

# Immunize NY!

## Bureau of Immunization

### **Immunize NY! Adolescent Immunizations Special Edition**

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### **Overview of Adolescent Vaccination Recommendations**

All adolescents need HPV, Tdap, meningococcal and influenza vaccines as described below:

- All girls 11 or 12 years old should receive 3 doses of either quadrivalent HPV (HPV4) vaccine or bivalent HPV (HPV2) vaccine. Both vaccines protect against the HPV types that cause most cervical cancer. HPV4 vaccine also protects against anal, vaginal and vulvar cancers and genital warts.
- All boys 11 or 12 years old should receive 3 doses of HPV4 vaccine. HPV4 prevents genital warts and anal cancers.
- All 11- or 12 -year-olds should receive a single dose of Tdap vaccine if they have not yet received Tdap.
- All 11- or 12-year-olds should receive a single dose of meningococcal vaccine, with a booster dose at age 16 years.
- All adolescents should receive a single dose of influenza vaccine every year.

### **What Can a Provider do to Ensure Preteens and Teens Get Fully Vaccinated?**

Health checkups and sports or camp physicals are a good opportunity for preteens and teens to get recommended vaccines. Adolescent health care providers should make every effort to:

- Strongly recommend adolescent vaccines to parents of 11- through 18-year-old patients. Studies consistently show that provider recommendation is the strongest predictor of vaccination.
- “Bundle” the vaccine message to parents of adolescent patients by recommending that HPV, influenza, meningococcal and Tdap vaccines are all given at the same visit. When bundling is combined with educational materials to vaccine-hesitant parents, adolescent vaccination rates increase.

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#### **Frequently Used Abbreviations:**

<b>ACIP:</b>	Advisory Committee on Immunization Practices
<b>CDC:</b>	U.S. Centers for Disease Control and Prevention
<b>FDA:</b>	U.S. Food and Drug Administration
<b>HPV:</b>	Human papillomavirus
<b>NYSDOH:</b>	New York State Department of Health
<b>NYSIIS:</b>	New York State Immunization Information System
<b>Tdap:</b>	Tetanus, diphtheria and acellular pertussis vaccine

## **What Can a Provider do to Ensure Preteens and Teens Get Fully Vaccinated?**

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- Use every opportunity to vaccinate adolescent patients. Providers should ask about a patient's vaccination status at every health care encounter.
- Utilize patient reminder and recall systems, such as automated postcards, phone calls and text messages. Both NYSIIS and many electronic health record (EHR) systems have reminder recall functionality and have proven to be effective tools for increasing immunization rates.
- Educate parents about the vaccine-preventable diseases that can be prevented by adolescent vaccines. Parents may know very little about pertussis, meningococcal disease, and HPV.

For more information on preteen and teen vaccinations for public health professionals visit the CDC: [www.cdc.gov/vaccines/who/teens/for-public-health.html](http://www.cdc.gov/vaccines/who/teens/for-public-health.html).

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### **HPV and HPV Vaccines**

HPV is the most common sexually transmitted infection in the U.S. HPV is so common that nearly all sexually active men and women will get it at some point in their lives. Most of the time HPV has no symptoms, so people do not know they even have it.

There are approximately 40 types of genital HPV. Some types can cause cervical, vulvar and vaginal cancers in women. Some cause penile cancer in men, and anal, oropharyngeal and other types of cancer in both men and women. Other types of HPV can cause genital warts in both males and females.

Two HPV vaccines are currently licensed by the FDA and recommended by ACIP. These vaccines are Cervarix<sup>®</sup> (HPV2 manufactured by GlaxoSmithKline) and Gardasil<sup>®</sup> (HPV4 manufactured by Merck).

How are the two HPV vaccines similar?

- Both vaccines are extremely effective at preventing diseases caused by HPV types 16 and 18. HPV types 16 and 18 cause most cervical cancers, as well as other HPV-associated cancers, including cancers of the vulva, vagina, anus, penis, and oropharynx.
- Both vaccines have been shown to prevent cervical pre-cancers in women.
- Both vaccines are very safe.
- Both vaccines are made with HPV virus-like particles that cannot cause infection.
- Both vaccines are given as shots and require 3 doses.

How are the two HPV vaccines different?

