Immune Globulin for Measles Postexposure Prophylaxis

April 2024

I. IMMUNE GLOBULIN (IG) FOR THE PROPHYLAXIS OF MEASLES

1. Immune globulin should be administered ≤6 days of last exposure to measles.
2. IG intramuscular (IM) or IG intravenous (IV) may be used depending on recipient weight. Use formulation and dosage according to recipient's category in Section II. There is only one IGIM product in the U.S. (GamaSTAN®). There are multiple formulations of IVIG; any formulation is acceptable.
3. Screen for contraindications to immune globulin (IG). See Section III.
4. Provide product information and answering questions.
5. Administer IG intramuscular (IM) in the anterolateral aspects of the upper thigh.
    a. Do not administer more than 3 ml of IGIM per injection site.
6. IG and MMR vaccine should not be given at the same time. See Section V for interval.
7. IG can be administered simultaneously with, or at any interval before or after, any inactivated vaccine.

II. IMMUNE GLOBULIN DOSAGE FOR MEASLES EXPOSURE [1,2,3,4]

Indications	Dose and Route
Infants <12 months of age	0.5 ml/kg IM (max dose = 15mL)
Susceptible high risk contacts <30 kg/66 lbs[2,5]	0.5 ml/kg IM (max dose =15mL)
Pregnant persons without evidence of immunity	400 mg/kg IV (intravenously)
Severely immunocompromised persons[6] (also see Section V)	400 mg/kg IV (intravenously)

[1] IGIM should be administered at room temperature.

[2] IG should be administered to susceptible high-risk contacts who are infants and children weighing <30 kg and pregnant persons and severely immunocompromised persons weighing ≥ 30 kg.

[3] IGIM can be given to any person <30 kg who lacks evidence of measles immunity, but priority should be given to persons exposed in settings with intense, prolonged, close contact (e.g., household, child care, classroom, etc.) or persons who are more likely to develop severe measles (infants, immunocompromised children).

[4] The maximum intramuscular dose of IG is 15 ml.

[5] Persons weighing >30 kg/66 lbs are unlikely to receive an adequate amount of measles antibody from IGIM.

[6] Severely immunocompromised patients who are exposed to measles should receive IGIV prophylaxis regardless of immunologic or vaccination status because they might not be protected by the vaccine. Per CDC and IDSA, persons with high-level immunosuppression include those:

- with combined primary immunodeficiency disorder (e.g., severe combined immunodeficiency);
- who are receiving cancer chemotherapy;

- on treatment for ALL 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/mm^3 (age >5 years) and percentage <15 (all ages) (some experts include HIV-infected persons who lack recent confirmation of immunologic status or measles immunity);
- receiving daily corticosteroid therapy with a dose ≥20 mg (or >2 mg/kg/day for patients who weigh <10
  kg) of prednisone or equivalent for ≥14 days; and
- receiving certain biologic immune modulators, that is, a tumor necrosis factor-alpha (TNF-α) blocker or rituximab.

III. CONTRAINDICATIONS

1. IG should not be given to people with immunoglobulin A (IgA) deficiency. Persons with IgA deficiencies have the potential for developing antibodies to IgA and therefore could experience an anaphylactic reaction when IG is administered.
2. IGIM should not be administered to persons with severe thrombocytopenia or any coagulating disorder that would contraindicate intramuscular injections.
3. History of anaphylactic reaction to a previous dose of IG.

IV. SIDE EFFECTS AND ADVERSE REACTIONS - IGIM

Event	Frequency
Tenderness, pain, or soreness at injection site. Usually resolves within 24 hours.	Common

V. OTHER CONSIDERATIONS

1. It is unknown whether IG can cause fetal harm when administered to a pregnant person.
2. Providers should screen for prior history of systemic allergic reaction following the administration of IG.
3. IG may interfere with the response to live, attenuated vaccines (e.g., MMR, varicella) when the vaccines are administered individually or as a combined vaccine. Delay administration of live attenuated vaccines for 6 months after the administration of IGIM and 8 months after the administration of IGIV.
4. Ideally, IG should not be administered within 2 weeks following the administration of MMR vaccine or for 3 weeks following varicella vaccine. Should this occur, the individual should be revaccinated, but no sooner than 6 months after IGIM administration or 8 months after IGIV administration.
5. For persons already receiving IGIV therapy, administration of at least 400 mg/kg body weight within 3 weeks before measles exposure should be sufficient to prevent measles infection. For patients receiving subcutaneous immune globulin (IGSC) therapy, administration of at least 200 mg/kg body weight for 2 consecutive weeks before measles exposure should be sufficient.
6. After hematopoietic stem cell transplantation (HSCT), duration of high-level immunosuppression is highly variable and depends on type of transplant (longer for allogeneic than for autologous),

type of donor and stem cell source, and post-transplant complications such as graft vs host disease (GVHD) and their treatments. Consult with the patient's hematologist/oncologist regarding the contact's current immunosuppression status.

VI. REFERENCES

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7. See GamaSTAN® Immune Globulin package insert. Available at: https://www.fda.gov/vaccines-blood-biologics/approved-blood-products/gamastan-sd-immune-globulin-human