South West London Integrated Care System

SURREY HEARTLANDS Health and Care Partnership

Maternal Medicine Network

SWLaSH MMN

Measles Exposure or Infection in Pregnancy Guidance

Date	Author(s)	Role	Version
02.02.2024	Dr Karin Leslie	Consultant Obstetrician ASPH Surrey Heartlands MMN Lead	V. 0.1 January 2024
		With Thanks to Dr Charlotte Frise Imperial Healthcare	

Document Revision History			
Date	Author(s)	Change Summary	Version

Approvals This document needs to be approved by the following		
Date Approved	Name and Group	Version
	SWLaSH MMN CRG Clinical Pathways For noting at SH and SWL LMNS Q+S and Board Individual Trust Local Maternity Guidelines group	V. 0.1

Measles exposure or infection in pregnancy

To be used in conjunction with:

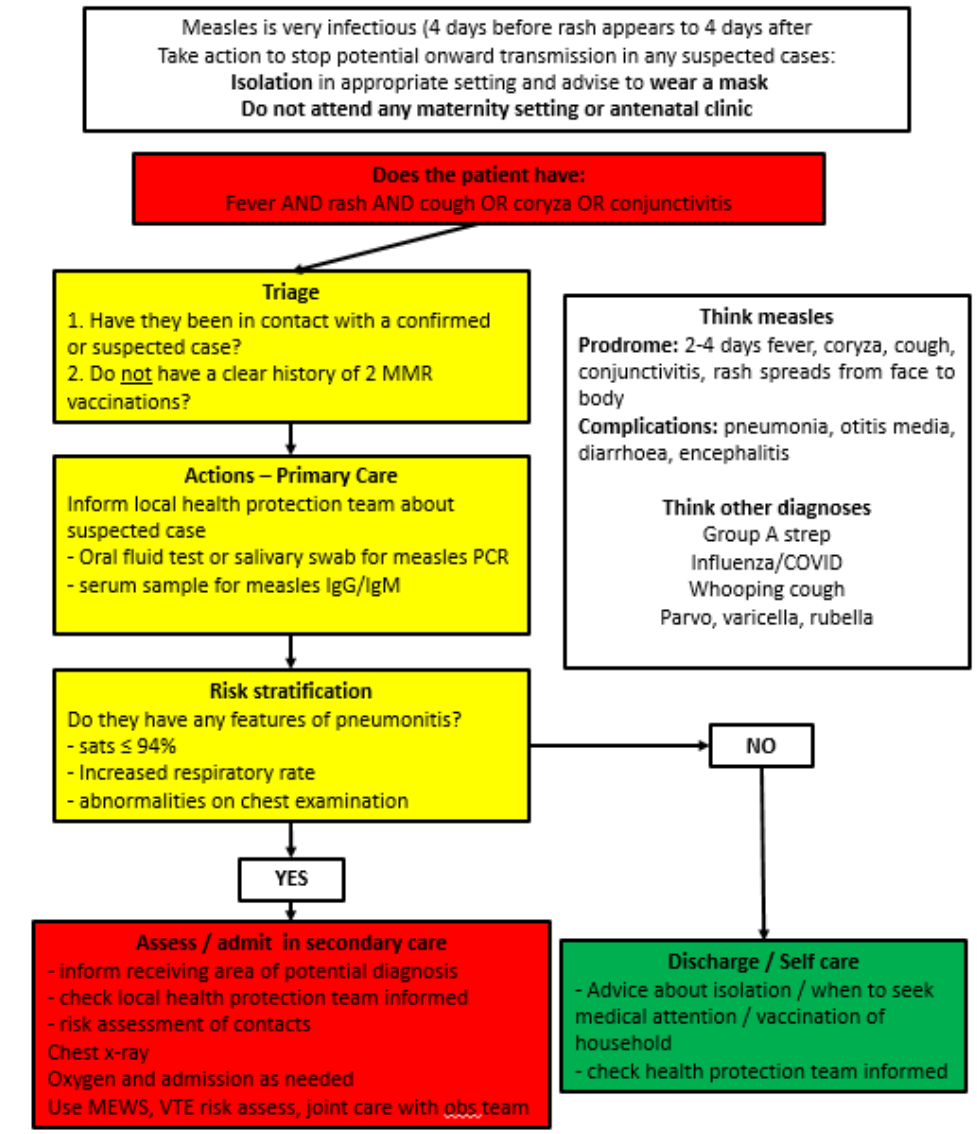
- Public Health England guidance Jan 2024
- UK Health Security guidance Nov 2023
- Individual Trust IPC guidance

Follow National Guidance

link here National measles guidelines January 2024 (publishing.service.gov.uk)

