



## Rubella Vaccine

Revised: October 31, 2018.

### Drug Levels and Effects

#### Summary of Use during Lactation

The Centers for Disease Control and Prevention and several health professional organizations state that vaccines given to a nursing mother do not affect the safety of breastfeeding for mothers or infants and that breastfeeding is not a contraindication to rubella vaccine. Breastfed infants should be vaccinated according to the routine recommended schedules. Although rubella vaccine virus might be excreted into milk, the virus usually does not infect the infant. If an infection does occur, it is well tolerated because the viruses are attenuated.[1][2][3]

#### Drug Levels

*Maternal Levels.* Early studies found no transmission of rubella virus to breastfed infants. None of 18 infants who were breastfed after maternal vaccination with rubella vaccine (various strains) had detectable antibodies in one study.[4]

Another study of two strains of rubella vaccine (HPV -77 DE5 and RA 27 /3) given by subcutaneous injection or intranasal inhalation found infectious rubella virus or virus antigen in the breastmilk of 8 of the 13 women.[5]

A study of mothers vaccinated with the Cendehill strain of live, attenuated rubella virus found no transmission of the live virus to their breastfed infants.[6] However, rubella vaccine virus can appear in breastmilk and result in infections in some infants.[7][8][9] See "Reported Side Effects In Breastfed Infants" below.

In a prospective study, 169 mothers with low titers of either measles or rubella were given MR vaccine (Schwarz FF-8 strain/TO-336 strain; Takeda Pharmaceutical Co. Ltd, Osaka, Japan) at their 1-month postnatal checkup. Mothers provided 5 mL of breastmilk 2 weeks later. Rubella virus antigen was not detected in the breastmilk of any mothers.[10] *Infant Levels.* Relevant published information was not found as of the revision date.

#### Effects in Breastfed Infants

Limited data indicate that breastfeeding can enhance the response of the infant to certain vaccine antigens.[1][3][11]

A paper reported on 511 women who received rubella vaccine in the immediate postpartum period. Three strains were studied: Cendehill (n = 210), HPV-77 DE-5 (Meruvax; n = 182) and RA 27/3 (n = 119). Sixty-three

infants, 67% of whom were breastfed, were studied at 2 to 8 months of age. None of them had any evidence of side effects or seroconversion from maternal vaccination.[12]

One 12-day-old breastfed infant developed a rubella infection 11 days after maternal vaccination with live rubella vaccine.[13] However, it is questionable if maternal vaccination was the cause of the infant's infection. [14]

Another breastfed infant had live rubella vaccine virus isolated from a throat swab after maternal immunization. The infant did not demonstrate seroconversion or adverse reactions.[7]

Some breastfed infants acquire passive immunity to rubella after maternal vaccination as do infants of mothers with natural rubella immunity. However, neither group of infants has a decreased response to rubella vaccine administered to the infant at 15 to 18 months of age.[8]

After immunization of their mothers with rubella vaccine, 25% of breastfed infants in one study showed transient seroconversion to rubella virus (RA 27/3 strain), but without any clinical disease.[9]

## Effects on Lactation and Breastmilk

Relevant published information was not found as of the revision date.

## References

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## **Substance Identification**

### **Substance Name**

Rubella Vaccine

### **Drug Class**

Breast Feeding

Lactation

Vaccines