccine failure is ~ 3-5% and if the healthcare provider was wearing appropriate PPE than the risk should be even lower than that.

Q: Is the rash more "firetruck red" or can it be more pink looking as well?
A: The rash can be pink or red.

Q: Are Koplik spots painless and therefore not always noticed by patient before presenting to care? Are Koplik spots painful in the mouth?
A: Koplik spots are typically painless.

Q: Should we check titers or immunize office staff or is this unnecessary in our area at this point? **A:** No, titers do not need to be checked if healthcare providers have written documentation of two doses of a live MMR vaccine with the first dose being administered at ≥ 12 months of age and the second dose being given at ≥ 28 days or if they have other presumptive evidence of immunity
(laboratory confirmed evidence of infection or birth before 1957). If office staff don't meet any of those criteria, then their titer should be checked.

Q: What is your recommendation for our teams' seeing patients in clinic? Should clinicians receive a booster? Should this be based on specific to years of employees' birth, or all staff?
A: If your healthcare team has one of the following that indicate presumptive evidence of immunity then nothing further needs to be done: (1) written documentation of two doses of a live MMR vaccine with the first dose being administered at ≥ 12 months of age and the second dose being given at ≥ 28 days after the first (2) laboratory confirmed infection (3) birth before 1957. If they don't meet any of those categories then they should get a measle IgG to document evidence of immunity (and equivocal IgG results should be considered negative). If they are found to be non immune, they should get 2 doses of vaccine ≥28 days apart. Boosters are not recommended if you have presumptive evidence of infection. Even during an outbreak there is no recommendation to receive a third dose of MMR as two, appropriately given doses, are considered to provide long-lasting immunity.

Q: If a child/adult has 1 MMR, will they have the same clinical features of Measles?
A: Most people who get measles after 1 dose of MMR will have attenuated clinical features (milder cough, coryza, conjunctivitis, fever not as high, rash not as intense).

Q: Do vaccinated individuals who are ill with measles have attenuated symptoms and rash, or is it more often full-blown case presuming they were non-responders? If it is attenuated, do you have advice on how can PMDs distinguish vaccine-mitigated measles from other routine viral exanthems which we see multiple times per day?
A: Most vaccinated people will have attenuated clinical features (milder cough, coryza, conjunctivitis, fever not as high, rash not as intense). I think the history (exposure to known measles, travel) and the history of the timing of the prodrome (fever, cough, coryza, conjunctivitis) in relation to the rash are the features that best help you differentiate measles from a different viral exanthem. It would be most unusual for a child with measles to have a prodrome duration less than 2 -3 days. So, if the history is that the child developed fever and rash on the same day, or the rash appeared in the morning after fever onset, you are unlikely to be dealing with measles.

Q: Do you have any pictures of what the rash looks like on brown skin?
A: I included one set of photos in the slides and here is the reference (Blutinger E,et. al. Measles: Contemporary considerations for the emergency physician. J Am Coll Emerg Physicians Open.

2023 PMID: 37692196). Other photos can be found here: https://www.cdc.gov/measles/signs-symptoms/photos.html and here https://www.nhs.uk/conditions/measles/

Q: Best way to clean/prepare exam room after seeing an infected patient?
A: Per the CDC: Standard cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying disinfectants to frequently touched surfaces or objects for indicated contact times) are adequate for measles virus environmental control in all healthcare settings. Use an EPA-registered disinfectant for healthcare settings, per manufacturer's instructions.

Q: Do you advise giving the second MMR for the 15month -3year age group if parent requests at this time? Any reason not to give the second MMR before 4years old?
A: We don't need to give a second dose early as the protection 2 weeks after receiving a single dose is 93-95% (unless traveling internationally or to a current outbreak location in the US). Plus, we have good local immunization rates and we are not currently in an outbreak locally. So, we should reserve vaccine for those who have a clear indication to receive a dose. If we get into a true outbreak situation then the local departments of health will likely suggest getting the second dose before 4 years of age to help curb continued spread. However, if the first dose or MMR is given after 12 months of age then the second dose can be given any time after at least 28 days after the first dose. But it is important to note that some schools don't go by the interval between doses and will make the kiddo get another dose at age greater than 4 years.