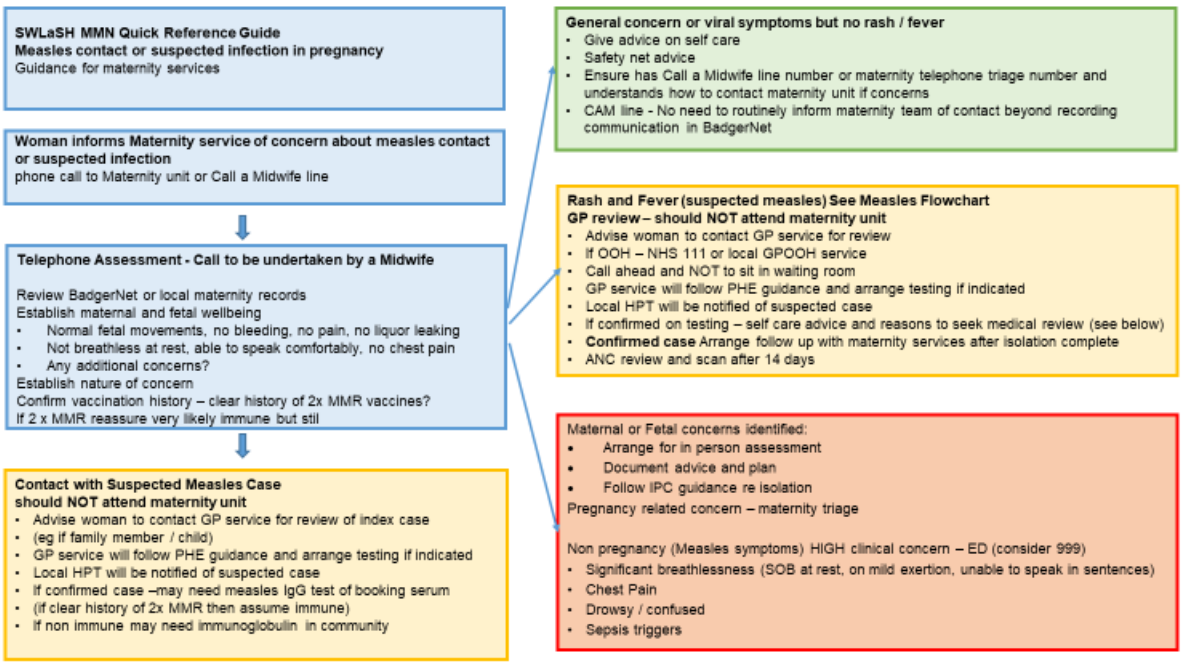
and here Guidance on the investigation, diagnosis and management of viral illness, or exposure to viral rash illness, in pregnancy (publishing.service.gov.uk)

Measles Flowchart



To find the relevant local health protection team, enter the patient's postcode
Find your local health protection team in England - GOV.UK (www.gov.uk)
Flowchart produced by Dr Charlotte Frise Imperial Healthcare with minor edits

Quick Reference Guide



Background

Measles is highly infectious, the most infectious of all diseases transmitted through the respiratory route. Measles can be severe, particularly in immunosuppressed individuals and young infants. It is also more severe in pregnancy, and increases the risk of miscarriage, stillbirth, or preterm delivery. The most effective way to control measles is by achieving high uptake of 2 doses of MMR vaccine. Recent uptake of MMR in England (2021 to 2022) is well below the ≥95% WHO target and population immunity levels in the UK are well below those required to interrupt measles transmission in many birth cohorts. The London region has been highlighted as the most vulnerable and outbreaks have already occurred.

Factors associated with risk of measles exposure and / or infection:

- Unvaccinated status
- Inequalities in vaccine uptake – deprivation, geography and ethnicity.
- Young people born between 1998 and 2004 (aged 19 to 26 years in 2024)
- London region - immunity targets not achieved for many birth cohorts, including younger children of primary and secondary school age
- Under vaccinated communities highlighted by PHE
    - The traveller community
    - Recent migrants
    - Charedi Orthodox Jewish community
    - Steiner (Anthroposophic) community

Vaccination

MMR Vaccination is an attenuated vaccine and is not recommended at any time in pregnancy. The MMR vaccine is safe after birth and during breastfeeding. Conversations about vaccination should be a routine part of maternity care, concerns about vaccination addressed and women signposted to primary care for postnatal vaccination after birth. This also provides an opportunity to address vaccine hesitance and support uptake in family members. Conversations should be documented in Badger or maternity handheld notes and individual concerns addressed.

