

# HPV vaccination alongside surgical treatment for cervical lesions may reduce risk of further disease

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Gardasil vaccine and box. Image: Wikipedia

Giving women the human papillomavirus (HPV) vaccine around the time they have surgery for precancerous cervical lesions might lead to a reduction in the risk of lesions returning as well as other HPV-related diseases, suggests a study published by *The BMJ* today.

The researchers stress, however, that the quality of evidence ranged from very low to moderate and further high quality trials are needed to confirm these results.

HPV vaccination is highly effective at preventing the development of precancerous [cervical lesions](#) (cervical intraepithelial neoplasia or CIN).

Many countries, including the UK, offer HPV vaccination to girls and boys around the age of 12 or 13 to protect them against cervical cancer, and other related cancers, in later life.

CIN is divided into three grades: CIN1, 2 or 3.

Women who have been treated for high grade CIN have a lifelong residual high risk of cervical [cancer](#) and other malignancies related to HPV infection, and some research suggests that giving a preventive HPV [vaccine](#) alongside treatment for CIN might help to reduce the risk in these women.

To explore this further, researchers analyzed the results of 18 studies to assess the effect of HPV vaccination on risk of HPV infection or recurrence of lesions related to HPV infection after local surgical treatment.

These included two randomized controlled trials (RCTs), 12 observational studies, and four post hoc analyses of RCTs (when researchers re-examine data after a trial has finished).

The two trials were classified as low risk of bias, while in the observational studies and post hoc analyses, risk of bias was moderate for seven, serious for seven, and critical for two. Average length of follow-up was 36 months.

The results show that the risk of recurrence of high grade preinvasive disease (CIN2+) was reduced by 57% in individuals who were vaccinated compared with those who were not vaccinated.

The effect estimate was even stronger (a relative 74% reduction) when the risk of recurrence of CIN2+ was assessed for disease related to the two high-risk HPV types (HPV16 and HPV18), which are the cause of most cervical cancers.

However, the researchers note that these effects are unclear because of the scarcity of data and the moderate to high overall risk of bias of the available studies.

The risk of recurrence of higher grade CIN3 was also reduced in patients who were vaccinated but again, there was a high level of uncertainty about the quality of this evidence.

Evidence was also lacking on the benefit of HPV vaccination for recurrence of vulvar, vaginal or anal lesions, and genital warts.

The researchers acknowledge several limitations. For example, most of the studies were observational, of low to moderate quality, and with relatively short follow-up times, preventing assessment of long term effects.

What's more, average age of participants was not provided in most studies, and factors such as smoking (associated with a higher risk of recurrence) were not controlled for in many studies.

However, they say their use of stringent study inclusion criteria together with rigorous and systematic evaluation of study quality and risk of bias suggests the results are robust.

As such, they conclude that HPV vaccination might reduce the risk of recurrence of CIN, in particular when related to HPV16 or HPV18, in women treated with local excision, although the quality of evidence indicated that the data were inconclusive.

Large scale, high quality randomized controlled trials are required to establish the level of effectiveness and cost of HPV vaccination in women, they add.

**More information:** Role of human papillomavirus (HPV) vaccination on HPV infection and recurrence of HPV related disease after local surgical treatment: systematic review and meta-analysis, *The BMJ* (2022). [DOI: 10.1136/bmj-2022-070135](https://doi.org/10.1136/bmj-2022-070135)

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