

MEASLES

Federal Bureau of Prisons Clinical Guidance

OCTOBER 2019

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1. INTRODUCTION

Measles in the correctional setting constitutes an emergency. The purpose of this document is to provide clear guidance for BOP institutions regarding response to a suspected or confirmed case of measles in a BOP inmate, staff person, or visitor. This BOP Clinical Guidance is based primarily on guidance from the Centers for Disease Control and Prevention (CDC).

→ Consult [Appendix 1](#), *Measles Response Checklist*, for a step-by-step approach to managing a suspected measles case and the associated contact investigation.

2. CLINICAL MANIFESTATION

- **Early symptoms of measles include a rising fever (often peaking as high as 103–105°F), as well as cough, coryza (runny nose), and conjunctivitis (pink eye)** that last for approximately 2–4 days (range: 1–7 days). Cough, coryza, and conjunctivitis are often referred to as the measles “three Cs.” (Coryza is inflammation of the nasal mucosa resulting in mucus production and rhinorrhea.) Sore throat and photophobia may also be present.
- **These symptoms are followed by a maculopapular skin rash** that typically spreads progressively from the hairline to the face, then to the torso and extremities, usually lasting for 5–6 days. A maculopapular rash is characterized by a flat, red area on the skin covered with small confluent bumps. The redness may not be apparent in people with dark skin.
- **Other symptoms** include Koplik spots (a rash present on mucous membranes that appears as punctate blue-white spots on the bright red background of the inside of the cheeks), lymphadenopathy (swelling of lymph nodes), and malaise.

ASSESSING SUSPECTED MEASLES CASES

- See [Appendix 2](#), *Measles Assessment Checklist* to guide a measles diagnostic work-up.
- **Consider measles in patients of any age who have a fever AND a characteristic rash.**
 - ▶ In measles cases, there must be some fever—even subjective fever—and rash.
 - ▶ Patients with measles usually have at least one or two of the “three Cs” (cough, coryza, and conjunctivitis).
- **Measles is usually a mild to moderately severe illness; however, measles can result in complications such as pneumonia, encephalitis, or death.** Approximately two to three deaths occur for every 1,000 reported measles cases.
- **People at high risk for severe illness and complications from measles include:**
 - ▶ Infants and children under age 5
 - ▶ Adults over age 20
 - ▶ Pregnant women
 - *Pregnant women who get measles have an increased risk for measles-related complications and may have an increased risk for miscarriage and pre-term labor.*
 - ▶ People with compromised immune systems (see **TABLE 1** below)

TABLE 1. PERSONS WITH HIGH-LEVEL IMMUNOSUPPRESSION*

<p style="text-align: center;">Per CDC and Infectious Disease Society of America guidance, persons with high-level immunosuppression include those:</p> <ul style="list-style-type: none">• With combined primary immunodeficiency disorder (e.g., severe combined immunodeficiency)• Who are receiving cancer chemotherapy• On treatment for acute lymphocytic leukemia within and until at least 6 months after completion of immunosuppressive chemotherapy• Within 2 months after solid organ transplantation• Who have received a bone marrow transplant until at least 12 months after finishing all immunosuppressive treatment, or longer in patients who have developed graft-versus-host disease• With HIV infection with a CD4 T-lymphocyte count <200 cells/mm³ (age >5 years) & percentage <15• Receiving daily corticosteroid therapy with a dose ≥20 mg of prednisone or equivalent for ≥14 days• Receiving certain biologic immune modulators, such as a tumor necrosis factor-alpha (TNF-α) blocker or rituximab
<p>* NOTE: Persons with high level immunosuppression should NOT receive an MMR vaccine because it is a live vaccine. Post-exposure prophylaxis for exposed persons who are pregnant or who are immunosuppressed involves provision of immune globulin intravenously (see Appendix 3).</p>

3. MODE OF TRANSMISSION

- **Measles is one of the most contagious of all infectious diseases.** Approximately 9 out of 10 susceptible persons with close contact to a measles patient will develop measles.
- **The virus is transmitted by direct contact with infectious droplets or by airborne spread** when an infected person breathes, coughs, or sneezes. Measles virus can remain infectious in the air and on surfaces for up to two hours after an infected person leaves an area.