Q: Is the 20% hospitalization rate reflective of the general severity of measles? Versus is it higher because patients who are unvaccinated are more likely to be infants who are more ill due to age, and who are not yet age-eligible? What is the data on hospitalization rates for non-vaccinated over 1 yo?
A: This MMR report (https://www.cdc.gov/mmwr/volumes/73/wr/mm7314a1.htm) is an excellent review of US measles cases from 2020-2024. In that report, among 155 hospitalized measles patients, 109 (70%) cases occurred in persons aged <5 years; 142 (92%) of hospitalized patients were unvaccinated or had unknown vaccination status.

Q: What's the guidance for everyone asking for early vaccine?
A: As we are not in a current outbreak setting in our region and our local MMR vaccination rates are good (herd immunity), there isn't a reason to give the vaccine earlier than 12 months if kids are not traveling internationally or to a current outbreak location in the US. However, this recommendation would change if we had an outbreak in our region. Similarly, we don't need to give a second dose early (unless traveling internationally or to a current outbreak location in the US) as the protection 2 weeks after receiving a single dose is 93-95%. Plus, as mentioned, we have good local immunization rates and we are not currently in an outbreak locally. So, we should reserve vaccine for those who have a clear indication to receive a dose. If we get into a true outbreak situation then the local departments of health will likely suggest getting the second dose before 4 years of age to help curb continued spread. However, if the first dose or MMR is given after 12 months of age then the second dose can be given any time after at least 28 days after the first dose. But, it is important to note that some schools don't go by the interval between doses and will make the kiddo get another dose at age greater than 4 years.

Q: Can you talk about presentation in fully vaccinated patients?
A: We must first remember that measles is highly unlikely in fully vaccinated individuals (vaccine failure rate ~3-4%). Most vaccinated people will have attenuated clinical features (milder cough, coryza, conjunctivitis, fever not as high, rash not as intense). I think the history (exposure to known measles, travel) and the history of the timing of the prodrome (fever, cough, coryza, conjunctivitis) in relation to the rash are the features that best help you differentiate measles from a different viral exanthem. It would be most unusual for a child with measles to have a prodrome duration less than 2 -3 days. So, if the history is that the child developed fever and rash on the same day, or the rash appeared the morning after fever onset, you are unlikely to be dealing with measles.

Q: How effective are masks against transmission? Are KN95 Masks acceptable for providers to wear?
A: Per the CDC: Effectiveness of source control measures for measles have not been formally studied in healthcare settings. However, known measles transmission has not been reported in scenarios in which exposure risk could be considered low, but is technically not zero, such as in a triage area and transport route within a facility when a suspect measles patient is appropriately identified at entry, masked, and quickly transported to an AIIR. Per the CDC: HCP should use respiratory protection (i.e., a respirator) that is at least as protective as a fit-tested, NIOSH-certified disposable N95 filtering facepiece respirator. Here is a link to masks that are considered equivalent-https://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/default.html

Q: Would Koplik spots ever look like ecchymosis on the palate? I have a child with flu like illness but no rash with a large blue/red patch on his palate and has been ill for 5 days already.
A: No - Koplik spots would not look like ecchymosis on the palate. They are 1 to 3 mm whitish, grayish, or bluish elevations with an erythematous base, typically seen on the buccal mucosa opposite the molar teeth, though they can spread to cover the buccal and labial mucosa as well as the hard and soft palate. They have been described as "grains of salt on a red background". Koplik spots generally last 12 to 72 hours.

Q: When should we consider it to be an outbreak in the DMV area and at that time should we start giving the MMR vaccine to patients 6 months and up whether fully vaccinated or not?
A: If we have more than 3 cases in the area, we will be considered to be having an outbreak. At that time the local departments of health will likely suggest adjustments to the typical vaccine schedule (giving the vaccine to children 6-12 months of age, getting the second dose before 4 years of age, and giving a second dose to adults who have only had one dose, with all these measures indicated to help curb continued spread).

