

Vaccine expert advises: Immunization should be given as early in life as possible

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Parents should not be worried, that early vaccination would overwhelm their babies. Recent data show, that the immune system of newborns is able to respond to a world full of antigens already at birth. Therefore, vaccines should be given as early in life as possible to minimize the risk of damage by a potentially harmful infection, says Prof. Dr. Claire-Anne Siegrist, Head of the Center for Vaccinology and Neonatal Immunology, University of Geneva, at the 2nd European Congress of Immunology ECI 2009.

Many parents would prefer to postpone the vaccination of their babies until these are older, by fear that their young immune system would be too weak or overwhelmed by the vaccines. In contrast, pediatricians insist that babies should be immunized as rapidly as possible after birth against the most dreadful [microbes](#) causing [bacterial meningitis](#) or whooping cough. These infections can cause irreversible damage or even kill the children.

During their first three months in life, [newborns](#) are protected by antibodies from their mothers' blood. There is a lack of protection between three months and 24 months, when the immune system is fully developed. During this time, the children are extremely susceptible for infections, which indicate the urgent need for an early immunization.

Recent work has demonstrated that the neonatal immune system is indeed well equipped to avoid harmful inflammatory responses while responding very well to specific stimulations such as that provided by

immunization. Remarkably, infants vaccinated in presence of maternal antibodies raise excellent cellular immune responses, which are not transmitted from mothers to babies and contribute to protection.

“Vaccine antibody responses are weaker in infants than later in life, which represents a challenge that vaccines have to overcome”, says Siegrist. “But these are not limitations but a fine tuning, such that any excessive stimulation may not overwhelm even an immature immune system.”

Immune memory may be elicited already at birth, helping [babies](#) to react quickly when they encounter an aggressive microbe after the protection by [maternal antibodies](#) is over. Thus, parents need not to worry: Nature has ensured that the neonatal [immune system](#) is specifically adapted to respond to a world full of antigens and immunizations may indeed be given as early in life as possible.

Source: German Society for Immunology

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