4. MEASLES DISEASE TIMELINE

- ➔ A *Measles Timeline Calculator* is available at: https://www.bop.gov/resources/health_care_mngmt.jsp
- **EXPOSURE PERIOD:** A person diagnosed with measles could have been exposed 7–21 days before rash onset.
- **INFECTIOUS PERIOD:** An infected individual is contagious from 4 days before to 4 days after the onset of rash. Isolation should be discontinued on the fifth day after rash onset.
- **INCUBATION PERIOD:** The incubation period is the time period between exposure to measles and development of rash. The average incubation period for measles is 11–12 days to rash onset (range: 7–21 days).

5. LABORATORY DIAGNOSIS

Laboratory diagnosis is crucial to confirm measles. The most common methods for confirmation of measles are:

- Measles RNA by real-time polymerase chain reaction (RT-PCR) from a throat swab and urine specimen; and
- Detection of measles-specific IgM antibody in serum
 - ➔ **False-positive measles IgM results can occur.** To minimize the problem of false-positive laboratory results, it is important to restrict this test to patients who are likely to have measles (e.g., those with fever and generalized maculopapular rash, with strong suspicion of measles). **Asymptomatic exposed contacts should not be tested for measles IgM.**

Efforts should be made to obtain a throat swab and urine samples for RT-PCR tests and a serum sample for IgM from all suspected measles cases.

As of the publication date of this guidance, measles RNA RT-PCR is not available on the BOP laboratory testing menu. Contact the LOCAL PUBLIC HEALTH DEPARTMENT (not private labs) for specific information on tests to perform, recommendations for specimen collection, availability of public health lab services, specimen transport, and interpretation of results. The CDC provides general information about measles testing at: <https://www.cdc.gov/measles/lab-tools/rt-pcr.html>

If a **MEASLES OUTBREAK** occurs (defined as three or more lab-confirmed cases linked by time or place), then subsequent contacts with classic measles symptoms (fever, rash, and at least one of the “three Cs”) do NOT require confirmatory lab testing and are considered confirmed measles cases. Individuals with symptoms that are not “classic” measles symptoms should be tested.

6. TREATMENT

There is no specific antiviral treatment for measles. Medical care is supportive to help relieve symptoms and address complications, such as bacterial infections.

7. IMMUNITY TO MEASLES

The BOP utilizes criteria for **PRESUMPTIVE EVIDENCE OF IMMUNITY** in a person exposed to measles that are adapted from guidance from the CDC and the California (CA) Department of Public Health. See **TABLE 2** below.

- ➔ *The criteria in **TABLE 2** will be utilized in the context of a measles exposure in a BOP facility to initially determine if a person is considered to be immune to measles.*
- ➔ *However, in the context of a **MEASLES OUTBREAK**, public health authorities may require additional evidence of immunity, e.g., evidence of two doses of measles-containing vaccine after 1968 or a positive IgG blood test.*

TABLE 2. CRITERIA FOR PRESUMPTIVE EVIDENCE OF MEASLES IMMUNITY IN THE BOP

Contacts who are NOT HIGH-RISK* AND meet one of the following criteria are considered to have PRESUMPTIVE EVIDENCE OF IMMUNITY to measles:

1. Were born in the U.S. prior to 1957 **OR**
2. Have written documentation with date of receipt of at least one dose of measles-containing vaccine (showing date dose was received), given on or after the person's first birthday (in 1968 or later) **OR**
3. Have a documented IgG-positive test for measles **OR**
4. Have documented laboratory confirmation of previous measles disease **OR**
5. Served in the U.S. armed forces** **OR**
6. Currently a U.S. Public Health Service officer **OR**
7. Entered the U.S. in 1996 or later with an immigrant visa or has a green card**

NOTES:

*** Exposed HIGH-RISK persons:**

Additional evidence of immunity is required for exposed high-risk persons such as healthcare personnel of any age, pregnant women, household contacts of a case, or immunosuppressed people (as listed in [TABLE 1](#)).

