Human papillomavirus (HPV) vaccination factsheet: information for health professionals, parents and young people

The HPV vaccine is not new

The HPV vaccine has been used in the UK since 2008. More than 10 million doses have been given in the UK. More than 80 million people have been vaccinated worldwide.

Most young people are being vaccinated

Over 8 out of 10 parents choose to accept the HPV vaccine for their child. Most females aged 15 to 24 years in Wales have received two doses of their HPV vaccination in school and we anticipate that from 2020 most eligible boys will receive their vaccine in school too.

Is HPV infection common?

Yes, HPV is the name of a very common group of viruses. Most people will get some type of HPV in their life. The viruses do not cause problems in everyone, but some types can cause cancer and genital warts. The cancer causing types can affect the mouth, throat and genital area. They are easy to catch and pass on through sexual contact. HPV infection has no immediate symptoms, so you may not know if you have it.

Girls and boys should have the vaccine at the recommended ages

Vaccinating younger people is more effective at preventing the types of HPV infection passed on through sexual contact. So the best time to be vaccinated is between 12 and 14 years old.

Safe sex will not provide enough protection

HPV can spread by any sexual contact. Condoms do not completely prevent the risk of infection.

HPV vaccine works

In Wales, there has been a significant decrease in infections with the two main HPV types that can cause cancer (types 16 and 18). Scottish research has shown a decline – probably due to cross-protection – in three other HPV types linked to cancer (types 31, 33 and 45). This research also shows that the number of pre-cancerous lesions in the cervix has fallen in 7 out of 10 young women since the programme began.

Cases of genital warts caused by HPV (types 6 and 11) have also fallen significantly as a result of the HPV vaccination programme.

There is evidence from Australia, Denmark and England that the vaccine in having a major impact on HPV infections.

Are people reporting more side effects than expected after HPV?

To date, the number of reports to the Medicines and Healthcare Products Regulatory Agency (MHRA) of suspected side effects for HPV vaccines is not unusual.
The overwhelming majority relate to mild conditions commonly seen when you vaccinate teenagers (e.g. injection site reactions, rashes, mild allergic events, nausea, dizziness, fatigue and immediate faints due to needle phobia.)

The UK programme has already contributed to preventing future deaths from cancer. We expect it to eventually prevent hundreds of HPV cancer deaths every year.

The vaccine does not cause chronic fatigue syndrome

Current evidence does not support any association between HPV vaccine and chronic fatigue. In 2013, the MHRA conducted a large study in the UK which showed no link between HPV vaccine and illnesses such as chronic fatigue syndrome (CFS) and fibromyalgia.

Since then, population-based studies in Finland, Norway and The Netherlands have similarly found no evidence of an association. CFS does occur naturally in adolescence, and the evidence from these studies, and more than 10 years of use, would suggest that reports of CFS following HPV vaccine are coincidental.

Has there been any research into a link between the HPV vaccine and chronic illness?

Over the 10 years that HPV vaccine has been in use in the UK and around the world, more than thirty population-based studies and reviews have been published, and independent safety studies continue to be published. None of these studies have found any evidence to suggest that HPV vaccine is associated with the development of a wide range of serious and chronic illnesses.

Aside from thorough reviews by UK health authorities, several international authorities, including the Centers for Disease Control and Prevention in the USA, the World Health Organization, and the European Medicines Agency have looked carefully at the evidence and concluded that there is currently no credible evidence of a link between HPV vaccine and a range of chronic illnesses.
As with all vaccines, the safety of HPV vaccine will remain under close and continual review.

The product insert mentions a number of serious and chronic conditions. Does that mean that the HPV vaccine causes these conditions?

The EU product insert mentions conditions that may be associated with vaccination but existing research has found no direct link. An example is the inclusion of the nerve disorder Guillain Barre Syndrome, for which several epidemiological studies have found no evidence of a causal link to the vaccine.

