NHS England and UKHSA

Measles in Maternity

22 January 2024

Presented by:
NHSE Midlands and UKHSA West and East Midlands

Housekeeping

This session will be recorded and distributed following the session.

Please keep your microphones on mute, unless you are asking a question.

Please type all questions into the chat and we will address these at the end of the session.

This is an informal session; we are aware of the pressures across all areas currently and we would encourage you to keep camera’s off to eat and drink whilst attending this session.

Introduction

- Current West Midlands overview
- Measles clinical presentation and complications
- Risk assessment of contacts
- Impact in pregnancy and for the newborn
- MMR vaccine
- Key actions
- Resources

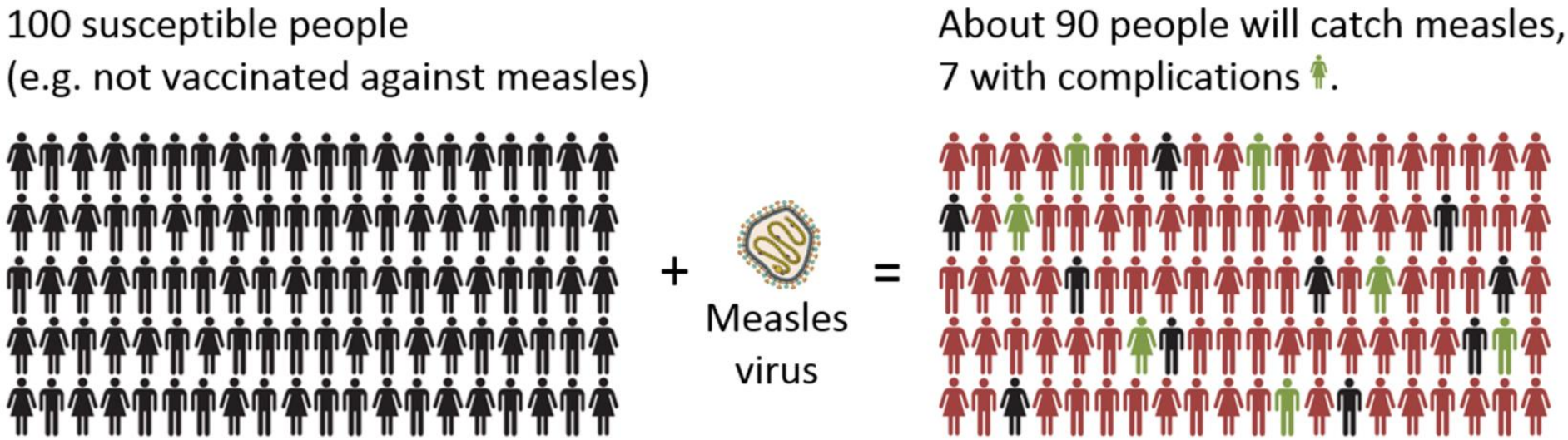
Overview-current situation

- There has been a rise in measles cases in England in 2023, with significant numbers of confirmed cases in Birmingham and Coventry.

- Coverage for MMR in the West Midlands has fallen to the lowest level in a decade:
  - 1st dose uptake in 2-year-olds 92%,
  - 2nd dose in 5-year-olds 83.7%
  - To achieve and maintain measles elimination we need 95% uptake with 2 doses of the MMR vaccine by the time children turn 5 years