Q: Is eye protection recommended?
A: Eye protection should be used if healthcare workers anticipate splashes or sprays during the patient encounter as part of Standard Precautions. I don't typically worry about splashes or sprays when I am obtaining an NP swab. Airborne Precautions do not require use of eye protection.

Q: No gown or gloves?

A: Gown or gloves should be used if healthcare workers anticipate splashes or sprays during the patient encounter as part of Standard Precautions. Airborne Precautions do not require use of gown or gloves.

Q: Is Children's thinking about setting up "Measles Testing Tent" to do the testing for Measles safely, freeing Urgent Cares, private clinics and Emergency rooms from the risks of spreading disease?
A: Not at this time.

Q: During 2015 New York outbreak, there was a Measles case born in 1955, who never received the vaccines.
A: We presume immunity given the endemicity of measles before 1957 but certainly some people born before then never had measles and are at risk. In a non-outbreak setting those individuals should be protected by herd immunity and the fact that measles is not circulating. In an outbreak setting local health departments may recommend vaccine for all adults regardless of the year of birth. Specifically for health care workers, the CDC says to consider vaccinating if born before 1957 who do not have other evidence of immunity to measles. And during a measles outbreak, 2 doses of measles virus-containing vaccine are recommended for all HCP, regardless of year of birth

Q: Is there any concern about waning titers after receiving the vaccine and decreased immunity?
A: Titers may wane but immunity to infection and to two, appropriately given vaccine doses is considered long-lasting.

Q: If a parent of a child who is between 6 and 12 months wants a vaccine, should we give one? **A:** As we are not in a current outbreak setting in our region and our local MMR vaccination rates are good (herd immunity), there isn't a reason to give the vaccine earlier than 12 months if kids are not traveling internationally or to a current outbreak location in the US. However, this recommendation would change if we had an outbreak in our region.

Q: If a child who has had two doses of MMR is directly exposed to a case of measles, should that child get a vaccine?
A: No, if the child is fully immunized for measles, not immunocompromised, and it has been >2 weeks since their 2nd dose then no post exposure prophylaxis is indicated

Q: For older staff, does immunity wane?
A: Immunity to infection and to two, appropriately given vaccine doses is considered long-lasting.

Q: Is the health department we refer to based on the location of the office or the residence of the patient?
A: The residence of the patient (to ask about guidance ofr testing and other questions). However, if you end up with a confirmed case then the health department that has jurisdiction over your office should also be notified as they will do contact tracing for those who may have been exposed in your office.

Q: Labcorp told us that OP swab was preferred over NP. Is it lab specific or should we do NP?

A: The NP swab is preferred per the CDC and per the RedBook. I recommend an NP swab over an OP swab.

Q: Do we know the reason/research behind the 2nd MMR is given at 4 years of age, rather than giving it earlier?

A: Dose 2 is given after 4 years of age in the US based primarily on administrative considerations When the 4–6-year-old dose was recommended there were other vaccines that were recommended at the same time (DTaP and IPV). Giving MMR at the same time reduced the number of office visits required. Also, by vaccinating at this age, schools could identify and track children with incomplete immunization. However, I still wouldn't recommend giving the second dose early (unless traveling internationally or to a current outbreak location in the US) as the protection 2 weeks after receiving a single dose is 93-95%. Plus, we have good local immunization rates, and we are not currently in an outbreak locally. So, we should reserve vaccine for those who have a clear indication to receive a dose (we don't want to get into a vaccine shortage). If we get into a true outbreak situation then the local departments of health will appropriately suggest getting the second dose before 4 years of age to help curb continued spread.

Q: We are receiving many requests for titers to be checked for fully vaccinated patients. For whom do you recommend titers?

A: Titers do not need to be checked if you have one of the following that indicate presumptive evidence of immunity: (1) written documentation of two doses of a live MMR vaccine with the first dose being administered at ≥ 12 months of age and the second dose being given at ≥ 28 days after the first for adolescents and high risk adults (high risk adults = students at post-high school education institutions, healthcare personnel, international travelers, close contacts of immunocompromised people, people with HIV infection). (2) written documentation of one dose of a live MMR vaccine with the dose being administered at ≥ 12 months of age for adults not at high risk (3) laboratory confirmed infection (4) birth before 1957. If they don't meet any of those categories, then they should get a measle IgG to document evidence of immunity (and equivocal IgG results should be considered negative).

