

WEBINAR



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HPV: a 2026 UPDATE

Wednesday, 11 March 2026

6 pm – 7 pm AEDT

Presenter: Angela Newbound

Moderator: Dr Andrew Baird



Moderator

Dr Andrew Baird

Andrew is a General Practitioner in Elwood, Melbourne and a tutor in Professional Practice for medical students at University of Melbourne.

He has a background in rural general practice. His interests are in general practice and medical education.



Presenter

Angela Newbound

Angela Newbound is a nurse, an Immunisation Education Consultant and is a member of the Immunisation Coalition.

She has been involved in immunisation program delivery in South Australia since 2000, originally as an immunisation provider, and then in program coordinator roles within the Divisions of General Practice, SA Health Immunisation Section, the Medicare Local Network and the Primary Health Network until December 2024. She continues to provide clinical advice and nurse education across a variety of platforms and is very passionate about vaccination and the role immunisers play in vaccinating the general public. Thank you for joining us and welcome Angela!



Learning Objectives

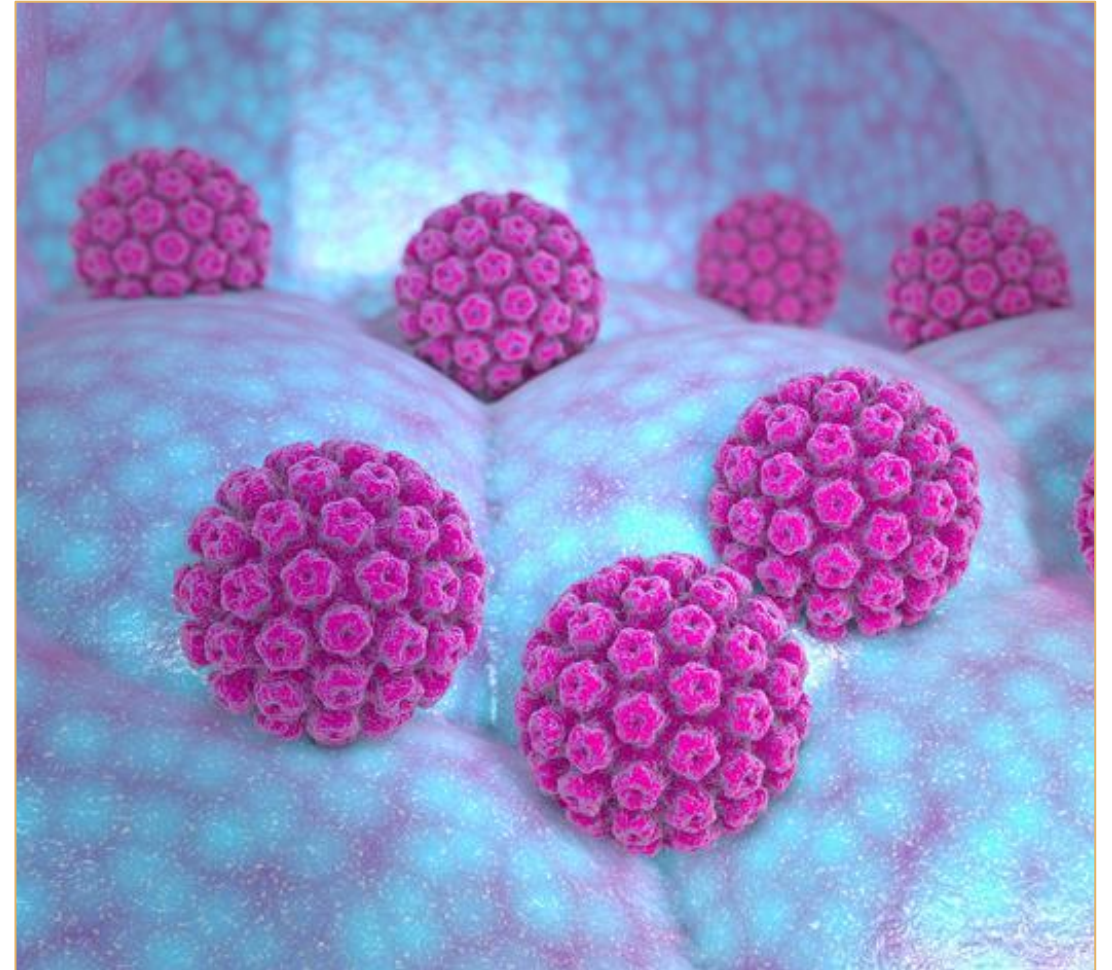
- Demonstrate an understanding of the burden of HPV related cancers
- Outline the benefits of HPV vaccination and identify the people who would benefit most from vaccination
- Demonstrate an understanding of the updated HPV vaccine dosing and the evidence to support the change
- Describe the safety profile of the HPV vaccines and be able to address any myths around HPV vaccination