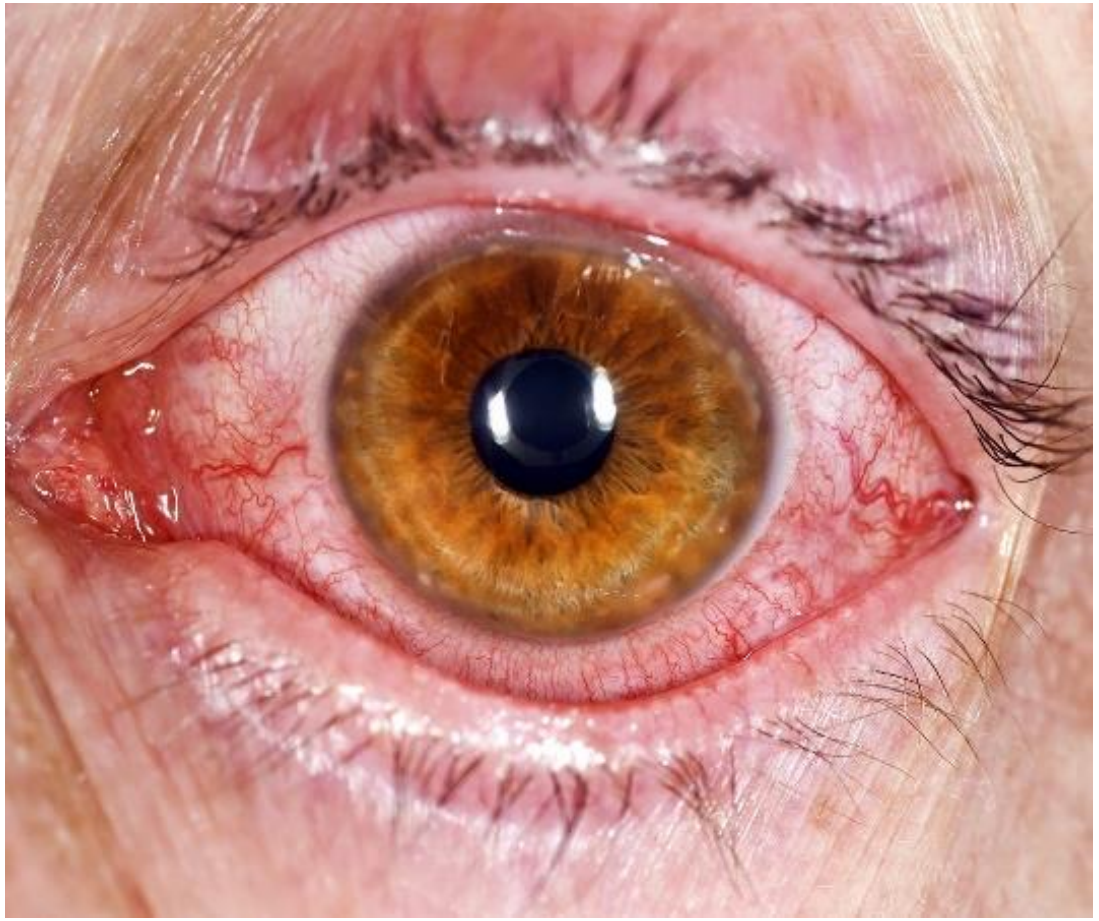
- Some parts of the region have lower MMR uptake, with a quarter of Birmingham children not having been fully vaccinated by the time they start school.

Measles: key facts



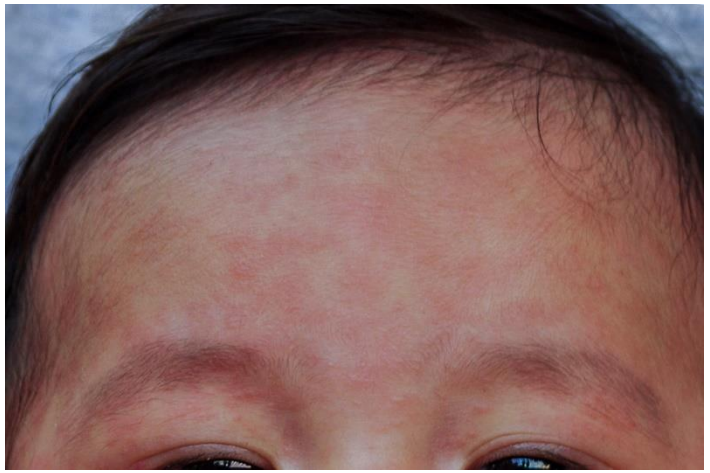
- Measles is caused by a virus that spreads very easily. One case of measles can infect 9 out of 10 of unvaccinated close contacts
- Transmitted through the respiratory route (airborne or droplet spread) or by direct contact with the nasal or throat secretions of infected persons
- Incubation period: 10 to 12 days from exposure to onset of symptoms, but can vary from 7 to 21 days
- Infectious period: **4 days before onset of rash to 4 days after onset of rash** (this can be longer if patients are immunosuppressed)