Immunity can be presumed if the high-risk exposed person has documentation of:

- A positive measles IgG test **OR**
- Two doses of measles vaccine given in 1968 or later, separated by at least 28 days, with the first dose on or after the first birthday

**** The criteria listed in #5–7 above suffice UNLESS the person is known to be unvaccinated for measles, e.g., has a medical contraindication to vaccination or is philosophically or religiously opposed to vaccination.**

8. MEASLES RESPONSE

The CDC recommends that a contact investigation be conducted when a measles case is identified. Detailed steps for conducting a measles investigation are summarized in [Appendix 1, Measles Response Checklist](#). Measles is a highly infectious, airborne disease that will significantly impact institution operations. It is critically important that a team approach—including Regional, Central Office, and public health authorities—be utilized to rapidly develop a plan and priorities for investigation, planning, and response.

All potentially exposed persons should be identified. Post-exposure prophylaxis ideally should be provided within 72 hours of exposure to those who do NOT have PRESUMPTIVE EVIDENCE OF IMMUNITY (see [TABLE 2](#)).

- Exposed persons who are pregnant or who are immunosuppressed (see [TABLE 1](#)) should not be administered MMR because it is a live vaccine. In these situations, post-exposure prophylaxis involves provision of immune globulin intravenously (IGIV).
 - For all other potentially exposed persons, post-exposure prophylaxis involves administration of the measles/mumps/rubella (MMR) vaccine unless they have contraindications to the vaccine.
- ➔ *Details regarding post-exposure prophylaxis with IGIV or MMR are provided in [Appendix 3](#).*
- ➔ *A checklist of Best Practices for Vaccination Clinics, based on CDC guidelines, is available at: <https://www.izsummitpartners.org/content/uploads/2019/02/off-site-vaccination-clinic-checklist.pdf> . A modified BOP Mass Vaccination Emergency Planning Checklist is available from Central Office.*

REFERENCES

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APPENDIX 1. MEASLES RESPONSE CHECKLIST

<p>Measles in a correctional facility constitutes an emergency. Below is a detailed checklist for institutional response to a suspected/confirmed measles case in an inmate, staff member, or visitor. It is critically important that a multidisciplinary team be engaged immediately to work on all the tasks outlined below in consultation with Regional/Central office and public health authorities. Many of these tasks may overlap and will need to be accomplished in the same general timeframe.</p>	
<p>1. Conduct initial assessment and containment.</p>	
<p>a. Inmate is identified with suspected measles.</p>	
<input type="checkbox"/>	<p>1) Place surgical mask on inmate immediately.</p>
<input type="checkbox"/>	<p>2) Place inmate in a functioning, validated airborne infection isolation (All) room (with appropriate signage). If no All room is available, place inmate in a single room and have the inmate wear a surgical mask at all times. See PRECAUTIONS* below.</p>
<input type="checkbox"/>	<p>3a) If an All room is unavailable, contact local hospital to attempt to arrange for transfer to the hospital as soon as possible for isolation and medical evaluation. See PRECAUTIONS* below.</p>
<input type="checkbox"/>	<p>3b) If inmate remains in the facility, initiate medical evaluation for measles using Appendix 2, Measles Assessment Checklist, as a guide. In consultation with public health authorities, obtain:</p> <ul style="list-style-type: none"> • Throat swab and urine samples for measles RT-PCR • Serum sample for measles IgM
<input type="checkbox"/>	<p>4) Inmates with suspected or confirmed measles should remain isolated until the 5th day after rash onset.</p>
<p>* PRECAUTIONS—The following precautions should be taken when entering room of suspected measles case or providing transport:</p> <ul style="list-style-type: none"> ▶ Only staff members who have a documented history of measles vaccination or other presumptive evidence of immunity to measles (see TABLE 2) should enter the inmate's room, transport the inmate, or provide hospital escort. ▶ Staff who are pregnant or immunosuppressed (see TABLE 1) should NOT enter the inmate's room or provide transport. ▶ Regardless of immunity status, all staff entering the inmate's room or transporting the inmate will wear an N95 respirator mask (for which they have been fit-tested). Facial hair that interferes with the respirator seal is a contraindication to wearing an N95 respirator. ▶ Air out the vehicle for at least two hours after transport before using it without a respirator. 	
<p>b. Staff member is identified with fever and rash or suspected measles.</p>	
<input type="checkbox"/>	<p>1) If the staff member is on-site, counsel regarding possible measles symptoms and needed follow-up. Place a surgical mask on the staff person, contact their supervisor and executive staff, and escort them out of the facility. Promptly consult with Regional / Central Office Infection Prevention staff.</p>
<input type="checkbox"/>	<p>2) Recommend that the staff person seek health care. Ask the staff person where they plan to seek health care. Advise the staff person to call their health care provider BEFORE the visit to alert them to the possibility of measles (to prevent exposure to other patients in the doctor's office).</p> <ul style="list-style-type: none"> • Contact public health authorities about possible measles case in a staff person. Request that public health authorities provide information related to the measles diagnostic work-up of the staff person as soon as possible. • Criteria for staff to return to work: <ul style="list-style-type: none"> ▶ If measles is ruled out: Written clearance from the public health authority. ▶ If measles is diagnosed: Not until the 5th day after rash onset.

