

# Unprotected People #81

## Rubella

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### Imported Case of Congenital Rubella Syndrome—New Hampshire, 2005

*On November 18, CDC reported on an imported case of congenital rubella syndrome (CRS). The article describes a public health investigation that involved a case of CRS in an infant born in New Hampshire to refugee parents.*

*An independent panel convened by CDC in 2004 declared rubella no longer endemic in the United States; however, rubella remains endemic in other parts of the world. Therefore, CRS should be considered in infants with compatible clinical signs, particularly in those born to mothers who resided in countries without rubella elimination programs or with recently implemented programs. Since rubella virus can be shed by an infant with CRS up to one year after birth, prompt diagnosis of CRS, along with rubella vaccination of susceptible persons, will prevent the transmission of rubella.*

*The report, "Imported Case of Congenital Rubella Syndrome—New Hampshire, 2005" appeared in the November 18 issue of MMWR. It is based on contributions by the Manchester Health Department, Manchester, NH; Dartmouth Hitchcock Medical Center, Lebanon, NH; and the New Hampshire Department of Health and Human Services. It was reported by health professionals at the Epidemiology and Surveillance Division and the Viral and Rickettsial Diseases Division of CDC. It is reprinted below in its entirety, excluding references.*

#### **Imported Case of Congenital Rubella Syndrome—New Hampshire, 2005**

In 2004, an independent panel convened by CDC declared rubella no longer endemic in the United States. Nine cases of rubella were reported in 2004, and four cases of congenital rubella syndrome (CRS) were reported during 2001–2004. However, worldwide, an estimated 100,000 infants are born with CRS annually. This report describes a case of imported CRS diagnosed in an infant girl aged 10

weeks born in New Hampshire to Liberian refugee parents. To prevent transmission of rubella, clinicians should consider a diagnosis of CRS in infants with compatible clinical signs, particularly those born to mothers who recently emigrated from countries without rubella control programs, and rubella vaccine should be administered to susceptible persons.

The infant's family resettled in the United States on February 17, 2004. On March 1, 2004, the family reported to a local health department for refugee health screening, which included review of vaccination history and receipt of additional vaccinations recommended by the Advisory Committee on Immunization Practices. A medical record from the International Organization of Migration indicated that the mother had received measles vaccination during refugee encampment in Cote d'Ivoire in October 2003; no additional vaccination history was documented. Contraindications to live virus vaccination, including current or planned pregnancy, were assessed with assistance of a trained medical interpreter. No contraindications were reported, and the mother received vaccinations, including measles-mumps-rubella (MMR) vaccination.

On March 26, 2004, the infant's mother reported to an emergency department (ED) with nausea and vomiting and was determined by urine test to be pregnant, with confirmation by blood test. During a routine prenatal visit 1 month later, the mother was determined to be immune to rubella on the basis of presence of rubella-specific IgG antibodies. On November 4, 2004, she gave birth to a female infant weighing 5 lbs, 10 oz. Estimated gestational age was approximately 38 weeks on the basis of prenatal ultrasound performed during the first trimester of pregnancy. At birth, the infant was

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noted to have a left eye cataract, prompting referral to an ophthalmologist, who repaired the cataract 5 weeks later. A newborn hearing screen was conducted; the infant's right ear passed the screening test but the left ear required further evaluation by an audiologist. No other physical abnormalities were noted. During two subsequent well-baby visits, a head circumference of less than the 5th percentile was noted. No other abnormalities were noted.

At age 10 weeks, the infant was taken to an ED with fever, vomiting, irritability, and poor feeding and was hospitalized. During her hospital course, the infant received diagnoses of microcephaly, patent ductus arteriosus, bilateral hearing impairment, hepatosplenomegaly, and failure to thrive. On the basis of these clinical findings, CRS was suspected. Diagnosis was confirmed by positive rubella IgM and positive viral cultures from urine and nasopharyngeal specimens. The genetic sequence was determined to be that of the wild-type rubella virus (a similar sequence to one found in Uganda in 2001) by laboratories at CDC.

Contact investigation by the state and local health departments targeted community and medical settings in which exposure might have occurred. Contacts were defined as those who had touched the infant or come into contact with the infant's secretions. Of 20 contacts identified, 18 were immune to rubella by history or antibody titer. One contact could not be reached, and one was unvaccinated because of human immunodeficiency virus infection. The unvaccinated person exhibited no symptoms of rubella infection for at least 4 weeks after contact with the infant.

On January 31, 2005, the U.S. Department of State notified investigators that a rubella outbreak had occurred during February–April 2004 in Cote d'Ivoire. This outbreak, linked to four refugee transit

centers, resulted in 34 confirmed rubella cases; no cases of CRS were documented. The first rubella case had been identified on February 14 and resulted in administration of approximately 3,000 doses of MMR vaccine to refugees. The transit center in which the infant's family had lived was unaffected by this outbreak, but the family had come into contact with refugees from affected transit centers during a brief hotel stay in Abidjan, Cote d'Ivoire, on February 16 before departing for the United States. On the basis of the infant's estimated gestational age, the mother's last menstrual period and conception were projected to have occurred on February 8 and February 22, 2004, respectively. Viremia begins 5–7 days after exposure to rubella and lasts approximately 1 week; in utero infection of the fetus likely occurred during this viremic stage.

The mother reported no history of symptoms of acute rubella infection, including rash, fever, lymphadenopathy, or arthralgia, either before leaving Cote d'Ivoire or after resettlement. However, subclinical infections are estimated to occur in up to 50% of rubella cases.

Clinicians should maintain a high index of suspicion for CRS in infants exhibiting relevant clinical signs, particularly infants of recently immigrated women who were born or resided in countries that have no national rubella control program or only recently implemented a program. Congenital rubella infection can affect all organ systems. Manifestations of CRS include deafness, cataracts, heart defects, microcephaly, mental retardation, bone abnormalities, and liver and spleen damage. Timely diagnosis of CRS can prevent exposure of vulnerable persons to rubella virus shed by an infant with CRS. Vaccination of susceptible populations, such as recently resettled refugees, and of those who serve these populations will also help prevent disease transmission.