The human papillomavirus (HPV) vaccine Gardasil®9 is available on the National Immunisation Program (NIP) as a two dose schedule.

The HPV vaccine is primarily delivered through school-based programs to adolescent females and males in years 7 or 8 (aged approximately 12 to 13 years) depending on your State or Territory as part of the NIP. You may see patients presenting in your clinic to receive missed school doses or seeking further information about HPV vaccination.

Key information about the NIP-funded school-based HPV vaccination program

- Adolescent males and females aged 12–13 years are recommended and offered the 9 valent HPV Vaccine (Gardasil®9) in a two dose schedule through school-based vaccination programs.
- Two doses of Gardasil®9 spaced at least six months apart have been proven to have equivalent immunogenicity (and therefore clinical protection) in healthy individuals aged 9–14 years compared to a three-dose schedule.
- Gardasil®9 includes the HPV types 6, 11, 16 and 18 plus HPV types 31, 33, 45, 52 and 58.
- A three-dose schedule is only recommended for people who start (or have started) the vaccination course at age 15 years or older and for those of any age who have specific immunocompromising conditions.

Two doses of Gardasil®9 are recommended to be administered at an interval of between 6 to 12 months apart.

- If the second dose is inadvertently received at <6 months but ≥5 months after the first dose, a third dose is not required, as clinical trial data support this interval as still being sufficiently immunogenic.
- If the second dose is inadvertently received less than 5 months after the first dose, a third dose is required. The third dose should be given at least 3 months (12 weeks) after the second dose and at least 5 months after the first dose, whichever is later.
- While there is no upper time interval for administration of their second dose for those individuals who receive their first dose before turning 15 years, it is important to ensure timely completion of the schedule, and preferably before sexual debut, to maximise protection.

Immunocompromised individuals (with select major medical conditions) require three doses of Gardasil®9 to attain adequate protection.

- Those who should receive a three-dose schedule include individuals with the following major medical conditions: primary or secondary immunodeficiencies (B lymphocyte antibody and T lymphocyte complete or partial deficiencies); HIV infection; malignancy; organ transplantation; or significant immunosuppressive therapy (excluding asplenia or hyposplenia)1.
- Such immunocompromised individuals aged 12–13 years are able to receive three doses of Gardasil®9 vaccine through the NIP. The vaccine should be administered at times 0 (first vaccination date), 2 and 6 months.
- Given the routine scheduling of school-based immunisation programs, immunocompromised individuals may be referred to their treating GP or primary care provider to ensure the completion of all three doses of Gardasil®9 vaccine. Individuals in which there is uncertainty of the need for two or three doses may also be referred.
- Three doses for immunocompromised individuals are funded through the NIP.

Individuals aged 15 years or older when receiving the first dose of Gardasil®9 require three doses of Gardasil®9 (as opposed to two). Please note: only two doses of Gardasil®9 are funded through the NIP catch up program for individuals aged up to 19 years.

- There is no evidence regarding the effectiveness of two doses of Gardasil®9 in individuals aged 15 years or over.
- Individuals should be encouraged to commence their Gardasil®9 schedule before age 15 years to maximise protection and schedule completion.
- If an individual receiving their first dose when 15 years or older commits to purchasing the third dose, use the standard three dose schedule (spacing of 0, 2, 6 months) to provide protection as soon as possible. Where an individual declines to purchase the third dose, it is likely that best protection will be achieved by spacing the two doses at 6–12 months apart as per the standard two dose schedule.

Individuals who have started a vaccine course with a different HPV vaccine (Gardasil® or Cervarix®) can have their course safely and effectively completed with Gardasil®9. See Table 1 for details.