c. Visitor is identified with suspected measles.	
<input type="checkbox"/>	<ul style="list-style-type: none"> • If visitor presents with measles symptoms, place mask on them & escort them out of the facility; advise them to seek health care. Seek information from public health authorities. • If there is a report of a visitor with measles during the measles infectious period, then verify diagnosis with the public health authority.
2. Make immediate notifications after identifying an inmate, staff person, or visitor with possible measles.	
<input type="checkbox"/>	Local chain of command (including Health Service Administrator, Clinical Director, Infection Prevention & Control Coordinator, Associate Warden, Warden)
<input type="checkbox"/>	Regional Infection Prevention and Control Coordinator
<input type="checkbox"/>	Regional Medical Director/Regional Health Service Administrator
<input type="checkbox"/>	Central Office Infection Prevention and Control
<input type="checkbox"/>	Central Office Occupational and Employee Health
<input type="checkbox"/>	Public health authority
3. Determine if measles is suspected.	
<input type="checkbox"/>	A conference call will be held as soon as possible with Regional/Central Office staff and public health authorities to review available data and make a determination of whether or not measles is suspected. If at this point measles is no longer suspected, STOP here. If yes, continue.
4. If measles is suspected, stop all inmate movement in and out of the institution. Stop all visits.	
<input type="checkbox"/>	<ul style="list-style-type: none"> • While confirming the measles case (approximately 2 days until lab results are back), all inmate movement should be stopped in and out of the institution. <i>(There may be exceptions that would apply if there is a limited group of exposed staff & inmates. For example, if exposure is from a visitor and there is a known group of exposed staff & inmates in a visiting room; or in a detention center, if the suspected measles case has never left the unit during the communicable period.)</i> • For urgent health care trips, exposed inmates without measles symptoms can be transported wearing a surgical mask. • Stop all visits, including volunteers.
5. Develop measles timeline using online calculator. RASH ONSET: __/__/__.	
<input type="checkbox"/>	<p>INFECTIOUS PERIOD: __/__/__ to __/__/__ <i>Time period when the measles case is infectious (4 days before rash onset to 4 days after rash onset.*</i></p> <p>➔ ISOLATION CAN BE DISCONTINUED on the 5th day after rash onset: __/__/__</p> <p>EXPOSURE PERIOD: __/__/__ to __/__/__ <i>Time period when measles case could have been exposed (7 to 21 days prior to rash onset) to help in identifying a source case of measles.</i></p> <p>INCUBATION PERIOD: __/__/__ to __/__/__ <i>Time period after exposure when a measles contact can develop symptoms (7 days after exposure started to 21 days after exposure ended)</i></p> <p>* MEASLES CONTACTS = Persons who shared the same airspace as the person with measles during the INFECTIOUS PERIOD (for up to two hours after the infected person left the airspace).</p>

