Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

hpsc

# Measles exposure during pregnancy- guidelines

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*"Measles illness, during pregnancy, results in a higher risk of premature labour, spontaneous abortion and low birth weight infants"*[1]

**Key points:**

- Measles during pregnancy is associated with an increased risk of maternal morbidity[2].
- Measles during pregnancy is associated with a high risk of foetal loss and prematurity[3].
- Measles in late pregnancy can also lead to perinatal infection in the infant, which may be associated with a high mortality and the risk of subacute sclerosing panencephalitis[2, 4].
- There is no evidence to support an association between measles in pregnancy and congenital effects.

## 1. National guidance on use of human normal immunoglobulin (HNIG)[1]

National guidance recommends using HNIG for susceptible pregnant women exposed to measles. Although there is no direct evidence that this will reduce the complications of measles in pregnancy, it may attenuate disease and therefore potentially reduce the rate of complications.

*"The following children and adults who come into contact with measles should be considered for treatment with normal immunoglobulin (HNIG) as soon as possible after exposure (at least within 6 days):*

1. *Those with compromised immunity (including non-immune pregnant women)*
2. *Infants aged 5-12 months (those aged <5 months will usually have maternal antibodies)*
3. *Infants of mothers who develop measles, as such infants will not have maternally derived antibodies."*[1]

## 2. Assessing susceptibility to measles in pregnant women:

Consider susceptible those born after 1978 who:

- do not provide a reliable history of measles infection or
- have not received 2 doses of measles vaccine or
- who have serological evidence of lack of immunity

Assessing likely susceptibility in pregnant contacts should be based on a combination of age, vaccination/infection history. As most women are immune to measles, measles antibody (IgG) should be checked only if there are doubts about measles immune status (see attached Algorithm to assess risk).

## 3. Assessing risk to pregnant women following reported measles exposure:

A local risk assessment of the index case and the exposure should take place. The need for post exposure prophylaxis should be urgently addressed:

- If the index case is confirmed
- If the index case is epidemiologically linked or considered likely to be measles by the local health protection team

| **Measles Case Definition:** |
|---|
| **Clinical criteria:** Any person with:<br>• Fever, **and** Maculo-papular rash, **and** at least one of the following three: cough, coryza or conjunctivitis<br>**Laboratory criteria:** At least one of the following:<br>• Detection of measles IgM in serum or oral fluid sample<br>• Isolation of measles virus from a clinical specimen<br>• Detection of measles virus nucleic acid in a clinical specimen |

## 4. Human Normal Immunoglobulin (HNIG) for intramuscular use

*Suppliers in Ireland*

Two HNIG products, "Subgam" (supplied by Promedicare (01)4147520) and "Subcuvia" (supplied by Baxter (01)2065563), are available for intramuscular use in Ireland. These items are not carried by the HSE National Cold Chain Service but are available within one working day. For more information see "Information about suppliers of HNIG in Ireland" document at http://www.hpsc.ie/hpsc/A-Z/VaccinePreventable/Measles/Guidance/File,4170,en.pdf)

*HNIG preparation*

These human immunoglobulin preparations are prepared from pooled plasma from non-UK blood donors. Non-UK pooled plasma has been used since March 1999 due to theoretical risk of the transmission of vCJD[4]. All immunoglobulins are prepared from HIV, hepatitis B and hepatitis C negative donors and no transmission of hepatitis B virus (HBV), HIV, HCV, or other viruses has been reported from intramuscular HNIG[5]. These products are not licensed for prophylactic use against measles but are, however, known to contain similar levels of measles antibody as licensed products.

*Administration*

The usual recommended dose of HNIG is 0.25mL/Kg of body weight (maximum dose = 15mls). As recipients of intramuscular immunoglobulin can experience local pain and discomfort at the injection site, it should be administered deep into a large muscle mass, such as the gluteal region. Ordinarily, no more than 5ml should be administered at any one site. For precautions, contraindications & side effects of HNIG please refer to individual product information.

*Use of intravenous immunoglobulin(IVIG) when HNIG not readily available*

If HNIG is not available, in certain high-risk situations IVIG can be given, as it usually contains similar measles antibody levels to HNIG. Those contacts on maintenance IVIG do not need either HNIG or IVIG if they have been given IVIG within 3 weeks prior to exposure.[1]

In pregnancy high risk situations include coexisting immunosuppression. Where exposure is recognised late, IVIG is also likely to provide higher levels of measles antibodies more quickly than an intramuscular or subcutaneous product. For immunosuppressed individuals, administration should not be delayed (e.g. whilst awaiting test results) beyond 3 days of exposure if at all possible. However, for this group, IVIG may still be considered beyond six days (up to 18 days after exposure) as it may attenuate infection. Discussion with the specialist caring for the individual should take place to guide management decisions. Recommended dosage of IVIG is usually 0.15 g/Kg. Where a second exposure occurs more than three weeks after a first dose of HNIG, a further dose should be given.

The intravenous product is likely to be more easily obtained as it is held in most hospital pharmacies; facilities for delivery should be available in the same hospital. Consult the product literature for information about administration.

## 5. Vaccination after pregnancy of women found to be measles non-immune

Non-immune pregnant women should be offered MMR vaccine after delivery, at least 3 months after receiving HNIG. Further pregnancy should be avoided for 1 month after MMR.

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**References**

1. **Eliminating Measles and Rubella and preventing Congenital Rubella Infection a situational analysis and recommendations. Strategy for Ireland**. **Recommendations of the measles and Rubella Elimination Committee of the Department of Health and Children 2007**- available at http://www.hpsc.ie/hpsc/A-Z/VaccinePreventable/Measles/Publications/File,2511,en.pdf
2. **Measles infection in pregnancy.** Chiba ME - *J Infect* - 01-Jul-2003; 47(1): 40-4
3. **Measles as a cause of fetal defects. A retrospective study of ten measles epidemics in Greenland.** Jespersen CS, Lttauer J, Sagild U. *Acta Paediatr Scand.* 1977 May; 66(3):367-72.
4. **Subacute sclerosing panencephalitis (SSPE) associated with congenital measles infection.** Simsek E, Oztürk A, Yavuz C, Kocabay K. *Turk J Pediatr*. 2005 Jan-Mar; 47(1):58-62.
5. **The rationale for the use of measles post-exposure prophylaxis in pregnant women: a review.** - Manikkavasagan G - *J Obstet Gynaecol* - 01-Oct-2009; 29(7): 572-5
6. **Immunoglobulin Handbook.** HPA January 2007
7. **Red Book 28th Edition – Report of the Committee on Infectious Diseases 2009.** American Academy of Pediatrics