

# ***Rubella and pregnancy during the seasonal increase in rubella, 2024***

## **Frequently Asked Questions**

### **1. Why is South Africa experiencing a larger than usual rubella season?**

Many children entered 2024 without prior exposure to rubella, or without being vaccinated against rubella for two reasons.

- The South African National Department of Health has only included rubella vaccine in the Expanded programme of immunisation (EPI) in the second half of 2024. Immunity to rubella infection or rubella vaccination is life long. If children are not vaccinated against rubella, and never come into contact with rubella virus through natural infection, children will remain susceptible to rubella.
- The non-pharmaceutical interventions that were applied during the SARS-CoV-2 pandemic interrupted transmission of rubella, and for the period 2020-2022 there were almost no rubella cases identified from the NDoH/NICD fever-rash surveillance.

This means that children who were born in the last 3-5 years and children between the age of 5-14 years who have not been infected before 2020 during seasonal rubella have had very little natural exposure to wild-type rubella virus, and have not received rubella vaccine. This has created an 'immunity gap' – ie a larger than usual number of children who are susceptible to rubella. The seasonal increase in 2024 has exposed these many susceptible children to rubella infection, and thus, there is a larger number of rubella cases than in prior years.

### **2. What is rubella and what is congenital rubella syndrome?**

Rubella infection is a mild, self-limited illness that causes a rash and fever, with conjunctivitis, swollen glands, and flu-like symptoms. Many people with rubella have no symptoms. Rubella infection has no complications in children and adults. Congenital rubella syndrome (CRS) is a major complication of rubella infection. Rubella infection in early pregnancy can lead to miscarriage or intra-uterine foetal death. If the pregnancy carries on till delivery, the baby can present with CRS. A neonate with CRS may have any combination of heart defects, blindness, deafness, meningitis, jaundice, mental retardation or bone disease.

### **3. Who can get congenital rubella syndrome?**

Congenital rubella syndrome happens when a susceptible mother (who was not vaccinated against rubella, or had natural rubella infection at some point in her life) becomes infected with rubella virus during the first 12 weeks of pregnancy. During the mother's rubella infection, the virus crosses the placenta and infects the fetus. The virus interferes with the development of the heart, eyes, ears and brain. The risk of congenital rubella syndrome is related to fetus's (gestational) age at the time of the mother's infection. The risk of foetal infection varies according to the time of onset of maternal infection. The risk is above 80% between week 0 and 12 after the last menstrual period (LMP). Infection before the mother's LMP presents a almost no risk for the developing embryo. In cases of later infection, i.e. between week 15 and week 30 after LMP, the risk of CRS decreases to about 30%. After 36 weeks of gestational age, infants will become infected with rubella virus, but congenital abnormalities don't occur. This is called 'Congenital

rubella infection' or CRI. Neonates with CRS shed large quantities of rubella virus in their pharyngeal secretions and urine for up to a year after birth and are infectious.

#### **4. How is acute rubella diagnosed in a pregnant mother**

Acute rubella in an adult usually presents with fever and a mild redish blotchy (maculo-papular) rash. A blood test will usually be positive for IgM rubella antibodies by the time the rash appears. A PCR test on blood will be positive for a short period before and up to the rash onset, but a nasopharyngeal swab may be PCR positive for rubella virus for longer periods including after the rash has appeared. However, up to 50% of children and adults with rubella have no symptoms. Moms who have given birth to infants with CRS often do not recall a rubella-like illness during their pregnancy

#### **5. How is congenital rubella syndrome diagnosed in an unborn infant?**

A pregnant mother who has been diagnosed with acute rubella during her pregnancy should be referred to a specialist obstetric care unit. Usually an ultrasound will be done to look for the presence of congenital heart disease, and other evidence of infection that may be visible. If it is possible to do amnioscentesis (obtaining fluid by inserting a needle into the womb), this fluid may contain the rubella virus. If there is evidence of fetal infection, the clinician will discuss options with the mother which may include a termination of pregnancy. There is no treatment for CRS.

#### **6. How is congenital rubella syndrome diagnosed in a newborn infant?**

CRS is often suspected when an infant is born with congenital heart defects, deafness, blindness, neurological complications or other evidence of infection. When a doctor suspects CRS, they should send blood and nasopharyngeal swabs for rubella antibody and PCR testing. Specimens from the nasopharynx, urine, CSF and conjunctiva of infants with CRS usually contain rubella virus. The lens material from neonates with congenital cataracts may also be tested for rubella virus using PCR.

#### **7. How can specimens from pregnant mothers or infants with suspected CRS infections get tested for rubella?**

All blood, nasopharyngeal swabs, urine or other specimen should be marked 'Priority sample, URGENT testing required', and sent as soon as possible to the NICD. An email should also be sent to Busisiwe Masengemi [BusisiweM@nicd.ac.za](mailto:BusisiweM@nicd.ac.za) (NICD receiving office), Jayendrie Thaver [jayendriet@nicd.ac.za](mailto:jayendriet@nicd.ac.za) and Lillian Makhathini [LillianM@nicd.ac.za](mailto:LillianM@nicd.ac.za) (both from CVI laboratory) requesting urgent testing.

#### **8. How can congenital rubella syndrome be prevented?**

All women of reproductive age who are intending to become pregnant should ask for a rubella immunity test. If they are not immune, they should ask for a rubella vaccine. This may be given together with the measles vaccine as a booster for adults, or it can be purchased in the private sector as the measles-mumps-rubella vaccine (MMR). If a women is pregnant already, and discovers that she is not immune to rubella, she should avoid contact with people, especially children during the current rubella season. The rubella vaccine should not be given to pregnant women as it can cause CRS in rare instances.

#### **9. Where can I find out more information?**

**Guidelines and other documents:** NICD website at [www.nicd.ac.za](http://www.nicd.ac.za) under the 'Diseases A-Z' tab.

**Medical/clinical related queries:** NICD Hotline +27 (for use by healthcare professionals only).

**Laboratory related queries and results:** Centre for Vaccines and Immunology Laboratory: +27 11 386 6536.