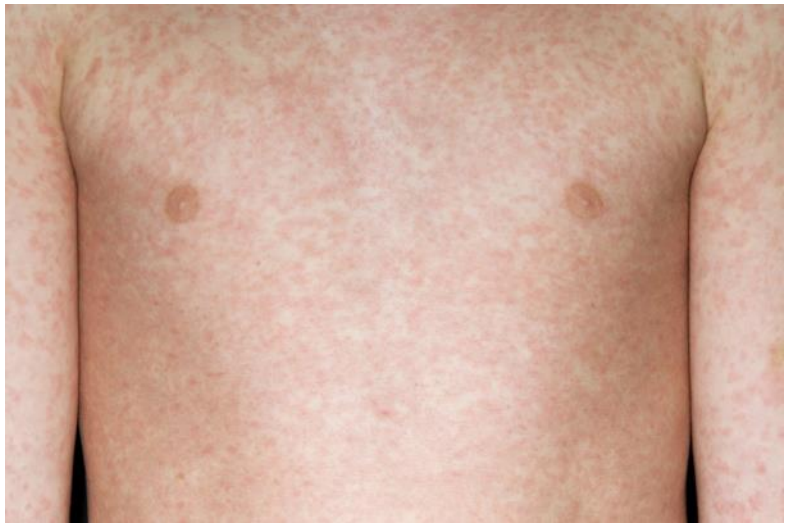
Clinical presentation: prodromal phase

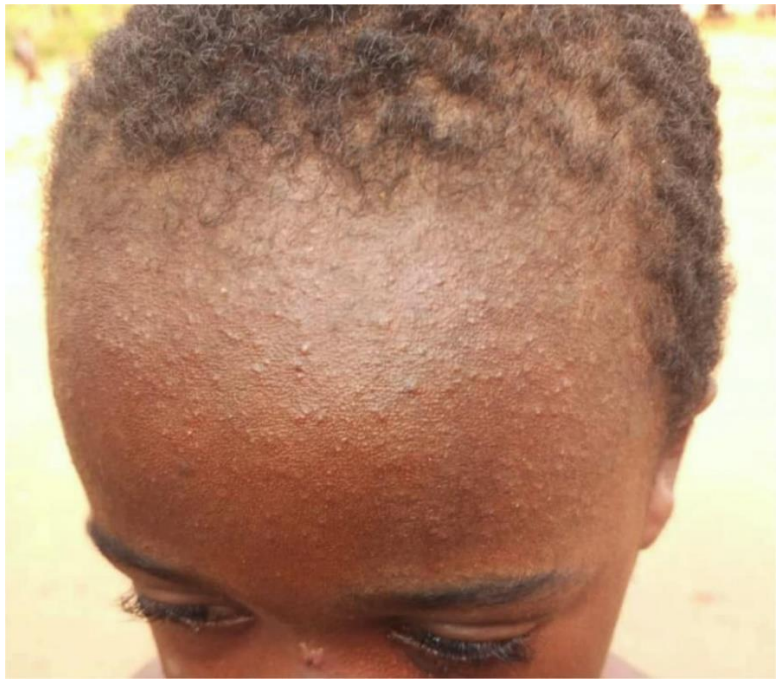


- 2 to 4 days **before** the rash appears:
  - high fever
  - cough
  - coryza (runny nose)
  - **conjunctivitis (pink eye)**
- fever typically increases to its peak around the time of rash onset