Human Papillomavirus

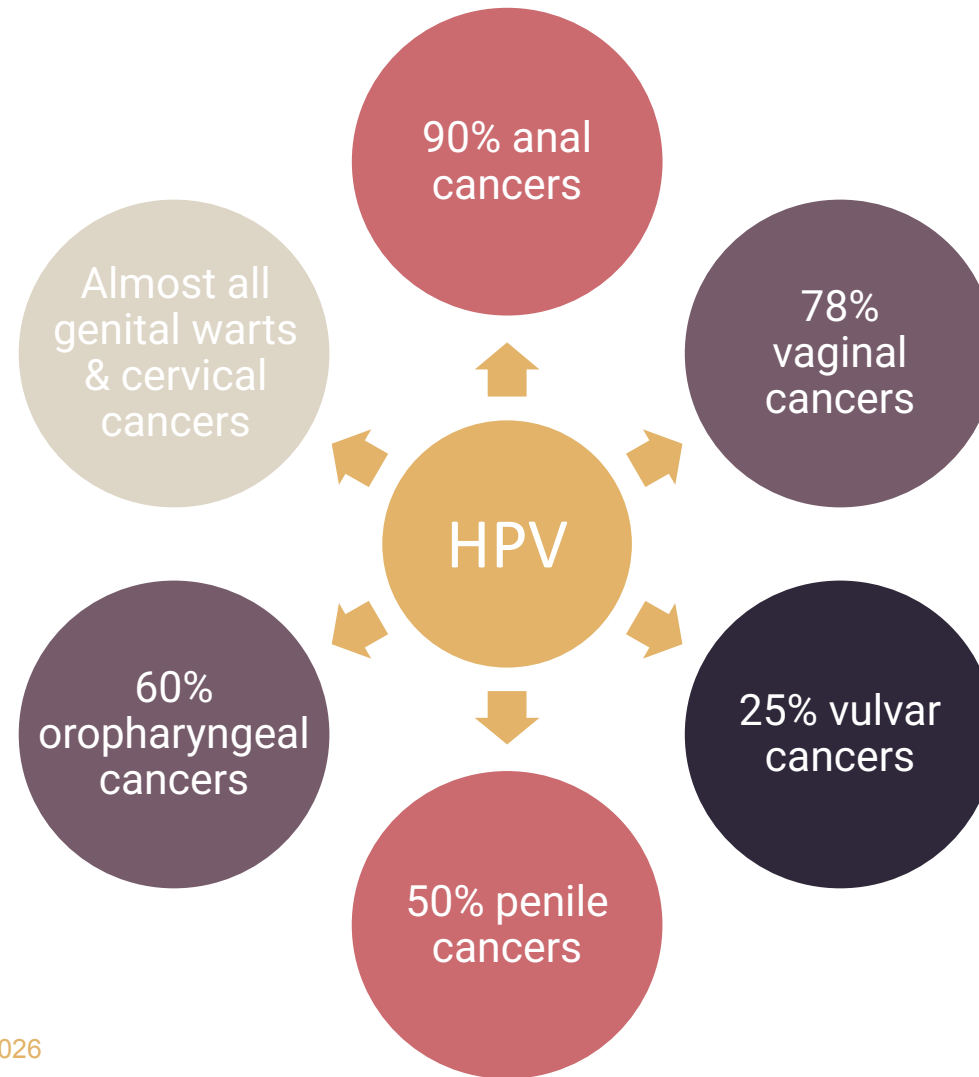


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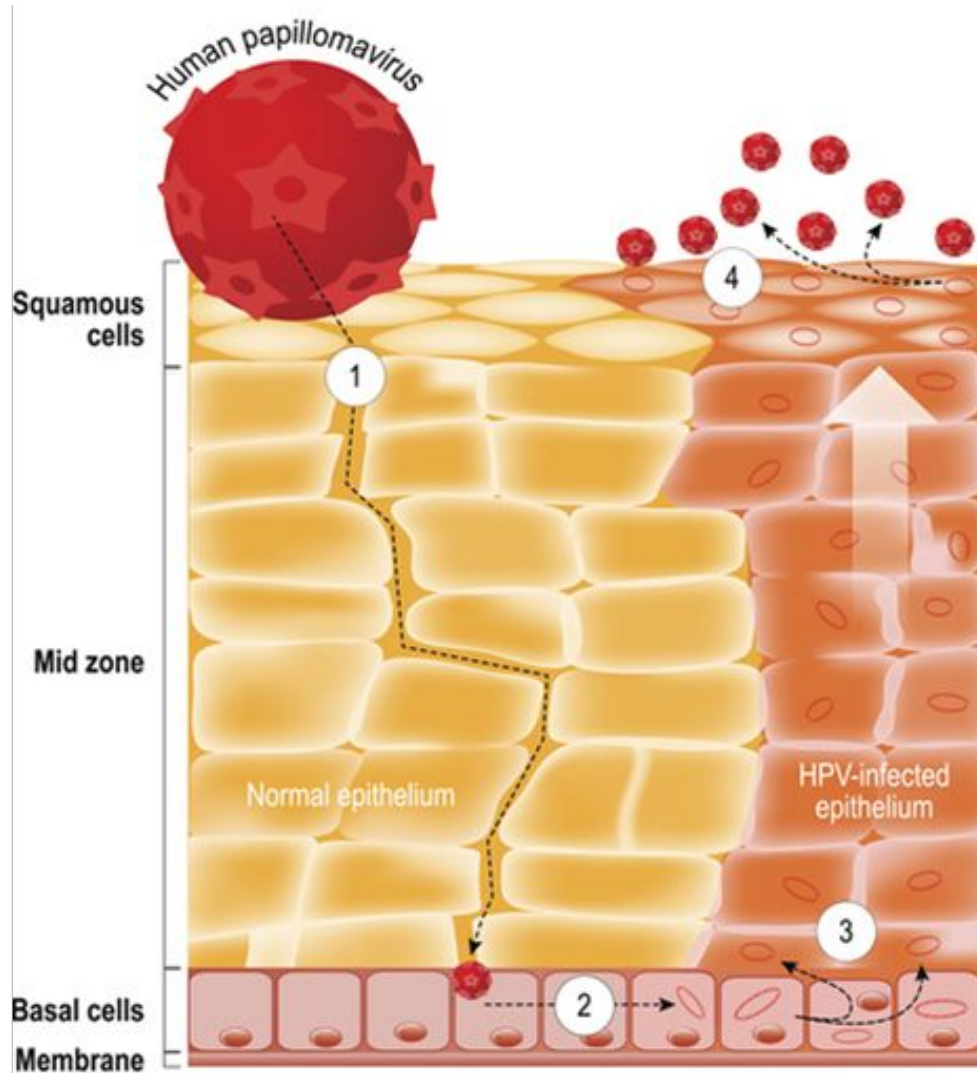
- 90% Australians will get HPV
- Named by the warts (papillomas) some HPV types can cause
- Some HPVs can lead to:
 - Cervical cancers in women
 - Cancers of genital areas, anus, mouth and throat in men and women



HPV is responsible for



Life cycle of HPV



1. The virus invades epithelial layers
2. Infected basal cell
3. HPV in epithelial cells
4. Viral replication

HPV symptoms

Most HPV infections cause no symptoms

- Genital warts are caused by types 6 and 11 and appear as small bumps or growths on the genital, anal, or mouth areas.
- Throat warts called oral HPV.
- Pre-cancerous changes in cervical cells (in high-risk types of HPV), which may not cause any immediate symptoms but can be detected through screenings.



