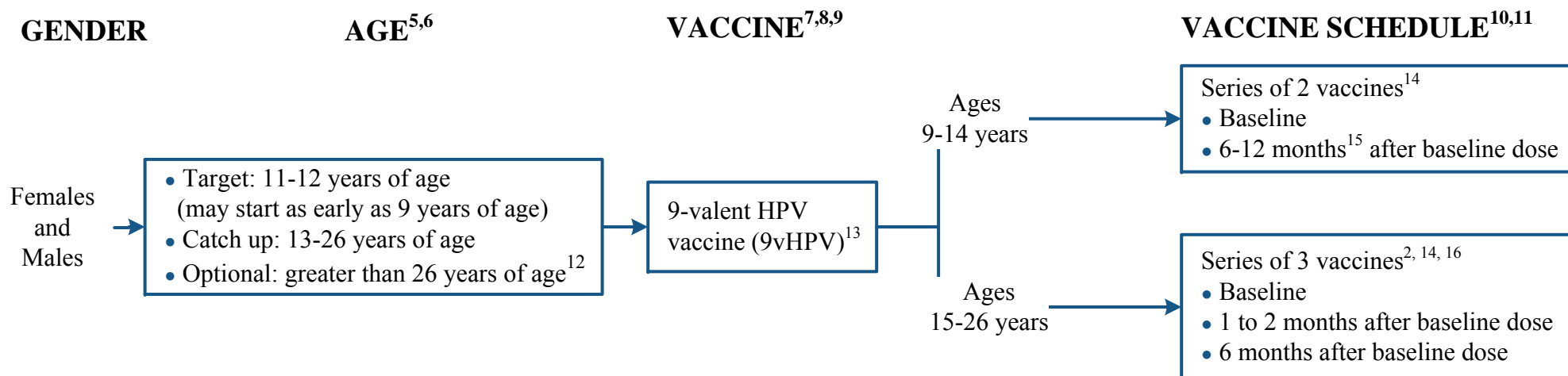


Human Papillomavirus (HPV) Vaccination for Prevention of HPV-Related Cancers^{1,2,3,4}

This practice algorithm has been specifically developed for MD Anderson using a multidisciplinary approach and taking into consideration circumstances particular to MD Anderson, including the following: MD Anderson's specific patient population; MD Anderson's services and structure; and MD Anderson's clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers. This algorithm should not be used to treat pregnant women.



¹ MD Anderson **strongly** recommends that all females and males 9-26 years of age receive HPV vaccination.

² 9vHPV is not a live vaccine. HPV vaccination for immunocompromised patients should be delayed if possible until they are immunocompetent. If immunocompetency is unable to be achieved, proceed with administering HPV vaccination in the full series of 3 vaccinations.

³ Although primarily used to prevent cervical dysplasia/cancer, anal pre-cancer/cancer, vaginal pre-cancer/cancer, vulvar pre-cancer/cancer, and anal/genital warts associated with certain HPV types, HPV vaccination may also reduce the risk of other HPV-related premalignant and malignant lesions of the oropharynx and penis.

⁴ Vaccines for Children Program covers full HPV vaccination series for those that qualify. Adult Safety Net services covers uninsured individuals 19-26 years of age.

⁵ Advisory Committee on Immunization Practices (ACIP) recommends a target age of 11-12 years for both males and females. It is strongly recommended that the series of 2 vaccines be completed by 15 years of age.

⁶ Efficacy of vaccine has been shown for 9-26 years of age.

⁷ Absolute contraindications: anyone allergic to the vaccine components or its delivery system.

⁸ Most common adverse events were mild or moderate and were most commonly injection-site reactions. Due to fainting risk, it is recommended that recipient lie down for 15 minutes after injection. No deaths have been observed related to HPV vaccination.

⁹ HPV vaccines are not recommended for use in pregnant women. If a woman is found to be pregnant after initiating the vaccination series, the remainder of the series should be delayed until completion of pregnancy. Pregnancy testing is not needed before vaccination. If a vaccine has been administered during pregnancy, no intervention is needed. Accidental pregnancy injection should be reported to the vaccine company.

¹⁰ Those individuals who have not received the full series of vaccinations should complete the series with 9vHPV before 26 years of age.

¹¹ Vaccine efficacy has been shown to last 8 to 10 years. There is no evidence at this time that a booster is needed.

¹² 9vHPV is not FDA approved for use in males or females greater than 26 years of age; there is no information on the efficacy and prevention of outcomes for this population. Individuals greater than 26 years of age should be counseled regarding decreased effectiveness of the vaccine in those who are sexually active and already infected with one of the types of HPV in the vaccine.

¹³ 9vHPV (Gardasil 9[®]) manufactured by Merck & Co., Inc. contains vaccine like particles (VLPs) 6, 11, 16, 18, 31, 33, 45, 52, 58 for use in females, males, immunocompromised and those not vaccinated previously or who have not completed the full series of vaccinations.

¹⁴ If the vaccine schedule is interrupted, the vaccination series does not need to be restarted. If the first dose of any vaccine was given before the 15th birthday, vaccination should be completed with 9vHPV according to a 2-dose schedule. If the first dose of the vaccine was given on or after the 15th birthday, vaccination should be completed with the 9vHPV according to a 3-dose schedule.

¹⁵ The minimum interval is 5 months between the first and second dose. If the second dose is given earlier than 5 months, a third dose should be administered.

¹⁶ Minimum interval of 4 weeks between 1st and 2nd doses of vaccine. Minimum interval of 24 weeks between 1st and 3rd doses of vaccine. Doses received after a shorter-than-recommended dosing interval should be readministered.

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SUGGESTED READINGS

- Centers for Disease Control and Prevention. (2010). FDA licensure of Bivalent Human Papillomavirus Vaccine (HPV2, Cervarix) for use in females and updated HPV vaccination recommendations from the Advisory Committee on Immunization Practices (ACIP). *MMWR*; 59(20): 626-629.
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This practice consensus algorithm is based on majority expert opinion of the HPV Vaccination workgroup at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following clinical staff:

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