



KAREN L. SMITH, MD, MPH
Director and State Public Health Officer

State of California—Health and Human Services Agency
California Department of Public Health




EDMUND G. BROWN JR.
Governor

February 15, 2017

IZB-FY16-17-08

TO: Vaccines for Children (VFC) Providers

FROM: Sarah Royce, M.D., M.P.H., Chief 
Division of Communicable Disease Control, Immunization Branch

SUBJECT: Recommendation for the Use of a 2-Dose Human Papillomavirus Vaccination Schedule

SUMMARY

In October 2016, the United States (U.S.) Food and Drug Administration (FDA) approved Gardasil[®] 9, the 9-valent human papillomavirus (HPV) vaccine, for use as a 2-dose HPV vaccine series for girls and boys aged 9 through 14 years. Since December 2015, the 9-valent HPV vaccine has been licensed for BOTH females and males ages 9 through 26 years. Since the end of 2016, only the 9-valent HPV vaccine has been distributed in the U.S. Both the quadrivalent and bivalent HPV vaccines are no longer available in the U.S.

Also in October 2016, the Advisory Committee on Immunization Practices (ACIP) recommended a 2-dose schedule for adolescents initiating HPV vaccination before their 15th birthday. A 3-dose series continues to be recommended for persons starting the HPV vaccine series at ages 15 through 26 years and for immunocompromised persons. ACIP recommends routine vaccination with HPV vaccine at age 11 or 12 years. The vaccination series may be initiated as early as age 9 years.

California's VFC Program issued a VFC Program communication with highlights of the new recommendation shortly after the ACIP meeting. This letter summarizes information about the new 2-dose HPV vaccine recommendation based on CDC's official recommendations published in the [December 16, 2016, MMWR](#).

Please consider registering for the February 21 webinar, [Be an HPV Vaccination Champion](#), where you will learn about communication strategies and other tools to support HPV vaccination in your practice. The webinar is free of charge, and continuing education credits will be offered.



BACKGROUND

In studies comparing the immunogenicity of the 9-valent HPV vaccine in girls and boys ages 9 through 14 years receiving a 2-dose HPV vaccine series either 6 months apart (0, 6 month schedule) or 12 months apart (0, 12 month schedule), the noninferiority criteria were met for both seroconversion and geometric mean titers (GMTs). In fact, GMTs were significantly higher for all 9 HPV types among persons aged 9 through 14 years who received 2 doses compared with females aged 16-26 years who received 3 doses (0, 2, 6 month schedule). Similar results were found in previous studies with the bivalent and quadrivalent HPV vaccines.

Based on data from both the bivalent and quadrivalent HPV vaccines, no evidence of waning protection after the 3-dose series has been found after 10 years of follow-up. The antibody kinetics over time are similar with the 2-dose and 3-dose series, so the duration of protection after a 2-dose series is also expected to be long-lasting.

RECOMMENDATIONS FOR USE OF GARDASIL[®] 9 IN THE VFC PROGRAM

Eligible Persons for Receipt of VFC Supplies

Females and males ages 9 through 18 years are eligible for the 9-valent HPV vaccine (HPV9) provided by the VFC program.

ACIP HPV Vaccine Recommendations

Routine Recommendation

HPV vaccination is recommended routinely for all persons (males and females) at 11 or 12 years of age. The vaccination series may be initiated as early as age 9 years.

Dosing Schedules

For persons initiating vaccination before their 15th birthday (except immunocompromised persons):

- The recommended immunization schedule is 2 doses of HPV vaccine. The second dose should be administered 6-12 months after the first dose (0, 6-12 month schedule).

For persons initiating vaccination on or after their 15th birthday or who are immunocompromised:

- The recommended immunization schedule is 3 doses of HPV vaccine.
- The 2nd dose should be administered 1-2 months after the first dose, and the 3rd dose should be administered 6 months after the first dose (0, 1-2, 6 month schedule).

# Doses	Recommended Dosing Schedule	Population
2	0, 6-12 months ¹	Persons initiating vaccination at age 9 through 14 years, except immunocompromised persons ²
3	0, 1-2, 6 months ³	Persons initiating vaccination at age 15 through 26 years, and immunocompromised persons ² initiating vaccination at 9 through 26 years

¹ In a 2-dose schedule of HPV vaccine, the minimum interval is 5 months between the 1st and 2nd doses. Use this minimum interval only retrospectively when assessing whether doses already provided are valid, not for scheduling future doses.

² Persons with primary or secondary immunocompromising conditions that might reduce cell-mediated or humoral immunity.

³ In a 3-dose schedule, the minimum interval between the 1st and 2nd doses is 4 weeks, 12 weeks between the 2nd and 3rd doses, and 5 months between the 1st and 3rd doses. Use these intervals only retrospectively when assessing whether doses already provided are valid, not for scheduling future doses.

Minimum intervals

The minimum intervals for HPV vaccine should only be used retrospectively to validate doses. Please use the recommended intervals when scheduling patients for their next HPV vaccine dose. Note that the minimum interval between doses 1 and 3 has changed for the 3-dose HPV vaccine series.