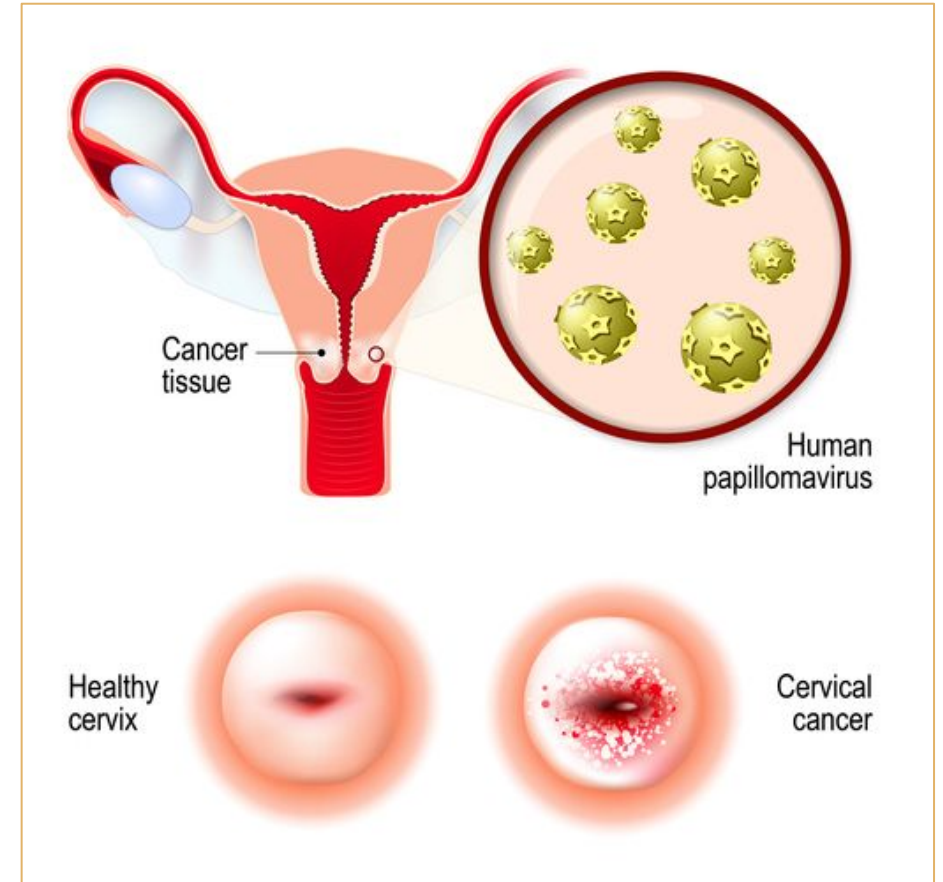
Accessed March 2026

Image: All About HPV <https://www.webmd.com/sexual-conditions/hpv-genital-warts/ss/slideshow-all-about-hpv>

Cervical cancer

High risk genital HPV

- HPV types 16, 18, 31, 33, 35, 45, 52 and 58 are high risk
- Have a higher risk of significant cell changes which can progress to cancer if not discovered and treated
- Infections with these HPV types remain in the body for a long time. HPV related cancers can take up to ten years to develop.



Symptoms of cervical cancer



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Vaginal bleeding between periods or after menopause



Menstrual bleeding that is longer than usual



Bleeding after intercourse



Pain during sexual intercourse



Persistent pelvic and/or back pain



Pain during urination



Needing to urinate more often



Vaginal discharge that may be heavy and have a foul odor



Weight loss

How HPV is spread

- By skin-to-skin contact via tiny breaks in the skin
- By intimate genital contact
- Can be exposed to HPV as soon as sexually active
- People with multiple sexual partners at increased risk



How HPV is spread



- HPV can be passed on from a pregnant woman to her baby during delivery
- Child could develop recurrent respiratory papillomatosis where warts develop inside the throat

Ref: Tasca RA, Clarke RW. Recurrent respiratory papillomatosis. Archives of Disease in Childhood 2006;91:689-91

Who is at risk



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- Nearly all individuals who are sexually active are at increased risk of developing HPV
- Highest prevalence amongst young adults 25–29 years of age



Ref: <https://www.sciencedirect.com/science/article/abs/pii/S0264410X18316384>

Biologically-based risk factors

- Host factors
- Immunosuppression
- HIV infection
- Co-infection with other STDs
- Micronutrient deficiencies
- Genetic polymorphisms
- Age at exposure to HPV
- Age at first menarche



Ref: Dempsey AF. Human papillomavirus: the usefulness of risk factors in determining who should get vaccinated. *Rev Obstet Gynecol.* 2008;1(3):122-128.



Behaviourally-based risk factors

- Sexual history
- Lifetime number of sex partners
- Recent new partner
- Older sex partner
- Oral contraceptive use
- Pattern of condom use
- Parity
- Substance use related factors



Ref: Dempsey AF. Human papillomavirus: the usefulness of risk factors in determining who should get vaccinated. *Rev Obstet Gynecol.* 2008;1(3):122-128.