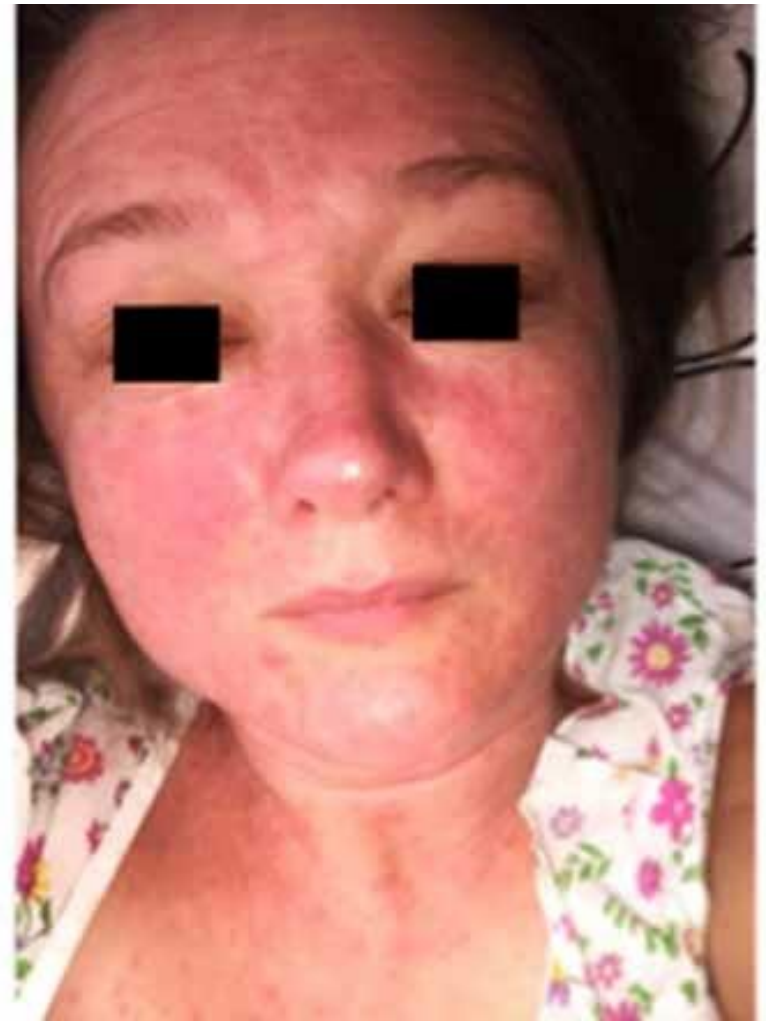
Clinical presentation-rash







Cases are infectious from 4 days before onset of rash to 4 days afterwards



Complications

- Measles can lead to direct complications, or other opportunistic infections. In the general population, complications include

- otitis media (7 to 9% of cases)
- diarrhoea (8%)
- pneumonia (1 to 6%)
- convulsions (0.5%)
- encephalitis (1 to 4 per 1,000 to 2,000 cases)
- Subacute sclerosing panencephalitis (SSPE) a serious degenerative disease of the nervous system

Differential Diagnosis and risk assessment

- Initial stages may present as generalised illness – fever, headache, coryzal symptoms.
  - Observations may flag for sepsis.

- Several other common rash illnesses have similar presentations and can be considered as part of the differential diagnosis e.g. chickenpox, rubella, roseola, parvovirus infection, hand, foot and mouth disease, scarlet fever.

- Further information is available in the **Viral rash in Pregnancy guidance** https://www.gov.uk/government/publications/viral-rash-in-pregnancy

Factors that increase the likelihood of a measles diagnosis:

- Age: typical clinical presentation in a teenager or adult more likely to be measles.
- Unvaccinated or partially vaccinated – check with GP, many people may be unsure of vaccination history.
- Contact with a confirmed or suspected case.
- Living in or visiting areas where measles is circulating.
- Member of community with sub-optimal vaccine uptake.
- Attended mass gatherings (e.g. festivals).

Complications in Pregnancy

In pregnancy, measles can lead to miscarriage, stillbirth, premature birth or low birth weight.