Minimum Intervals for Two-Dose Schedule:

- 5 months between doses

Minimum Intervals for Three-Dose Schedule:

- 4 weeks between doses 1 and 2
- 12 weeks between doses 2 and 3
- 5 months between doses 1 and 3 (previously 24 weeks)

For Persons Previously Vaccinated

- If a person received an HPV vaccine dose at shorter than the minimum interval, that dose should be re-administered after at least another minimum interval has elapsed since the most recent dose.
 - For the 2-dose schedule, if the 2nd dose is administered at less than 5 months (but at least 4 weeks) apart, a 3rd dose should be administered to complete a 3-dose series.
- If an HPV series with the 2-valent or 4-valent HPV vaccine was not completed, the series may be completed with the 9-valent HPV vaccine, regardless of the type of HPV vaccine previously administered.

- If the HPV vaccine series was completed with either the 2-valent or 4-valent HPV vaccine, there is no ACIP recommendation regarding additional doses of the 9-valent HPV vaccine.

Interrupted Schedules

- For persons whose last dose of HPV vaccine was years ago, the HPV vaccine series does not need to be restarted. The number of doses needed to complete the HPV vaccine series is based on the age that the first dose was administered.

Special Populations

- For children with a history of sexual abuse or assault, routine HPV vaccination is recommended beginning at age 9 years.
- For men who have sex with men and for transgender persons, routine HPV vaccination, as for all adolescents, is recommended, and vaccination through age 26 years for those who were not adequately vaccinated previously.

Immunocompromised Persons

- ACIP recommends vaccination with 3 doses of HPV vaccine (0, 1-2, 6 months) for females and males aged 9 through 26 years with primary or secondary immunocompromising conditions that might reduce cell-mediated or humoral immunity, such as B lymphocyte antibody deficiencies, T lymphocyte complete or partial defects, HIV infection, malignant neoplasms, transplantation, autoimmune disease, or immunosuppressive therapy, because immune response to vaccination might be attenuated.
- The recommendation for a 3-dose schedule does not apply to children aged <15 years with asplenia, sickle cell, complement component deficiency, and other medical conditions that do not reduce cell-mediated or humoral immunity. See full [ACIP recommendations](#) for further details.

Catch-up Recommendations

- Vaccination is also recommended for females ages 13 through 26 years and for males ages 13 through 21 years who have not yet started or completed the 3-dose HPV vaccination series.
- The HPV vaccination series may also be given to males through the age of 26 years. If a person reaches age 27 years before the vaccination series is complete, the second and/or third doses of vaccine can be administered after age 26 years to complete the vaccine series.
- HPV vaccination is also recommended through age 26 years for men who have sex with men and for immunocompromised persons (including those with HIV infection) if they have not been previously vaccinated or have not completed the 3-dose vaccination series.



Important Note: Although the full age-range HPV vaccine recommendations are provided for your information, VFC HPV vaccines are only available for eligible patients ages 9 through 18 years.

MEDI-CAL MANAGED CARE HEALTH PLANS QUALITY MEASURES

The Healthcare Effectiveness Data and Information Set (HEDIS) Immunizations for Adolescents measure now includes HPV vaccination for females and males. It is anticipated that Medi-Cal managed care health plans will include this quality measure in the External Accountability Set for Measurement Year 2017. Recommended strategies to improve your clinic's HPV vaccination rate are included below.

EVIDENCE-BASED STRATEGIES TO INCREASE HPV VACCINATION LEVELS

You have the opportunity to prevent HPV-related cancers in your patients. Please refer to the attached document highlighting [tips and tools](#) for strengthening HPV vaccine recommendation and series completion at your clinic. Please take the time to implement one or more of these strategies within the next few months to improve vaccination coverage in your clinic.

You are invited to register for our free February 21st webinar, [Be an HPV Vaccination Champion](#).

DOCUMENTATION - HYPERLINKS

1) ACIP recommendations:

<https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/hpv.html>

2) Product Insert: Gardasil[®] 9

<http://www.fda.gov/biologicsbloodvaccines/vaccines/approvedproducts/ucm426445.htm>

3) Vaccine Information State (VIS) for Gardasil[®] 9 vaccine

<https://www.cdc.gov/vaccines/hcp/vis/vis-statements/hpv.html>

4) AAP recommendations (members only): <http://www.cispimmunize.org/>

5) VFC resolution No. 10/16-2 on HPV vaccines

<https://www.cdc.gov/vaccines/programs/vfc/providers/resolutions.html>

6) Vaccine Injury Compensation Program (VICP): HPV vaccines are covered by the federal VICP.

7) For additional details on the 9-valent HPV vaccine, please see the June 11, 2015 VFC letter: http://eziz.org/assets/docs/VFC_Letters/vfcletter_2015_6_Gardasil.pdf

8) HPV Vaccine Resources

- CDPH Resources: <http://eziz.org/resources/immunization-promo-materials/> under "Preteen"
- CDC Resources: <https://www.cdc.gov/hpv/hcp/index.html>
- Talking to Parents about HPV Vaccine <https://www.cdc.gov/vaccines/who/teens/for-hcp-tipsheet-hpv.pdf>
- Be an HPV Vaccination Champion: [New ACIP Recommendations, Parent Communication Strategies, and Resources for Your Practice](#)