Burden of HPV-related cancers in Australia

It was estimated that **in 2025,**
946 women will be diagnosed with **cervical**
cancer and **254 will die** from the disease.

HPV prevention - Who should be vaccinated?

Adolescents

- A single dose of HPV vaccine is now recommended as the routine schedule on the National Immunisation Program (NIP) for boys and girls in year 7 via the School Immunisation Program
- People who have not received HPV vaccine by 13 years of age can receive a single dose up to their 26th birthday

VACCINE	WHEN IS IT GIVEN?	SINGLE DOSE	CATCH UP
Gardasil 9	12-13 years of age (Year 7)	✓	<26 years of age

HPV prevention - Who should be vaccinated?

A 3-dose schedule is recommended for:

- Anyone who is immunocompromised (at any age)
- 9vHPV vaccine at 0, 2 and 6 months

Those who receive first HPV vaccine dose on or after their 26th birthday:

- 9vHPV vaccine at 0, 2 and 6 months



0 months



2 months



6 months

Poll 1

Margaret is 30 years of age and is requesting HPV vaccination.

What is the recommended schedule for a three dose HPV vaccine schedule?

- A. 0, 1, 6 months
- B. 0, 2, 5 months
- C. 0, 1, 4 months
- D. 0, 2, 6 months

HPV prevention - Who should be vaccinated?

Men who have sex with men

- At increased risk of genital warts and anal cancer.

Women treated with high grade cervical disease

- Due to their inability to clear and control HPV infection.

People with significant immunocompromising conditions

- Have higher risk of HPV infection and associated disease.
- 3-dose schedule of 9vHPV vaccine is recommended for people with significant immunocompromising

Ref: Australian Technical Advisory Group on Immunisation (ATAGI). Australian Immunisation Handbook, Australian Government Department of Health, Canberra, 2022, immunisationhandbook.health.gov.au.
conditions, regardless of their age when they started vaccination.

Poll 2

Is routine HPV vaccination recommended for all adults 26 years and older?

- A. No, they are not routinely recommended to receive HPV vaccination, but there are circumstances where vaccination is recommended or could be considered.
- B. Yes, all adults should be routinely vaccinated with HPV vaccine
- C. No routine vaccination should be started at 17 years of age
- D. Yes, adults can be given an oral dose or an intramuscular dose of HPV

HPV prevention – Vaccine

Gardasil 9 (9vHPV)

- Gardasil 9 includes the HPV types 6, 11, 16, 18, 31, 33, 45, 52 and 58



Who should not receive the HPV vaccine?

- The only absolute contraindications to HPV vaccine are:
 - anaphylaxis after a previous dose of HPV vaccine
 - anaphylaxis after any component of HPV vaccine
 - anaphylaxis to yeast

Signs and Symptoms of Anaphylaxis



1. Trouble breathing or wheezing



2. Facial swelling



3. Hives



4. Nausea or vomiting

Poll 3

HPV vaccines are not recommended for pregnant women because:

- A. It is a live virus vaccine
- B. There is an absence of evidence of vaccine use in large populations of pregnant women
- C. Vaccination in pregnancy has been proven to cause spontaneous abortion, late foetal death, and congenital anomalies in infants
- D. Pregnant women are at a higher risk of anaphylaxis when vaccinated in pregnancy



HPV prevention – Other prevention methods

Cervical Screening

- Vaccination does not prevent infection with all HPV types
- Cervical screening remains an important preventive strategy against cervical cancer for women
- National Cervical Screening Program recommends and funds a five yearly human papillomavirus (HPV) test for women and people with a cervix aged 25 to 74 years

Condoms

- Offer some protection but not complete protection as do not cover all parts of genital areas