- Only one of the vaccines, Gardasil<sup>®</sup>, protects against HPV types 6 and 11, the types that cause most genital warts in females and males.
- Only one of the vaccines, Gardasil<sup>®</sup>, has been tested and licensed for use in males.
- While both vaccines protect against HPV 16, only one of the vaccines, Gardasil<sup>®</sup>, has been licensed for the prevention of pre-cancers of the vulva, vagina, and anus.
- The vaccines have different adjuvants. Adjuvants are substances that are added to a vaccine to increase the body's immune response to a vaccine.

## Did You Know?

Federal law requires that a copy of the appropriate Vaccine Information Statement (VIS) be given to the adult recipient or to a child's parent/legal representative prior to vaccination.

Visit the CDC for specific information on complying with this mandate, obtaining VISs in other languages and more:

[www.cdc.gov/vaccines/pubs/vis/default.htm](http://www.cdc.gov/vaccines/pubs/vis/default.htm).

### CDC Develops New Resources to Help Providers Increase HPV Vaccination Rates

CDC has developed new resources to help health care providers talk to parents and young adults about HPV vaccination. The campaign features the tagline, "You are the key to HPV cancer prevention."

Campaign resources include:

- A one-page sheet titled, *Tips and Time-savers for Talking with Parents about HPV Vaccine*;
- A customizable slide set on the burden of HPV-related cancers;
- Links to HPV vaccination recommendations;
- Medscape commentaries for provider education, and
- Fact sheets and handouts for parents and patients in English and Spanish.

These resources can be found at the CDC website: [www.cdc.gov/vaccines/who/teens/for-hcp/hpv-resources.html](http://www.cdc.gov/vaccines/who/teens/for-hcp/hpv-resources.html).

The CDC's Immunization Safety Office has expanded its vaccine safety web content to include a comprehensive question and answer page on HPV. To view the page go to: [www.cdc.gov/vaccinesafety/Vaccines/HPV/hpv\\_faqs.html](http://www.cdc.gov/vaccinesafety/Vaccines/HPV/hpv_faqs.html).

To learn more about HPV vaccines and CDC's recommendations, visit: [www.cdc.gov/HPV/](http://www.cdc.gov/HPV/).

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### CDC Study Indicates HPV Vaccination Lowers HPV Infection Rates in Teen Girls

A study looking at the prevalence of HPV infections in girls and women before and after the introduction of the HPV vaccine was published on June 13, 2013 in the *Journal of Infectious Diseases*. The results showed a significant reduction in vaccine-type HPV-infections in U.S. teens. Since the vaccine was introduced in 2006, vaccine-type HPV prevalence has decreased 56 percent among female teenagers 14-19 years of age. Additionally, within four years of vaccine introduction, the vaccine-type HPV prevalence has decreased among females aged 14-19 years despite low vaccine uptake. The estimated vaccine effectiveness was high.

For more information on this study, *Reduction in Human Papillomavirus (HPV) Prevalence Among Young Women Following HPV Vaccine Introduction in the United States, National Health and Nutrition Examination Surveys, 2003–2010*, visit: <http://jid.oxfordjournals.org/content/early/2013/06/18/infdis.jit192.abstract>.

## Beliefs, Behaviors and HPV Vaccine

A review published in *Preventive Medicine* on November 2013 examined how beliefs and fears affect HPV vaccination rates. According to the article, most fears related to HPV vaccine are based more in myth and misinformation than reality. These mistaken beliefs can lead to lower vaccination rates. Due to these misconceptions, reviewers stated that a multifaceted approach will be required to increase HPV vaccination rates in areas where policy initiatives for HPV vaccination do not exist. The review stated that, “it will be essential to focus on the education of HCP (health care providers) regarding indications for HPV vaccination and approaches to communicating most effectively with parents and patients about the safety and benefits of vaccination and the risks associated with non-vaccination” (page 416). To read more about the study, *Beliefs, behaviors and HPV vaccine: Correcting the myths and the misinformation*, visit: [www.sciencedirect.com/science/article/pii/S009174351300176X](http://www.sciencedirect.com/science/article/pii/S009174351300176X).