- Individuals who commenced a Gardasil® schedule and complete it with Gardasil®9 will be adequately protected against the 4 HPV types covered by Gardasil®.
- Re-vaccination with Gardasil®9 is NOT routinely recommended for individuals who have already completed a full schedule with either Gardasil® or Cervarix® vaccine.
- Individuals who have already received a completed schedule of Gardasil® through the NIP are not eligible for free Gardasil®9 vaccination.
- The most significant benefit from HPV vaccination is protection against the two most oncogenic types (HPV 16 and 18) which are responsible for a large proportion of HPV related cancers. All three HPV vaccines provide excellent protection against HPV 16 and 18.

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1. The recommendation for a three-dose schedule does NOT apply to children aged ≤ 14 years with asplenia, asthma, chronic granulomatous disease, chronic heart/liver/lung/renal disease, CNS anatomic barrier defects (e.g., cochlear implant), complement deficiency, diabetes, or sickle cell disease, in the absence of any of the above conditions.
Recording of HPV vaccine doses given

The Australian Immunisation Register (AIR) accepts data on vaccines administered to people of all ages. Providers are required to submit data to the AIR on all the vaccines administered, including the HPV vaccine.

Information on notifying HPV doses is available on Medicare Online Services at the Australian Immunisation Register for health professionals’ website www.humanservices.gov.au/organisations/health-professionals/services/medicare/australian-immunisation-register-health-professionals

Recommendations regarding doses of Gardasil®9 vaccine required for those who have already received one or more doses of another HPV vaccine (Gardasil® or Cervarix®)

<table>
<thead>
<tr>
<th>Number of HPV vaccine doses (any type) received previously at age ≤14 years *†‡</th>
<th>Further Gardasil®9 vaccine doses recommended‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 dose</td>
<td>One dose at least 6 months after the previous dose. Total of two doses will complete schedule.</td>
</tr>
<tr>
<td>2 doses with &lt;6 months between doses</td>
<td>If the second dose is inadvertently received at &lt;6 months but ≥5 months after the first dose, a third dose is not required. If the second dose is received less than 5 months after the first dose, a third dose is required, to be given at least 12 weeks after the second dose and at least 5 months after the first dose, whichever is later. Discuss with your state or territory health department or see the Australian Immunisation Handbook 2018 for further information.</td>
</tr>
<tr>
<td>2 doses with ≥6 months between doses</td>
<td>None. Two doses of any HPV vaccine greater than 6 months apart completes the schedule. Further doses of Gardasil®9 are not recommended or funded.</td>
</tr>
<tr>
<td>≥3 doses</td>
<td>None*, if minimum intervals for a three-dose schedule are met*.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of HPV vaccine doses (any type) received with age at first dose ≥15 years*†</th>
<th>Further Gardasil®9 vaccine doses recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 dose</td>
<td>Two doses. Second dose 2 months after previous dose (dose 1) and third dose 6 months after dose 1*. A total of three doses completes the schedule. A third dose is not funded under the NIP.</td>
</tr>
<tr>
<td>2 doses with &lt;6 months between doses</td>
<td>A third dose is strongly recommended to provide adequate protection*. A third dose is not funded under the NIP.</td>
</tr>
<tr>
<td>2 doses with ≥6 months between doses</td>
<td>A third dose is recommended to provide best protection*. A third dose is not funded under the NIP.</td>
</tr>
<tr>
<td>≥3 doses</td>
<td>None, if minimum intervals for a three-dose schedule are met*.</td>
</tr>
</tbody>
</table>

* Individuals who are aged ≥15 years (i.e. on or passed their 15th birthday) at the time of their first HPV vaccine dose require a three-dose HPV vaccine schedule.

† Recommendations for two-dose schedule and minimum acceptable intervals for three-dose schedule are the same regardless of the type of HPV vaccine already received (i.e. all Cervarix®, all Gardasil® or combination of both).

‡ For select immunocompromised individuals, a three-dose schedule (at 0, 2 and 6 months) is required for adequate protection against vaccine-type HPV.

§ All of the following recommended minimum intervals for a three-dose schedule have to be satisfied: at least 4 weeks between dose one and dose two; at least 12 weeks between dose two and dose three; and at least 5 months between dose one and dose three.