Extensive reviews of vaccine safety have concluded that evidence does not support a link between HPV vaccine and the development of a range of chronic illnesses.

Further information

NHS Direct Wales www.nhsdirect.wales.nhs.uk/livewell/vaccinations/HPVvaccine/

The HPV vaccine: beating cervical cancer – questions and answers
www.gov.uk/government/publications/the-hpv-vaccine-beating-cervical-cancer-questions-and-answers

Gardasil: Summary of Product Characteristics and Patient Information Leaflet www.medicines.org.uk/emc/product/261/smpc

Jo's Trust www.jostrust.org.uk/about-cervical-cancer

References

1. Vichnin M et al. An Overview of Quadrivalent Human Papillomavirus Vaccine Safety: 2006 to 2015. Pediatr Infect Dis J. 2015 Sep; 34(9):983-91. Available at: www.ncbi.nlm.nih.gov/pubmed/26107345
2. Grimaldi-Bensouda L et al. Autoimmune disorders and quadrivalent human papillomavirus vaccination of young female subjects. J Intern Med. 2014 Apr; 275(4):398-408. Available at: www.ncbi.nlm.nih.gov/pubmed/24206418
3. Pellegrino P et al. On the relationship between human papilloma virus vaccine and autoimmune diseases. Autoimmun Rev. 2014 Jul;13(7):736-41 Available at: www.sciencedirect.com/science/article/abs/pii/S1568997214000664
4. Klein NP et al. Safety of quadrivalent human papillomavirus vaccine administered routinely to females. Arch Pediatr Adolesc Med. 2012 Dec; 166(12):1140-8. Available at: https://jamanetwork.com/journals/jamapediatrics/fullarticle/1363509
5. Donegan K et al. Bivalent human papillomavirus vaccine and the risk of fatigue syndromes in girls in the UK. Vaccine. 2013 Oct 9; 31(43):4961-7. Available at: www.ncbi.nlm.nih.gov/pubmed/24001935
6. Gee J et al. Monitoring the safety of quadrivalent human papillomavirus vaccine: findings from the Vaccine Safety Datalink. Vaccine. 2011 Oct 26; 29(46):8279-84. Available at: www.ncbi.nlm.nih.gov/pubmed/21907257
7. Cameron RL et al. Adverse event monitoring of the human papillomavirus vaccines in Scotland. Intern Med J. 2016 Apr; 46(4):452-7. Available at: www.ncbi.nlm.nih.gov/pubmed/26765074
8. Arnheim-Dahlström L et al. Autoimmune, neurological, and venous thromboembolic adverse events after immunisation of adolescent girls with quadrivalent human papillomavirus vaccine in Denmark and Sweden: cohort study. BMJ. 2013 Oct 9; 347:f5906. Available at: www.ncbi.nlm.nih.gov/pmc/articles/PMC3805482/
9. European Medicines Agency. Human papillomavirus vaccines - Cervarix, Gardasil, Gardasil 9, Silgard. 2016; Available at:www.ema.europa.eu/en/medicines/human/referrals/human-papillomavirus-vaccines-cervarix-gardasil-gardasil-9-silgard
10. Palmer, T. et al. Prevalence of cervical disease at age 20 after immunisation with bivalent HPV vaccine at age 12-13 in Scotland: retrospective population study. BMJ. 2019 Apr; 365:1161 Available at: www.bmj.com/content/bmj/365/bmj.l1161.full.pdf
11. World Health Organization. Safety update of HPV vaccines. 2017. Available at: www.who.int/vaccine_safety/committee/topics/hpv/June_2017/en/
12. Arbyn, M et al. Prophylactic vaccination against human papillomaviruses to prevent cervical cancer and its precursors. Cochrane Library. 2018 May. Available at: www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD009069.pub3/abstract?cookiesEnabled
13. Drolet et al. Human papillomavirus vaccination programmes: updated systematic review and meta- analysis. Lancet. 2019 Aug; 394 (10197): 497-509. Available at: www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)30298-3/fulltext