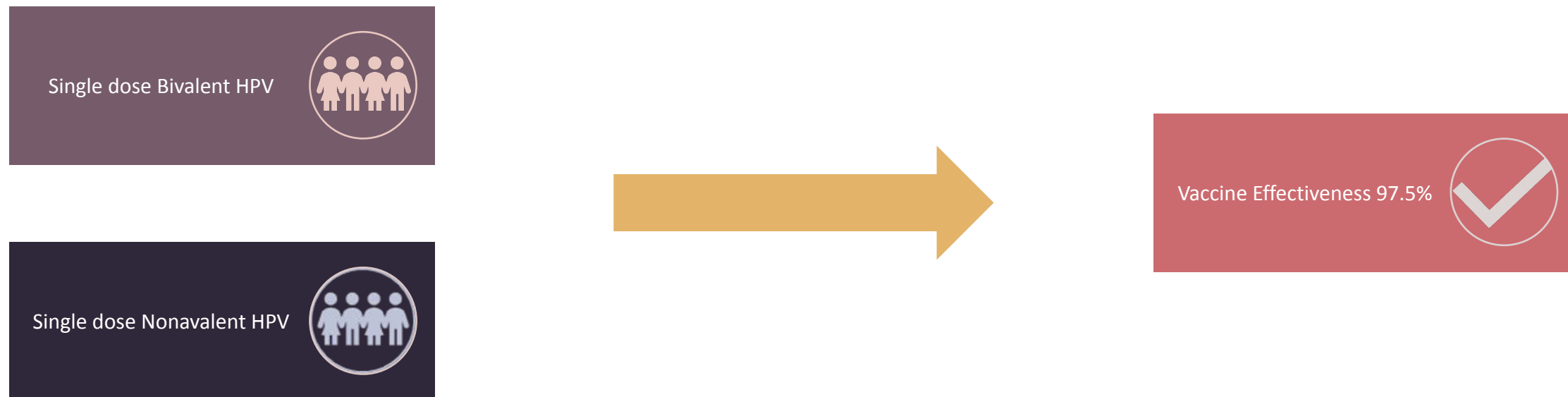


Vaccine effectiveness

- Two new studies confirm the HPV vaccine offers lasting protection against cervical cancer, but geography still determines who benefits.
- Women vaccinated before the age of 17 had a 79% lower risk of developing invasive cervical cancer compared with those who were unvaccinated. Crucially, that protection did not appear to weaken. Even 13 to 15 years after vaccination, their risk remained about 77% lower.
- Australia is on course to meet a target of eliminating cervical cancer by 2035, which, if achieved, will make it the first country to do so.

Vaccine effectiveness – In Kenyan women aged 15-20 yrs of age

Over the 18-month time-frame, single-dose bivalent and nonavalent HPV vaccines were each highly effective (VE 97.5%) in preventing incident persistent oncogenic HPV infection, similar to multi-dose regimens.




Vaccine effectiveness – Single dose as effective as multiple doses

Multiple studies have found a single dose of 9vHPV provides similar protection against HPV 16 and 18 as two dose and three dose schedules.

ARTICLES | VOLUME 22, ISSUE 11, P1518-1529, NOVEMBER 2021

Vaccine efficacy against persistent human papillomavirus (HPV) 16/18 infection at 10 years after one, two, and three doses of quadrivalent HPV vaccine in girls in India: a multicentre, prospective, cohort study

Partha Basu, MD   • Sylla G Malvi, PhD • Smita Joshi, PhD • Neerja Bhatla, MD • Richard Muwonge, PhD • Eric Lucas, MSc • et al. [Show all authors](#)

Open Access • Published: October 08, 2021 • DOI: [https://doi.org/10.1016/S1470-2045\(21\)00453-8](https://doi.org/10.1016/S1470-2045(21)00453-8)

Ref.: Basu P, Malvi SG, Joshi S, et al. Vaccine efficacy against persistent human papillomavirus (HPV) 16/18 infection at 10 years after one, two, and three doses of quadrivalent HPV vaccine in girls in India: a multicentre, prospective, cohort study. *The Lancet Oncology* 2021;22:1518-29.

Comparing one dose of HPV vaccine in girls aged 9–14 years in Tanzania (DoRIS) with one dose of HPV vaccine in historical cohorts: an immunobridging analysis of a randomised controlled trial

Kathy Baisley, MSc   • Troy J Kemp, PhD • Aimée R Kreimer, PhD • Partha Basu, PhD • John Changalucha, MSc • Allan Hildesheim, PhD • et al. [Show all authors](#)

Open Access • Published: October, 2022 • DOI: [https://doi.org/10.1016/S2214-109X\(22\)00306-0](https://doi.org/10.1016/S2214-109X(22)00306-0)

Ref: Human papillomavirus (HPV) vaccines for Australians | NCIRS Fact sheet: February 2023

HPV program success

Cancer survival improved in 2017-2021 compared to the previous period.