6. Central/Regional Office will make notifications for potentially exposed inmates who have left the institution.	
<input type="checkbox"/>	<ul style="list-style-type: none"> • Regional/Central Office staff will identify inmates who have left the facility and were potentially exposed during the infectious period. • Recommendations for inmates who have been transferred to other facilities: <ul style="list-style-type: none"> ▶ Quarantine the transferred inmate (in consultation with Regional/Central Office). ▶ Provide post-exposure prophylaxis. See Task 10 below, as well as Appendix 3. ▶ Obtain serum IgG simultaneously with post-exposure vaccination. (<i>Note:</i> Inmates who are identified to be IgG positive can be immediately released from quarantine.)
7. Communicate with staff, inmates, and visitors.	
<input type="checkbox"/>	<p>Communicate with staff and inmates about the situation, in consultation with public health authorities and the Regional/Central office.</p> <ul style="list-style-type: none"> • Emphasize the importance of staff and inmates reporting any illness with fever or rash. • Educate about MMR vaccination and presumptive evidence of measles immunity. • Visitors should be informed that visits have been suspended.
8. Attempt to identify the source of infection (inmate cases only)	
<input type="checkbox"/>	<p>Case patients should be asked about any contact with a known measles case during the EXPOSURE PERIOD (7–21 days prior to onset of rash). Other opportunities for exposure should be explored (e.g., visits, work in the community, volunteers, etc.)</p>
9. Quarantine the facility after measles case is confirmed.	
<input type="checkbox"/>	<ul style="list-style-type: none"> • The period of quarantine will last for 21 days <i>after</i> the last measles case is isolated. • Typically, quarantine will apply to the whole facility (potentially could apply to a single unit if exposure only occurred on a single unit). <p>MEASURES TO BE EMPLOYED DURING QUARANTINE:</p> <ul style="list-style-type: none"> • Stop all inmate movement in and out of the facility. Stop all transfers. <ul style="list-style-type: none"> → <i>Inmate releases CANNOT be stopped.</i> ▶ Notify local public health authorities about the release of an inmate exposed to measles and provide locating information. ▶ Prior to release, educate inmates about measles symptoms, contagiousness of measles, and to contact health provider and local health department if symptoms occur. • Notify other agencies regarding the quarantine, e.g., courts, USMS, ICE, etc. • Only persons with PRESUMPTIVE EVIDENCE OF IMMUNITY (see TABLE 2) will enter facility. <ul style="list-style-type: none"> ▶ In consultation with public health authorities, assure presumptive evidence of immunity or provide post-exposure prophylaxis. <ul style="list-style-type: none"> • Inmates: See Task 10 below. • Staff: Obtain staff guidance from Regional/Central office. ▶ Post sign at entrance of facility indicating that the facility is under quarantine and only persons with evidence of immunity are allowed in. ▶ Provide communication bullets for front lobby officer. • Stop all visits. Stop all volunteers. • House pregnant and immunosuppressed (see TABLE 1) inmates separately. (Consult Region/Central office regarding appropriate plan for this.) • Monitor exposed inmates daily for new onset of measles symptoms.