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## Health Care Provider’s Strong HPV Vaccine Recommendation Key for Most Parents

Studies consistently show that a health care provider’s recommendation is a key factor in parental decision-making about vaccination. A recent study on provider-parent vaccine communication and the influence of specific provider communication practices on parent resistance to vaccine recommendations showed that parents are more likely to agree to vaccination if the provider **tells** the parent their child needs a vaccine rather than **asks** the parent whether they want to vaccinate their child.

A December 2013 article in *Pediatrics*, *The Architecture of Provider-Parent Vaccine Discussions at Health Supervision Visits*, demonstrates how providers talk to parents influences the parents’ decision. To view the article, visit: <http://pediatrics.aappublications.org/content/132/6/1037.full>).

CDC’s *Tips and Time-savers for Talking with Parents about HPV Vaccine* provides tested communication messages to use when talking to parents: [www.cdc.gov/vaccines/who/teens/for-hcp-tipsheet-hpv.pdf](http://www.cdc.gov/vaccines/who/teens/for-hcp-tipsheet-hpv.pdf)

A July 2013 article in *Human Vaccines and Immunotherapeutics* also discusses the importance of provider recommendations to parents. To view the article, *Impact of a Physician Recommendation and Parental Immunization Attitudes on Receipt or Intention to Receive Adolescent Vaccines*, visit: [www.ncbi.nlm.nih.gov/pubmed/23883781](http://www.ncbi.nlm.nih.gov/pubmed/23883781).

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## Meningococcal Disease (*Neisseria meningitidis*) and Vaccines for Preteens and Teens

Meningococcal vaccines protect against most types of meningococcal disease, although they do not prevent all cases. There are two kinds of vaccines that protect against *Neisseria meningitidis* available in the U.S.: meningococcal polysaccharide vaccine (MPSV4, Menomune® manufactured by Sanofi Pasteur), and meningococcal conjugate vaccine (MenACWY, Menactra® manufactured by Sanofi Pasteur and Menveo® manufactured by Novartis).

Persons between the ages of 16 to 21 years have the highest rates of meningococcal disease. *Neisseria meningitidis* often causes severe disease, including meningitis and sepsis, frequently resulting in permanent disabilities and even death.

*Routine ACIP recommendation:*

All 11- to 12-year-olds should be vaccinated with MenACWY. A booster dose should be given at age 16 years. For adolescents who receive the first dose at age 13 to 15 years, a one-time booster dose should be administered.

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## Did You Know?

An amendment to the Public Health Law Rules and Regulations Subpart 66-1, addressing school immunization requirements, takes effect July 1, 2014.

To learn the specifics regarding this new amendment visit the Bureau of Immunization's *Child Care Programs, Schools and Post-Secondary Institutions* web page:

[www.health.ny.gov/prevention/immunization/schools/updated\\_school\\_imm\\_requirements.htm](http://www.health.ny.gov/prevention/immunization/schools/updated_school_imm_requirements.htm).

### CDC Expands Vaccine Safety Web Offerings for Clinicians

The CDC's Immunization Safety Office announced that it expanded its vaccine safety web content of the Clinical Immunization Safety Assessment (CISA) Project. CISA is a national network of vaccine safety experts from the CDC's Immunization Safety Office, seven medical research centers, and other partners, which provides a comprehensive vaccine safety public health service to the nation.

U.S. health care providers who have a vaccine safety question about one of their U.S. patients can request a free CISA clinical consultation and case evaluation with one easy click:

[www.cdc.gov/vaccinesafety/Activities/cisa/cisa-evaluation.html](http://www.cdc.gov/vaccinesafety/Activities/cisa/cisa-evaluation.html).

Additional new CISA web offerings include:

- CDC Vaccine Safety Clinician Resources: [www.cdc.gov/vaccinesafety/Activities/cisa/cisa-clinician-resources.html](http://www.cdc.gov/vaccinesafety/Activities/cisa/cisa-clinician-resources.html).
- Current studies initiated under the CISA Project: [www.cdc.gov/vaccinesafety/Activities/cisa/cisa\\_studies.html](http://www.cdc.gov/vaccinesafety/Activities/cisa/cisa_studies.html).
- CISA's historical background: [www.cdc.gov/vaccinesafety/Activities/cisa/cisa-history.html](http://www.cdc.gov/vaccinesafety/Activities/cisa/cisa-history.html).
- CISA Project publications and technical reports: [www.cdc.gov/vaccinesafety/library/cisa\\_pubs.html](http://www.cdc.gov/vaccinesafety/library/cisa_pubs.html).