5-year relative survival 76.8% in 2017-2021, compared to 73.9% in 2012-2016



HPV vaccine safety

Safe and well tolerated

- Side effects are usually mild and transient
- Side effects may include:
 - headache
 - fever
 - nausea
 - dizziness
 - fatigue



Gardasil 9

HPV and fertility

- Ongoing review of vaccine use in humans has shown no evidence that HPV is linked to infertility
- TGA found no evidence that polysorbate 80 in HPV vaccines is linked to infertility



The screenshot shows the top portion of a scientific article page. At the top left is the Elsevier logo. The journal title 'vaccine' is centered, with 'Volume 38, Issue 24, 19 May 2020, Pages 4038-4043' below it. On the right is a green plant icon. The main title of the article is 'No association between HPV vaccination and infertility in U.S. females 18–33 years old'. Below the title are the authors: Nicholas B. Schmuhl^{a,1}, Katherine E. Mooney^{b,1}, Xiao Zhang^c, Laura G. Cooney^a, James H. Conway^d, and Noelle K. LoConte^c. There are icons for email, ORCID, and a person next to the authors' names. Below the authors is a 'Show more' link with a downward arrow. Further down are links for 'Add to Mendeley', 'Share', and 'Cite'. At the bottom of this section is the DOI link: <https://doi.org/10.1016/j.vaccine.2020.03.035> and a 'Get rights and content' link.

Highlights

- HPV vaccines are safe and effective.
- Concerns persist regarding a purported link between HPV vaccines and infertility.
- This study found no evidence of infertility among women who received HPV vaccines.
- This result should diminish remaining concerns among clinicians and the public.

Ref: Schmuhl NB, Mooney KE, Zhang X, et al. No association between HPV vaccination and infertility in U.S. females 18-33 years old. *Vaccine* 2020;38:4038-43.
NCIRS HPV vaccines Frequently Asked Questions February 2023

HPV vaccine not linked to autoimmune diseases



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Aluminium adjuvant in HPV vaccines not linked to autoimmune diseases

JIM Journal of
Internal Medicine
Founded in 1863

Free Access

Surveillance of autoimmune conditions following routine use of quadrivalent human papillomavirus vaccine

C. Chao, N. P. Klein, C. M. Velicer, L. S. Sy, J. M. Slezak, H. Takhar, B. Ackerson, T. C. Cheetham, J. Hansen, K. Deosaransingh, M. Emery, K.-L. Liaw, S. J. Jacobsen

First published: 04 October 2011 | <https://doi.org/10.1111/j.1365-2796.2011.02467.x> | Citations: 136

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SECTIONS

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Abstract

Abstract. Chao C, Klein NP, Velicer CM, Sy LS, Slezak JM, Takhar H, Ackerson B, Cheetham TC, Hansen J, Deosaransingh K, Emery M, Liaw K-L, Jacobsen SJ (Kaiser Permanente Southern California, Pasadena, CA; Kaiser Permanente Vaccine Study Center, Kaiser Permanente Northern California, Oakland, CA; Merck Research Laboratories, Upper Gwynedd, PA; South Bay Medical Center, Kaiser Permanente Southern California, Los Angeles, CA; and Kaiser Permanente Southern California, Downey, CA, USA). Surveillance of autoimmune conditions following routine use of quadrivalent human papillomavirus vaccine. *J Intern Med* 2012; **271**: 193–203.

Ref: Chao C, Klein NP, Velicer CM, et al. Surveillance of autoimmune conditions following routine use of quadrivalent human papillomavirus vaccine. *Journal of Internal Medicine* 2012;271:193-203.
NCIRS HPV vaccines Frequently Asked Questions February 2023

No strong evidence to suggest that HPV vaccines can induce syndromes such as premature ovarian failure (POF), postural tachycardia syndrome (POTS) or complex regional pain syndrome (CRPS)

Summary

- Genital HPV is a common sexually transmitted infection in both males and females
- Some HPVs can cause cancer of the cervix, vagina, vulva, penis, anus, head and neck
- There are many types of HPV. Types 16 and 18 are the most common causes of HPV-associated cancers
- HPV vaccine is available on the NIP as a single dose for boys and girls aged 12-13 years of age. The best time to vaccinate is before adolescents become sexually active
- Gardasil 9 HPV vaccine is safe and well tolerated
- Vaccination does not prevent infection from all HPV types. Therefore, cervical screening remains an important preventive strategy against cervical cancer for women
- CHECK AIR AT EVERY ENCOUNTER and opportunistically immunise **PLEASE and THANK YOU**



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Thank you for the
attention!

www.immunisationcoalition.org.au