10. Identify inmate contacts and provide post-exposure prophylaxis.	
<input type="checkbox"/>	<p>All exposed inmates are considered susceptible contacts in need of post-exposure prophylaxis unless they have PRESUMPTIVE EVIDENCE OF IMMUNITY (see TABLE 2).</p> <p>➔ <i>In most cases, this assumption will apply to the entire inmate population (exception could occur if there is an identifiable smaller cohort of inmates who were exposed).</i></p> <p>➔ <i>Guidance regarding post-exposure prophylaxis is provided in Appendix 3.</i></p> <p>➔ <i>See VACCINATION NOTES FOR TASK 10 below.</i></p> <p>a. PRIORITY 1: Identify any inmate contacts who are pregnant or immunocompromised (see TABLE 1). If no presumptive evidence of immunity, administer intravenous immune globulin (IGIV) within 6 days of exposure. See Appendix 3 for specific information about IGIV PEP.</p> <p>b. PRIORITY 2: Begin MMR vaccination of inmate contacts (unless presumptive evidence of immunity or known MMR contraindication—see Appendix 3). Vaccinate first those inmates with the closest contact, e.g., those who have resided in the same housing unit, co-workers, and classmates. Then, proceed to everyone else.</p> <p>➔ <i>Inmates can refuse vaccination. Document refusals.</i></p> <hr style="border-top: 1px dotted black;"/> <p>VACCINATION NOTES FOR TASK 10:</p> <ul style="list-style-type: none"> • Vaccination within 72 hours of exposure is likely to prevent development of measles. • Vaccination after 72 hours will not prevent cases from the current exposure, but will prevent infection from future exposures to “2nd generation” cases (cases that develop after the initial exposure). • Vaccination of contacts will shorten the duration of the outbreak by reducing the number of cases and the exposures they present. • Ideally, vaccination should be accomplished within 72 hours of exposure. However, it is reasonable to delay post-exposure prophylaxis for inmates without identified close contact until after the measles case is confirmed by laboratory results. • A checklist of Best Practices for Vaccination Clinics is available at: https://www.izsummitpartners.org/content/uploads/2019/02/off-site-vaccination-clinic-checklist.pdf. A modified checklist for BOP planning purposes is available from Central Office.
11. Assess staff for evidence of immunity. Provide staff MMR immunization.	
<input type="checkbox"/>	Obtain specific guidance regarding staff from Regional/Central office.
12. Continue to assess for more cases of measles.	
<input type="checkbox"/>	Continue to educate inmates and staff to immediately report the occurrence of fever or rash.
13. End quarantine.	
<input type="checkbox"/>	<ul style="list-style-type: none"> • The quarantine can be ended 21 days after the <i>last case</i> of measles was isolated. • Continue to monitor staff and inmates for the occurrence of fever or rash for an additional 21 days.
END OF CHECKLIST	

APPENDIX 2. MEASLES ASSESSMENT CHECKLIST

A Measles Assessment Checklist appears on the next page. For use in the BOP, it can be printed, filled in, and then scanned into BEMR.

MEASLES ASSESSMENT CHECKLIST

U.S. DEPARTMENT OF JUSTICE

FEDERAL BUREAU OF PRISONS

Institution	Inmate's Name	Register Number
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1. Symptoms				
	<i>Measles Symptoms</i>	<i>Onset Date</i>	<i>Duration (Days)</i>	<i>Comments</i>
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Fever?			Highest fever:
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Rash?			Where rash started: Where it spread next: Describe rash: (If feasible, obtain digital photo of rash)
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Cough?			
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Coryza? (runny nose)			
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Conjunctivitis?			
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Koplik's Spots?			
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Sore Throat?			
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Photophobia?			

2. Complications				
	<i>Complications</i>	<i>Onset Date</i>	<i>Duration</i>	<i>Comments</i>
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Hospitalized?			Location:
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Otitis Media?			
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Diarrhea?			
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Encephalitis?			
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Pneumonia?			

3. Exposure History		
	<i>Exposures</i>	<i>Describe</i>
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Has had known contact with a measles case?	
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Contact with international visitor who arrived in the last 21 days?	
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Traveled outside U.S., Canada, or Mexico in the 21 days prior to rash onset?	
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Lives in or visited a U.S. community with measles cases in the last 21 days?	