To learn more about CISA and its partner project sites, visit: [www.cdc.gov/vaccinesafety/Activities/CISA.html](http://www.cdc.gov/vaccinesafety/Activities/CISA.html).

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### Pertussis and Tdap Vaccine for Adolescents

Pertussis (whooping cough) causes severe coughing spells, which can cause difficulty breathing, vomiting, and disturbed sleep. It can also lead to weight loss, incontinence, and rib fractures. Up to two in 100 adolescents with pertussis are hospitalized or have complications, including pneumonia or death. Pertussis is caused by a bacteria and is spread from person-to-person through coughing or sneezing. Adolescents are an important vector for the spread of pertussis to infants.

Pertussis remains endemic in the U.S. despite the recommendation for routine childhood pertussis vaccination for more than half a century, and high coverage levels in children for more than a decade. A primary reason for the continued circulation of *Bordetella pertussis* is that immunity to pertussis wanes approximately 5-10 years after completion of the childhood pertussis vaccination series, leaving adolescents and adults susceptible to pertussis. Among the diseases for which universal childhood vaccination has been recommended, pertussis is the least well-controlled, reportable bacterial vaccine-preventable disease in the U.S.

Two tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine (Tdap) products are currently FDA-licensed for use in adolescents in the U.S.: Boostrix<sup>®</sup> (manufactured by GlaxoSmithKline) for use in persons 10 years of age and older, and Adacel<sup>™</sup> (manufactured by Sanofi Pasteur) for use in persons aged 10 through 64 years of age.

## Summary of Tdap Vaccine Recommendations for Preteens and Teens

To reduce pertussis morbidity in adolescents, and maintain the standard of care for tetanus and diphtheria protection, ACIP recommends the following:

Age/Status	Recommendations
7 through 10 years	<p>A single dose of Tdap is recommended for children ages 7 through 10 years who are not fully vaccinated against pertussis. <i>Fully vaccinated is defined as 5 doses of DTaP or 4 doses of DTaP if the fourth dose was administered on or after the fourth birthday.</i></p> <p>If additional doses of tetanus and diphtheria toxoid-containing vaccines are needed to complete the series after Tdap, then Td should be administered for the remaining doses according to the ACIP catch-up schedule. The ACIP catch-up schedule can be found at: <a href="http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html#printable">www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html#printable</a>.</p>
11 through 18 years	<p>A single dose of Tdap should be administered to all 11- to 12-year-olds.</p> <p>If adolescent was not fully vaccinated against tetanus, diphtheria and pertussis as a child, then Td should be administered for the remaining doses according to the ACIP catch-up schedule: <a href="http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html#printable">www.cdc.gov/vaccines/schedules/hcp/child-adolescent.html#printable</a>.</p> <p>If an adolescent (13 through 18 years) missed getting Tdap at 11 to 12 years of age, <b>administer</b> as soon as possible or at the next patient encounter — especially if the adolescent will have close contact with infants.</p>
19 years or older	<p>Any adult 19 years of age or older who has not received a dose of Tdap should get one as soon as feasible. In an effort to protect themselves and infants, Tdap can be administered regardless of interval since the previous Td dose.</p>
Pregnant teens and women	<p>Pregnant women, including pregnant teens, should get a dose of Tdap <b>during</b> each pregnancy, preferably at 27 through 36 weeks gestation. By getting Tdap during pregnancy, maternal pertussis antibodies transfer to the newborn, likely providing protection for infants too young for vaccination. Tdap will also help protect the mother at time of delivery, making her less likely to transmit pertussis to her infant. It is important that all family members and caregivers of the infant are up-to-date with their pertussis vaccines (DTaP or Tdap, depending on age) <b>before</b> coming into close contact with the infant. Tdap is recommended in the immediate postpartum period before discharge from the hospital or birthing center for new mothers who have never received Tdap before or whose vaccination status is unknown.</p>

## **Meningococcal Disease (*Neisseria meningitidis*) and Vaccines for Preteens and Teens**

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preferably at age 16 to 18 years, before the peak in increased meningococcal disease risk occurs. Adolescents who receive their first dose of MenACWY at or after 16 years of age are not recommended to receive a booster dose.

