

Immune globulin for Measles Post-Exposure Prophylaxis

Immune globulin post-exposure prophylaxis (IG PEP) should not be used to control measles outbreaks, but rather to reduce the risk for infection and complications in certain vulnerable populations. Healthcare providers should provide appropriate measles PEP in coordination with local or state health departments.

What is post-exposure prophylaxis for measles?

Post-exposure prophylaxis (PEP) for measles, when provided promptly after initial measles exposure, may provide protection against measles infection or reduce the risk of serious illness among susceptible people.

There are two types of PEP for measles:

1. MMR vaccine, if administered **within 72 hours** of initial measles exposure (preferred)¹
2. Immune globulin (IG), also referred to as immunoglobulin, if administered **within 6 days** of initial measles exposure, which is typically reserved for certain vulnerable populations.

What is immune globulin?

Immune globulin (IG) is a sterile solution containing antibodies from human blood. IG is prioritized for close contacts of measles cases who cannot get the measles, mumps, and rubella (MMR) vaccine and have been exposed to measles. People who can't get the MMR vaccine are:

- infants younger than 6 months of age
- pregnant women (although breastfeeding women can get MMR)
- severely immunocompromised people or people who have other medical contraindications to vaccination

IG PEP should not be used to control measles outbreaks, but rather to reduce the risk for infection and complications in certain vulnerable populations. IG is generally prioritized for infants less than 12 months of age without measles immunity, pregnant women without any evidence of measles immunity, and severely immunocompromised people who are close contacts of a confirmed measles case. IG can be given to other people who do not have evidence of measles immunity, but priority should be given to those exposed in settings where intense, prolonged, close contact (e.g., household, daycare, and classroom) has occurred.

Most people have no reactions to IG, or the side effects are very mild. IG is not a vaccine and provides short-term protection against measles lasting approximately 3-4 weeks. People who receive IG PEP and are eligible for MMR vaccination should wait at least 6 months before getting the MMR vaccine.

¹ For vaccine eligible persons aged 12 months or older exposed to measles, administration of MMR vaccine is preferable to using IG, if administered within 72 hours of initial exposure. If exposure does not cause infection, postexposure vaccination should induce protection against subsequent measles exposures while also providing protection against mumps and rubella infection.

How is IG used?

IG needs to be given **within 6 days of initial exposure** and can be given intramuscularly (IGIM) or intravenously (IGIV).

Intramuscular Immune Globulin (IGIM)

GamaSTAN is the only available IGIM available in the U.S. It is supplied in 2mL and 10mL single dose vials. It is stored at 2-8°C (36-46°F) and has a shelf life of 3 years.

- GamaSTAN is recommended for children who weigh less than 30kg (~66 pounds), especially those under 1 yr old and in close contact with cases who decline or are ineligible to receive MMR vaccine.
- The recommended dose for GamaSTAN is 0.5mL/kg, regardless of the contact's immune status. The maximum dose by volume is 15mL.
- GamaSTAN can be challenging to administer to children who weigh over 10kg due to high volume of administration requiring multiple separate large-volume injections. It is not indicated for adults; individuals ≥ 30 kg require intravenous immunoglobulin.

Intravenous Immune Globulin (IGIV)

IGIV is recommended for those who weigh over 30kg (~66 pounds).

- The recommended dose of IG given intravenously (IGIV) is 400 mg/kg.
- IGIV PEP is [recommended](#) for people who are at higher risk for severe measles and complications, including for severely immunocompromised persons and pregnant women without evidence of measles immunity who are exposed to measles.
- Although a larger dose can be administered with IGIV compared with IGIM, clinical use of IGIV has important disadvantages, including high cost and administration requiring extended observation in specialized settings by skilled professionals (i.e., hospital setting).

Population	PEP Type Available
Within 72 hours of exposure	
Infants and children greater ≥ 6 months of age	MMR Vaccine
Adults who are not pregnant or severely immunocompromised	MMR Vaccine
Within 6 days of exposure	
Infants under 6 months	IGIM (MMR not recommended)
Infants and children under 30kg	IGIM (generally prioritized for infants <12 months of age unable to receive MMR PEP)
Pregnant women	IGIV (MMR is contraindicated in pregnancy)
Severely immunocompromised people	IGIV (MMR contraindicated)

How to Obtain IGIM

IGIM does not require an infusion center or administration at a hospital, but local hospitals may have doses that could be used, if needed.

Before cases are identified

1. Establish a plan for obtaining IGIM, especially if there are areas with low MMR coverage. IGIM is not available through the Vaccines for Children (VFC) program. Contact your CDC Immunization Operations and Services Branch (IOSB) project officer for assistance if needed.
2. Work with local hospitals or hospital systems to identify available doses.
3. Health departments could also consider obtaining doses directly to use if needed for a measles exposure or outbreak.

Health departments can work through distribution partners to acquire IGIM.

Many states are members of [MMCAP Infuse](#); state and local health departments can purchase GamaSTAN/IGIM at a contracted rate through this national cooperative group. To get started with MMCAP Infuse, contacts by region are here: <https://infuse-mn.gov/products/product-ordering/index.jsp>.

After cases are identified

1. Work with local hospitals to identify doses that are immediately available.
2. If local hospitals do not have sufficient doses and no other doses are available, contact MMCAP Infuse distributors or the manufacturer representative (manufacturer information here: <https://www.gamastan.com/en/hcp>).

Note: For orders to be filled rapidly, an MMCAP account must already be established.

How to Obtain IGIV

IGIV is typically available in most major hospitals and urban medical centers. During national shortages, hospitals may need to prioritize patients.