Information for women and their families is available at: MMR (measles, mumps and rubella) vaccine - NHS (www.nhs.uk)
NHS resources to support addressing vaccine hesitancy Why vaccination is important and the safest way to protect yourself - NHS (www.nhs.uk)

Transmission and Epidemiology

A patient with suspected measles should be advised to isolate and in particular to avoid contact with immunosuppressed individuals and other vulnerable people (such as pregnant women and infants) while potentially infectious. Although most suspected cases will turn out not to be measles it is important to avoid exposing contacts to other infectious causes of rash illness. Transmission is higher among close contacts, such as household members and non-household members with whom prolonged contact has occurred – such as students in the same classroom.

- Incubation period is generally 10 to 12 days (can vary from 7 to 21 days)
- Infectiousness starts 4 days before the rash and lasts up to 4 full days after the onset of rash.
- Transmission is mostly airborne by droplet spread or direct contact with nasal or throat secretions
- Measles starts with a 2 to 4-day illness ('prodromal phase') before the rash appears
    - High fever (generally over 39°C and settles once rash appears)
    - Coryzal symptoms and cough
    - Red, sore eyes (conjunctivitis) is a specific symptom that differentiates from other viral illness
- Rash characteristics (See appendix 1 for PHE images)
    - Red, blotchy, maculopapular (that is non-vesicular) and not itchy
    - On darker skin the rash may not appear red but purple or darker than surrounding skin
    - Generally starts on the face and behind the ears
    - Over 2-3 days expands further to the trunk, and can sometimes be generalised.
    - Lasts for 3 to 7 days, fading gradually.
    - Sometimes there are small white spots in the mouth.

Measles can be severe in pregnant women and leads to an increased risk of prematurity and foetal loss, although there is no evidence that it leads to congenital defects. Viral pneumonitis is the most frequent severe complication, which generally develops within 2 weeks of symptom onset. Other complications of measles include neurological sequelae, otitis media, diarrhoea and secondary bacterial infections.

Close prolonged interpersonal contact, such as in household settings, may also lead to a higher infectious dose of virus, which increases both the risk of transmission and the risk of developing more severe disease.

Contact with a measles case

Pregnant women in contact with suspected measles should NOT attend the maternity unit for assessment unless this is required for pregnancy related concerns (see below).

Follow PHE guidance for clinical history, assessment and testing (oral fluid swabs) in any reported suspected measles case. This is managed via the GP and the local HPT. The local HPT will determine the likelihood the index case is measles based on the history and risk factors and arrange suitable testing. Maternity services are not expected to manage this pathway but may need to work collaboratively with primary care and local HPT.
Trusts can locate their local HPT here Find your local health protection team in England - GOV.UK (www.gov.uk)
Measles immunity can be checked via a serum measles IgG test on stored booking blood (check with local virology). If this is not available a blood test can be taken via primary care or the local HPT.
For immunocompetent vulnerable individuals (infants, pregnant women), local HPTs should prioritise contact tracing efforts to those most likely to have had close or prolonged exposure to a primary measles infection.
Contact tracing should focus primarily on:

- close contacts including household contact
- face to face contact of any length
- more than 15 minutes in a small, confined area, for example room in a house, classroom, 4-bed hospital bay (including healthcare workers)

PHE January 2024 Assessment and treatment of pregnant women:

Born before 1990	History of measles infection	Assume immune
	No history of measles infection	Test and administer HNIG within 6 days only if measles antibody negative
	History of 2 measles containing vaccines	Assume immune
Born 1990 or later	History of 2 measles vaccines	Assume immune
	History of one measles vaccine	Test and administer HNIG within 6 days only if measles antibody negative
	Unvaccinated	Test and administer HNIG if measles antibody negative. If not possible to test within 6 days of exposure, offer HNIG.

Post exposure immunoglobulin

Measles immunity can be checked via a serum measles IgG test on stored booking blood (check with local virology). If this is not available a blood test can be taken via primary care or the local HPT.
Post exposure prophylaxis with human immunoglobulin (HNIG) may be indicated in some contact cases who are not immune to reduce the risk of severe infection, attenuation. This will be assessed and decided by the local HPT.

- HNIG is safe in pregnancy as used historically following chickenpox exposure.
- HNIG is most effective when started within 72hrs of exposure but may be of benefit up to 6 days.
- The HNIG will usually be given via an intramuscular route and this will be managed in the community.

Please follow PHE guidance 2024 – section 2.3.2 for administration of HNIG.

Suspected measles

Any suspected or confirmed case of measles should self-isolate for the time period of 4 days before rash onset and 4 days after. They should NOT attend the maternity unit for assessment unless this is required for pregnancy related concerns (see below).