### *Booster shot recommendation:*

When MenACWY was first recommended for adolescents in 2005, the expectation was that protection would last for 10 years. However, currently available data suggests that protection wanes in most adolescents within 5 years of vaccine administration. Based on that information, a single dose of meningococcal vaccine at the recommended age of 11 or 12 years may not offer sufficient disease protection through the adolescent years when the risk for meningococcal infection is highest (16 to 21 years of age).

*For patients entering college who received their first dose of meningococcal vaccine before the age of 16 years:*

A booster dose should be given to first-year college students, age 21 years and younger, who are or will be living in a residence hall if the previous dose was given before the age of 16 years.

*Booster dose for patients younger than 16 years who you might not see again:*

It is recommended that health care providers use their clinical judgment in situations where they may not have another opportunity to provide a booster dose to a patient. The minimum interval between doses is 8 weeks.

*MenACWY vaccine versus MPSV4 vaccine:*

Only the MenACWY vaccine is recommended for adolescents. However, if a dose of MPSV4 is administered it can be counted as valid first dose in the adolescent schedule. The adolescent booster dose of meningococcal vaccine should always be MenACWY vaccine. If MPSV4 is inadvertently administered as the booster dose, ACIP recommends revaccination with MenACWY vaccine.

*Adolescents with HIV:*

Adolescents aged 11 to 18 years with HIV should be routinely vaccinated with a 2-dose primary series administered 2 months apart. HIV-positive adolescents should also receive the routine booster dose at age 16 years if the primary series is received before the 16th birthday.

*Booster dose interval:*

Adolescents age 16 to 18 years can get the booster dose at any time. The minimum interval between doses is 8 weeks.

*Safety of booster dose:*

Available data suggests that the booster dose is very safe. Vaccine safety will continue to be monitored.

For additional details, consult the *Meningococcal Vaccines* vaccine information statement ([www.cdc.gov/vaccines/hcp/vis/vis-statements/mening.html](http://www.cdc.gov/vaccines/hcp/vis/vis-statements/mening.html)) and the CDC's *Birth-18 Years & Catch-up Immunization Schedules* ([www.cdc.gov/vaccines/schedules/hcp/child-adolescent.htm](http://www.cdc.gov/vaccines/schedules/hcp/child-adolescent.htm)). The ACIP meningococcal recommendations may be found at: [www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html](http://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html).

The Immunization Action Coalition's *Ask the Experts* features CDC experts who answer readers questions on all vaccines, including adolescent vaccines, and specifically meningococcal. For more information, visit: [www.immunize.org/askexperts/experts\\_men.asp](http://www.immunize.org/askexperts/experts_men.asp).

## Subscribe to the CDC's free email service.

Receive email notifications when new or updated immunization information is available. Go to: [www.cdc.gov/emailupdates/index.html](http://www.cdc.gov/emailupdates/index.html).

**Click on *Subscribe*, then click on all immunization topics of interest, including adolescent immunizations!**

## Did You Know?

All significant health events that may have been related to a dose of vaccine, particularly those that lead to hospitalization, disability, or death, should be reported to the Vaccine Adverse Event Reporting System (VAERS).

Health care providers do not need to be certain the event was vaccine-related in order to report it. It is not necessary to report minor adverse reactions, such as local reactions or low-grade fever.

For more information about VAERS visit <http://vaers.hhs.gov> or call 800-822-7967.

## Important Contact Information

NYSDOH Bureau of Immunization

Phone: 518-473-4437 Email: [immunize@health.state.ny.us](mailto:immunize@health.state.ny.us)

Website: [www.health.ny.gov/prevention/immunization/](http://www.health.ny.gov/prevention/immunization/)

For further information, please contact your local health department or regional NYSDOH Bureau of Immunization office:

*Western Regional Office*  
Buffalo: 716-847-4503

*Central New York Regional Office*  
Syracuse: 315-477-8164

*Capital District Regional Office*  
518-473-4437

*Metropolitan Area Regional Office*  
New Rochelle: 914-654-7149  
Central Islip: 631-851-3096  
Monticello: 845-794-5627

Health care providers and facilities in New York City should contact New York City Department of Health and Mental Hygiene, 347-396-2400.

Email the NYSDOH Bureau of Immunization to receive this e-newsletter directly if you did not.