

# HPV vaccine may prevent preterm births

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Chronic human papilloma virus (HPV)-infections can lead to cellular changes in the cervix that can be a pre-stage to cervical cancer. Surgical treatment of these pre-stages gives an increased risk of preterm birth in subsequent pregnancies. As the HPV-vaccine can prevent pre-stages of cervical cancer, it may therefore reduce the number of preterm births. A new Norwegian study has calculated the benefits of HPV-vaccination.

Cervical [cancer development](#) is a step-wise process that begins with minor cell changes caused by [HPV](#) infection. Cellular changes can progress and become more serious. Long-term, they can cause [cervical cancer](#) if untreated. Serious cellular changes are treated by surgically removing a part of the [cervix](#) (conisation). This gynaecological procedure gives an increased risk of a woman giving birth preterm in subsequent pregnancies.

In a newly published study in *Acta Obstetrica et Gynecologica*, Katrine D. Sjøborg and Anne Eskild calculated how many preterm deliveries could be avoided by systematic HPV-vaccination. Sjøborg is a consultant at R stfold Hospital and Eskild is based at the Norwegian Institute of Public Health and Akershus University Hospital.

Calculations in the study are based on the following parameters:

- proportion of [pregnant women](#) treated with conisation
- proportion with preterm births among women who have had conisation compared those who have not had conisation
- proportion of conisations that can be prevented by HPV-vaccination

- proportion of fertile women who are HPV-vaccinated

### *Benefits of HPV-vaccination*

In the study, figures from Europe and North-America are used. The results suggest that if 2 % of pregnant women are treated with conisation, between 60 and 220 preterm births per 100 000 births could be caused by surgical treatment. Nearly 60 % of these may be prevented by the HPV-vaccine, assuming that vaccination coverage is 90 %. This would mean that 35-128 preterm births per 100 000 births could be avoided. If 4 % of pregnant women are treated with conisation, 70 to 257 preterm births per 100 000 births could be avoided.

The study was not intended to state an exact figure of how many preterm births could be prevented by HPV-vaccination, but to illustrate potential benefits in this field.

Up to 10 % of all births in Scandinavia are preterm births. Only a small number of these are linked with conisation. [Preterm birth](#) can cause serious conditions in the child. Every case that can be prevented could save suffering for each child and their family. Nevertheless, there is a proven link between conisation and shorter pregnancy duration. HPV-vaccination can therefore have an important effect on prevention of extremely preterm births.

More information: Sjøborg, Katrine Dønvold and Eskild, Anne (2009) "Vaccination against human papillomavirus - an impact on preterm delivery? Estimations based on literature review", Acta Obstetricia et Gynecologica Scandinavica, 88:3, 255-260

Source: Norwegian Institute of Public Health

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