4. Measles Vaccination History			
	<i>Doses</i>	<i>Date Dose Given</i>	<i>Comments</i>
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Dose 1		
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Dose 2		

5. Laboratory Testing			
	<i>Test</i>	<i>Date Collected</i>	<i>Result</i>
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Serum IgM		<input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Indeterminate
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Serum IgM*		<input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Indeterminate
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	Serum IgG		<input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Indeterminate
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	PCR (nasopharyngeal)		<input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Indeterminate
<input type="checkbox"/> Unk <input type="checkbox"/> No <input type="checkbox"/> Yes	PCR (urine)		<input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Indeterminate
* Unk = unknown			
* Repeat IgM if initial IgM is negative and was obtained within 72 hours of rash onset.			
Medical Staff Signature:		Date:	
Printed Name and Title:			

File in BEMR Document Manager > Assessments

APPENDIX 3. MMR VACCINE AND IMMUNE GLOBULIN

Post-exposure prophylaxis is recommended for contacts to a measles case who do not have evidence of immunity ([TABLE 2](#)). In the context of a measles outbreak, public health authorities may utilize more strict criteria for evidence of immunity, i.e., evidence of 2 doses of MMR vaccine administered after 1968 or documentation of a positive measles IgG test.

- Post-exposure prophylaxis with MMR vaccine is recommended for most contacts.
- Intravenous immune globulin is recommended for adult contacts who are either pregnant or immunosuppressed ([TABLE 1](#)).

MMR (MEASLES, MUMPS, RUBELLA) VACCINE

In order for MMR vaccine to be considered post-exposure prophylaxis (to prevent measles in an exposed person), it must be administered within 72 hours of exposure. Vaccine administered after 72 hours will not prevent cases from the current exposure, but will prevent infection from future exposures to “2nd generation” cases (cases that develop after the initial exposure).

➔ See the *BOP Immunization Guidance (MMR section)* for specific guidance regarding MMR vaccination, available at: https://www.bop.gov/resources/health_care_mngmt.jsp

Contraindications to MMR vaccine include:

- **History of a serious reaction (e.g., anaphylaxis) after a previous dose of MMR vaccine** or to an MMR vaccine component (e.g., albumin, neomycin, sorbitol, or gelatin).
- **Pregnancy:** Pregnant now or could become pregnant within 12 weeks.
 - ➔ *Women of childbearing age should be asked if pregnant or potentially pregnant.*
- **Immunodeficiency:** Known severe immunodeficiency, hematologic or solid tumor, congenital immunodeficiency, receiving long-term immunosuppressive therapy, or family history of altered immunocompetence. In particular:
 - ▶ HIV patient with (CD4 + T-cell count <200 cells/mm³). (If HIV infected and CD4+ T-cell count ≥200 cells/mm³ for least 6 months, can administer 1 dose.)
 - ▶ Patients receiving chemotherapy.
 - ▶ Patients who have received a hematologic stem cell transplant, a.k.a. bone marrow transplant, until at least 12 months after finishing all immunosuppressive treatment, or longer in patients who have developed graft-versus-host disease. It is recommended that immunization decisions in such cases be made in consultation with the transplant center or oncologist.
 - ▶ Patients on treatment for acute lymphocytic leukemia within and until at least 6 months after completion of immunosuppressive chemotherapy.
 - ▶ Patients treated with certain steroids (see vaccine insert).

IMMUNE GLOBULIN (IG)

IG administered intravenously (IGIV) is recommended for severely immunocompromised persons (see [TABLE 1](#)) and pregnant women who are exposed to measles. It is recommended that IGIV be administered within 6 days of the identified measles exposure to prevent infection. The recommended dose of IG given intravenously is 400 mg/kg. Contact the Regional Pharmacist for information on how to obtain IGIV.

Important points regarding IG post-exposure prophylaxis:

- **Pregnant women without evidence of measles immunity** should receive 400 mg/kg of body weight of intravenous IG (IGIV).
- **Severely immunocompromised persons** ([TABLE 1](#)), irrespective of evidence of measles immunity, should receive 400 mg/kg of body weight of IGIV.
- **For persons who have previously received IGIV therapy**, administration at least one time in the 3 weeks before the first measles exposure should be sufficient to prevent measles infection.
- **Non-immune adults who receive IGIV should not receive MMR vaccine earlier than 8 months after IGIV administration.**