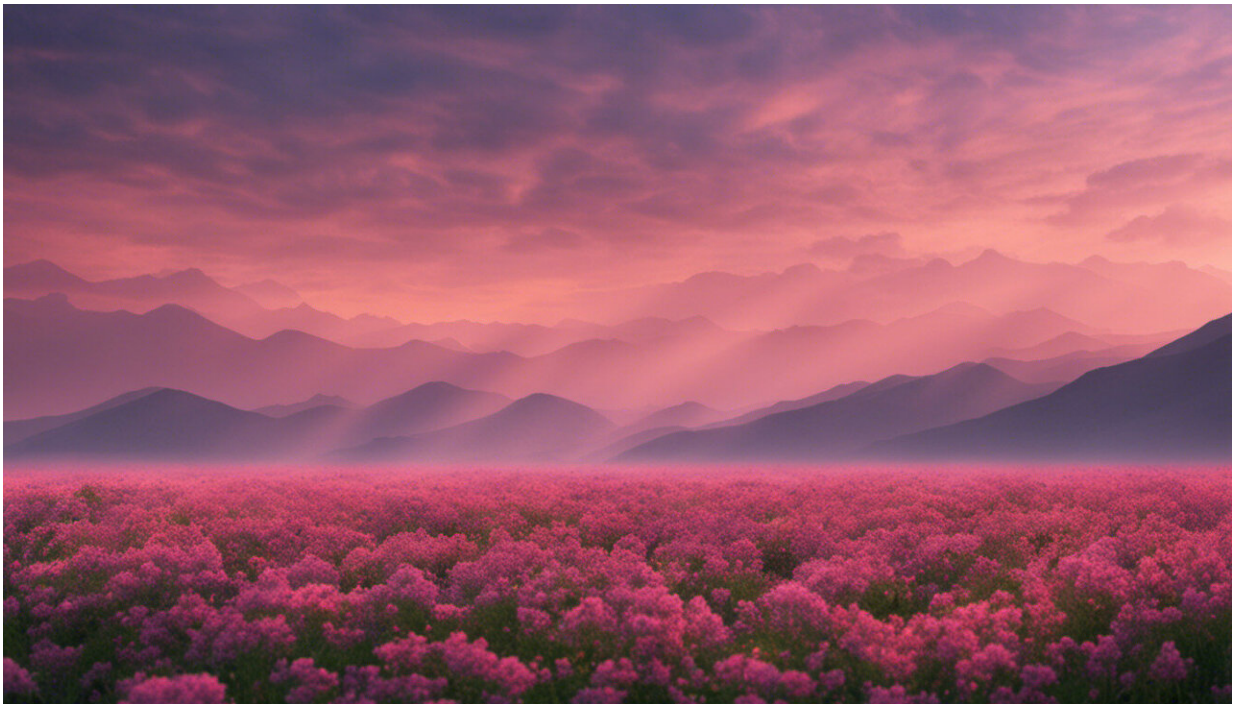


Study finds HPV vaccine protects children with vulnerable immune systems

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Credit: AI-generated image ([disclaimer](#))

While the protective benefits of the HPV vaccine in the general population are well known, new research shows it may also benefit children with weakened immune systems who are at higher risk of HPV-related cancers.

The research, led by UNSW, suggests children with conditions such as

inflammatory bowel disease and juvenile arthritis or those requiring organ or bone marrow transplants, received a boost in immune response after receiving the vaccine.

The human papillomavirus (HPV) is associated with several cancers including cervical, head and neck, anogenital and throat cancer. Children who are immunosuppressed are particularly vulnerable.

Despite this increased burden, only a few studies have examined how the HPV vaccine provokes an [immune response](#) in the body in children with weakened immune systems. These studies have focused on those with HIV, [inflammatory bowel disease](#) and rheumatological conditions.

The UNSW study enrolled 59 unvaccinated children aged between 5–18 years of age from three Australian children's hospitals. The children were receiving treatment for a range of specified conditions associated with immunosuppression.

Three doses of quadrivalent HPV vaccine (Gardasil), which prevents four HPV types, were given to the participants. Serum anti-HPV antibody levels were measured before first dose then at seven and 24 months after the first dose of vaccine.

Lead author UNSW Professor Raina Macintyre said the vaccine was well tolerated by immunosuppressed patients, with few local or systematic adverse events reported.

"The immune responses were adequate in these children with weakened immune systems, which was reassuring," Professor Macintyre said.

"We know that HPV related cancers occur at higher frequency and earlier in immunosuppressed patients, so prevention is a high priority in such children.

"In fact, one child in the study developed cancer, illustrating the high risk of early onset cancers in immunosuppressed children.

"Early vaccination and optimal scheduling should be further studied in such children to ensure we they receive the best protection possible," Professor Macintyre said.

Limitations to the study include the small sample size and lack of a control or placebo group. The researchers are doing ongoing research to determine long term immunity in immunosuppressed [children](#).

More information: C. Raina MacIntyre et al. Immunogenicity and persistence of immunity of a quadrivalent Human Papillomavirus (HPV) vaccine in immunocompromised children, *Vaccine* (2016). [DOI: 10.1016/j.vaccine.2016.06.049](#)

Provided by University of New South Wales

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