- There is no link with measles infection and congenital abnormalities.
- Pregnant women with measles have a high incidence of:
  - Requiring hospital admission (approx. 50%)
  - Viral pneumonitis (40%)

Infants who contract measles are more likely than the general population to develop:

- Respiratory complications
- Encephalitis
- Febrile seizures
- Subacute Sclerosing Panencephalitis (SSPE)

Risk assessment of contacts

- Because measles is highly infectious, contacts who are not immune are very likely to develop the infection.
- They may be infectious before symptoms develop.

contact tracing is vital

- A contact is defined as:
  - face to face contact of any length or
  - more than 15 minutes in a small, confined area, e.g. a bay, waiting room, or household
- The most vulnerable contacts are:
  - Infants (under 12 months)
  - pregnant women
  - immunosuppressed individuals

Risk assessment of contacts; healthcare

- Contacts who have received an MMR vaccination or have proven measles immunity should be informed of the contact.
- Contacts who have not been vaccinated, or who do not have proven measles immunity will be excluded from work for 21 days (duration of the incubation period).
- The setting may arrange serology to determine if the contact is immune to measles. If they have this blood test within 7 days and are immune, they can return to work.
- Everyone working in healthcare should have 2 MMR vaccinations.
- Contacts who have not been vaccinated should be offered MMR within 72 hours of exposure.
- If a HCW is vulnerable and it is indicated, Human Normal Immunoglobulin (HNIG) should be given as soon as possible, ideally within 72 hours and up to 6 days after exposure
- For further information see: Measles Post-exposure Prophylaxis guidance: National measles guidelines - GOV.UK (www.gov.uk)

Risk assessment of contacts; pregnancy

- Pregnant women who have received their MMR vaccinations are considered immune
- Pregnant women who have no documented MMR vaccinations must be assessed for immunity via serology. Booking bloods can be used for this testing.
- If indicated, HNIG should be given as soon as possible, ideally within 72 hours and up to 6 days after exposure
- Recommendations for pregnant women are based on a combination of age, vaccination history and / or antibody testing. For further information see: National measles guidelines - GOV.UK (www.gov.uk)

Risk assessment of contacts; newborns

- Any infants under 12 months of age are not immune to measles
- Because of the serious consequences of measles, contacts will be assessed and offered HNIG
- For infants born to a mother with measles infection, where rash appears between 6 days before birth to 6 days after birth, HNIG is advised

Importance for maternity services

- pregnant women and newborns are at an increased risk of severe measles complications
- infection in pregnancy can lead to miscarriage, preterm birth, low birth weight

Maternity service **staff** should:

- have documented evidence of 2 doses of the MMR vaccine or have positive antibody tests for measles and rubella, according to national guidance
- check MMR status of all pregnant women and refer those who are unvaccinated or partially vaccinated to their GP practice to catch-up after they deliver
- take appropriate action if a pregnant woman presents with a rash or is exposed to a suspected case of measles

For pregnant women with measles, or who are none immune contacts, consider:

- How maternity will provide routine maternity care, ensuring risk is minimised to other patients
- How maternity will respond to urgent presentations, e.g. via maternity triage
- How serology may be arranged for contacts, and how HNIG can be administered
- Obstetric oversight for any women with measles infection
- Inform neonates for any women who develop measles late in pregnancy, or where birth is imminent

MMR vaccine

- there are 2 MMR vaccines currently available for use in the NHS: Priorix and MMRVaxPro
- both vaccines contain **live**, modified strains of measles, mumps and rubella viruses therefore they are **contraindicated** in pregnancy see full detail here.
- MMRVaxPRO contains gelatine of porcine origin as a stabiliser
- practices who serve communities who prefer porcine gelatine free products should order Priorix preferentially via Immform
- MMR vaccines do not contain thiomersal or any preservatives
- vaccine effectiveness of a single dose of MMR vaccine is around 95%. A second dose protects those who do not respond to the first - protection then increases to well above 95%

UK schedule:

Dose 1 at 1 year of age

Dose 2 at 3 years and 4 months

Infection prevention and control: key actions

Standard Infection Control Precautions (SICPs) must be used by all healthcare workers at all times and in all settings. Comprehensive guidance and advice, including PPE, is available in the National Infection Prevention & Control Manual (NIPCM)

Staff involved in direct patient care (including anyone who has contact with patients e.g. porters, domestics, reception staff) should have documented evidence of 2 doses of the MMR vaccine or have positive antibody tests for measles, in keeping with national guidance

Transmission Based Precautions (TBPs) NHS England » Chapter 2: Transmission based precautions (TBPs) must be followed in addition to SICPs when caring for a laboratory-confirmed or suspected case of measles while they are considered to be infectious. More information can be found in appendix 11a of the NIPCM.