Q: What is the recommendation if a family is flying domestically? Internationally (no local outbreak in that country)?

A: Before any international travel or travel to an area in the US that is currently having a measles outbreak: (1) 6 -11 months of age: 1 dose of MMR vaccine. These children will need two additional doses at least 28 days apart on or after their first birthday (2) 12 months of age and older: 2 doses of MMR vaccine, separated by at least 28 days (3) Teenagers and adults who do not have evidence of immunity against measles should get two doses of MMR vaccine separated by at least 28 days.

Q: Receiving a lot of parent questions about wanting to get their 6-month-old vaccinated earlier than the recommended 12-month age for first dose. If they are not traveling and we are not in a high-risk area, am I correct in understanding that these early doses are not recommended for patients under 12 months of age?

A: You are correct. As we are not in a current outbreak setting in our region and our local MMR vaccination rates are good (herd immunity), there isn't a reason to give the vaccine earlier than 12 months if kids are not traveling internationally or to a current outbreak location in the US. However, this recommendation would change if we had an outbreak in our region.

Q: I know there is no recommendation for early measles vaccination, but we have many risk-averse patients asking to get their child MMR#2 at 2-3yrs of age. Is there any downside to getting it before 4yrs?
A: We don't need to give a second dose early (unless traveling internationally or to a current outbreak location in the US) as the protection 2 weeks after receiving a single dose is 93-95%. Plus, we have good local immunization rates, and we are not currently in an outbreak locally. So, we should reserve vaccine for those who have a clear indication to receive a dose. The downside of giving vaccine to everyone early is that we would likely get into a vaccine shortage. Also, some schools don't go by the interval between doses and will make the kiddo get another dose at age greater than 4 years if their second dose was before 4 years of age - so another downside is the potential need for an additional stick.

Q: For the MMR vaccine for post-exposure prophylaxis - do you give that just if someone has no documented immunity, or regardless of immunity status?
A: The need for post exposure prophylaxis is based on age and measles immune status and depends on if a person is immunocompromised or pregnant. Tables 3.32 and 3.34 in the RedBook outline post exposure prophylaxis.

Q: So, for HCP in a community setting, born after 1957 who have only one documented MMR vaccine, we should consider another MMR vaccine at this time?
A: Yes- Healthcare workers should have written documentation of two doses of a live MMR vaccine with the first dose being administered at ≥ 12 months of age and the second dose being given at ≥ 28 days after the first

Q: When would be outbreak definition? More than 5 cases?
A: 3 or more cases is the CDC definition of a measles outbreak

Q: If an outbreak occurs in our area, what are the next steps to do in our offices. Should all children (6 months and up) be vaccinated early?
A: If an outbreak occurs in our area be prepared by being sure all your team is appropriately vaccinated against measles (with records available), have an action plan to triage for suspected measles case before they come in, have a plan for what to do if a patient with suspected measles comes into your office, and have plans in place to make sure all your patients are up to date on their measles vaccine. If an outbreak occurs in our area the local departments of health will likely suggest an accelerated vaccine schedule that includes giving the vaccine to children 6-12 months of age, getting the second dose before 4 years of age, and giving a second dose to adults who have only had one dose, with all these measures indicated to help curb continued spread.

Q: Should we close our office for 2 hours if high suspicion for measles even if put on mask or came in with mask? Or just close the exam room where testing was done? And if <2 yrs old close the office? Are we supposed to gather names for contact tracing if we do a send out test?
A: Anyone who had been in a shared air space vacated by an infectious measles patient within the prior 2 hours is considered exposed. So, if there is a high suspicion for measles then all areas where the patient was should be considered infectious until 2 hours after they leave. I would recommend gathering the names of all those who were in the shared space areas to have if the patient is found to have measles. This helps with contact tracing.