

Non-infected babies born to HIV mothers have reduced immunity to measles

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Non-infected babies born to HIV positive mothers should be vaccinated early against measles, to avoid them acquiring the virus or passing it on to others.

A study published in the November issue of *Acta Paediatrica* found that even if babies are born without HIV, their maternally derived protection against measles may be impaired by their mother's positive [HIV status](#).

"The eradication of measles is high on the agendas of the [World Health Organization](#) and other international agencies and it is important to define and target any new group of susceptible infants" says Dr Lars Smedman from the Department of Paediatrics at Karolinska University Hospital, Stockholm, Sweden.

According to the World Health Organization, measles is one of the leading causes of death among young children. Complications of this highly contagious, serious disease can include [bacterial pneumonia](#), blindness, destructive ear infections, severe diarrhoea and related dehydration.

In 2010 there were 139,300 deaths globally, which equates to 380 a day or 15 an hour. However, in 1980, before widespread immunisation, measles caused an estimated 2.6 million deaths a year. Immunisations have risen by 72% since 2000 and in 2010 about 85 per cent of the World's children received one dose of the [measles vaccine](#) by their first birthday.

Dr Smedman and colleagues compared [blood serum](#) samples from ten babies aged one to four months who were born to HIV mothers, but had not acquired the infection, to ten healthy babies born to mothers without HIV.

The mothers ranged from 26 to 35 years of age, were all immigrants and originated from Ethiopia, the Ivory Coast, Uganda, Kenya and Thailand. Their [viral loads](#) ranged from less than 20 to 8,870 and their CD4 cell counts from 237 to 754.

Nine gave birth by planned or emergency caesarean, with only one [vaginal birth](#), and the [gestational age](#) of the babies ranged from 32 to 41 weeks.

"We used a new cell ELISA technique to demonstrate how the serum samples drawn from the infants would inactivate the measles virus" explains Dr Smedman.

"This found statistically significant differences between the maternal antibodies received by the two sets of babies and showed that the non-infected babies born to HIV positive mothers had weaker protection. This was because the antibodies normally produced by the mother to help protect her baby from measles had lost their sharp edge due to her HIV positive status.

"The results suggest that babies born to HIV mothers would not be able to neutralise the measles virus as effectively and would lose protection sooner than babies born to healthy mothers. These babies would therefore be much more likely to succumb to measles and, or, pass the virus on to other children, making their early immunisation vital."

More information: onlinelibrary.wiley.com/doi/10.1012.02793.x/abstract

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