Contact from pregnant woman with suspected measles or a fever and rash

- Advise NOT to attend at the maternity unit - See telephone triage guidance below.
- Advise review with GP and to inform the surgery of the rash and fever in advance. PHE guidance recommends that suspected measles is reviewed by the GP in a side room and that the suspected case does NOT wait in a waiting room.
- Support women who may struggle to access care (language barrier / vulnerability) by contacting her GP as well.
- Provide safety net advise and signpost to 111 if develops non-pregnancy related concerns
- If suspected measles or rash and fever and pregnancy related concern – escalate to the senior midwifery and obstetric on call team. Arrange a review following Trust IPC guidance and isolation policies.

If contacted by the GP or local HPT as regards a case of suspected measles, record the discussion in the woman's pregnancy record and inform the on call team
Follow PHE guidance for clinical history, assessment and testing (oral fluid swabs) in any reported suspected measles case. This is managed via the GP and the local Health Protection Team (HPT).
Trusts can locate their local HPT here Find your local health protection team in England - GOV.UK (www.gov.uk)
Maternity services are not expected to manage this pathway but may need to work collaboratively with primary care and local HPT.

Telephone Triage

Guidance for telephone contact from woman with suspected or confirmed measles OR fever and rash
Maternal or Fetal concerns identified:

- Arrange for in person assessment in line with usual guidelines
- Document advice and plan
- Follow IPC guidance re isolation

	Concern identified	Action
Pregnancy related And woman also reports suspected measles or rash and fever	RFM, bleeding, abdo pain, suspected labour or PROM etc	Maternity Triage review *Follow usual referral pathway* Follow IPC guidance re isolation
Non-pregnancy related Suspected measles	Woman not acutely unwell but concerned by rash / symptoms or contact with suspected measles	Advise GP review Advise woman to inform surgery in advance *Signpost to NHS 111*
Non-pregnancy related Suspected or known measles or fever and rash	Significant breathlessness Chest Pain Drowsy / confused Sepsis triggers	ED review *Follow usual CAM line or local guidance for advising 999 call* Follow IPC guidance re isolation

Pregnant woman requiring hospital admission with measles

General principles:

- Women who are unwell secondary to measles and require in patient care need daily Consultant review and multi-disciplinary care (including the obstetric anaesthetic team)
- Complications include viral pneumonitis, secondary bacterial pneumonia, otitis media and diarrhoea
- Measles in pregnancy is also associated with miscarriage and preterm birth
- Follow Trust guidance for the shared care of medical patients
- Consider IV antibiotics for any secondary bacterial infection
- Do not withhold medically indicated imaging or treatment because of pregnancy
- VTE prophylaxis in line with Trust and National guidance
- Ensure observations are recorded using MEWS chart (not adult NEWS)
- Arrange fetal wellbeing scan for around 14 days after discharge
- Measles and clinical deterioration eg hypoxia and viral pneumonitis- seek input from the Maternal Medicine Centre in hours via Refer a Patient or out of hours on call obstetric team via switchboard. The regional maternal medicine super hub at GSTT can be contacted 24/7 via switchboard.

Isolation and Follow up arrangements

Arrange maternal medicine obstetric ANC for confirmed measles in pregnancy AFTER isolation period completed

- Follow up of routine maternity appointments
  - defer routine F2F appointments until 4 days after rash
  - advise woman to contact her maternity unit / community midwife / scan department in normal working hours by usual routes to rearrange (if own maternity unit taking call in working hours forward call on to reception teams / support reschedule of appointments)
- Follow up of more urgent maternity appointments
  - such as scans for SGA or DAU reviews for cholestasis, PROM, hypertension or obstetric ANC for urgent issues
  - Email maternity unit to clinically assess appropriate timings of review and arrange these with IPC precautions if urgent

Notification of suspected Measles case

Measles is a notifiable disease under the Health Protection (Notification) Regulations (England) 2010.

Clinicians are required to notify all suspected measles cases as soon as possible to their local health protection team (HPT), both as part of surveillance and so that timely public health management can be undertaken. Vulnerable contacts (such as immunosuppressed individuals, young infants and pregnant women) should be considered for post-exposure prophylaxis (PEP) to reduce the risk of complications where possible. Susceptible healthy contacts, including unimmunised children and adults, are unlikely to benefit from post-exposure vaccination, unless offered rapidly following exposure.

Please see PHE guidance 2024 (link at start) for detailed guidance on testing and notification

References

National measles guidelines January 2024 (publishing.service.gov.uk)

Guidance on the investigation, diagnosis and management of viral illness, or exposure to viral rash illness, in pregnancy (publishing.service.gov.uk)

Appendix 1 Image of measles rash PHE 2024