Measles is transmitted through the respiratory route (airborne or droplet spread) or by direct contact with the nasal or throat secretions of infected persons

Following suspected/confirmed patient vacation of the care area, allow sufficient time for clearance of infectious particles Refer to (HTM) 03-01 Specialised ventilation for healthcare buildings before cleaning/ decontaminating using either:

- a combined detergent/disinfectant solution at a dilution of 1,000 parts per million available chlorine (ppm available chlorine (av.cl.)); or
- a general-purpose neutral detergent in warm water followed by a solution of 1,000ppm av.cl).
- a locally approved detergent and disinfectant.

Rooms/areas must be cleaned from highest to lowest points and from least to most contaminated points ensuring local policies are followed at all times.

Key actions

- **staff** should have documented evidence of 2 doses of the MMR vaccine or have positive antibody tests for measles and rubella, according to national guidance
- check **MMR status of all pregnant women** and refer unvaccinated / partially vaccinated women to their GP practice to catch-up after they deliver
- direct anyone presenting with a **rash,** or who is **a known, vulnerable contact of a measles case** to a side room on arrival
- unvaccinated pregnant contacts of a known case of measles (diagnosed by a healthcare professional) may require **urgent** serology and immunoglobulin (HNIG)
- please **contact your local Health Protection Team (HPT)** (details can be found here https://www.gov.uk/health-protection-team) urgently for assistance with a risk assessment and advice on post exposure prophylaxis. Your HPT and Infection Prevention Control Team will also lead on a **risk assessment for measles outbreak investigation and response**

Resources:

1. UKHSA National Measles guidance (including post-exposure prophylaxis): National measles guidelines - GOV.UK (www.gov.uk)
2. UKHSA template warn and inform letter: https://www.gov.uk/government/publications/measles-mumps-and-rubella-mmr-surveillance-form
3. Viral Rash in pregnancy guidance: https://www.gov.uk/government/publications/viral-rash-in-pregnancy
4. Measles Poster for health professionals: Measles: guidance, data and analysis - GOV.UK (www.gov.uk) (found under clinical management subheading)
5. Measles Green Book Chapter: https://www.gov.uk/government/publications/measles-the-green-book-chapter-21
6. NHS Infection Prevention and Control Manual: https://www.england.nhs.uk/publication/national-infection-prevention-and-control/
7. Immunisation of healthcare and laboratory staff: the green book, chapter 12: https://www.gov.uk/government/publications/immunisation-of-healthcare-and-laboratory-staff-the-green-book-chapter-12
8. Health and Social Care Act 2008: code of practice on the prevention and control of infections: https://www.gov.uk/government/publications/the-health-and-social-care-act-2008-code-of-practice-on-the-prevention-and-control-of-infections-and-related-guidance

Resources:

7. UK Measles and Rubella Elimination Strategy, UKHSA (formerly PHE), published January 2019: https://www.gov.uk/government/publications/measles-and-rubella-elimination-uk-strategy
8. MMR for all leaflet – routine programme: https://www.gov.uk/government/publications/mmr-for-all-general-leaflet
9. Pregnancy and immunisation leaflet: Pregnant? Immunisation helps to protect you and your baby from infectious diseases (publishing.service.gov.uk)
10. Measles: Protect yourself, protect others' leaflet: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/689712/Measles_adults_DL_Leaflet_03_.pdf
11. UKHSA Blog: What do I need to know about the MMR vaccine: https://ukhsa.blog.gov.uk/2022/02/01/what-do-i-need-to-know-about-the-mmr-vaccine/
12. Health Protection in children and young people settings including education: https://www.gov.uk/government/publications/health-protection-in-schools-and-other-childcare-facilities
13. Measles outbreaks poster and leaflets: https://www.gov.uk/government/publications/measles-outbreak

Thank you for listening

Please provide feedback on this event:

https://forms.microsoft.com/e/sp5B3N0Aeq

NHS England Midlands