



ARIZONA DEPARTMENT
OF HEALTH SERVICES

Arizona Vaccine News

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Health and Wellness for all Arizonans

Newsletter Topics

INFLUENZA AND INFLUENZA VACCINES

- **Influenza Vaccine Decreases Hospitalization by Half**
- **Influenza Vaccinated ICU Survivors Have a Lower Risk of Death and Stroke**
- **Pregnant Women Need Both Influenza and Pertussis Vaccines to Protect Their Infants**
- **Giving Influenza Vaccine to Pregnant Women Decreases Pneumococcal Nasopharyngeal Carriage in Their Influenza-infected Infants**
- **Arizona Influenza Vaccination Coverage below National Average for 2018-19 Season**
- **CDC Recommendations for 2019-2020 Influenza Season Flu Vaccination**

LITERATURE ON VACCINES AND VACCINE-PREVENTABLE DISEASES

- **Record Measles Cases in the United States in 2019**
- **Infant Hepatitis B Virus Vaccination Has Reduced Infection in Pregnant Women**
- **This Is Why Varicella Vaccine Is So Important**
- **Childhood Varicella Vaccines Protect Against Pediatric Zoster**
- **Fatal Diphtheria in an Under-Immunized Adolescent**
- **Low Uptake in Adolescent Meningococcal B and 2nd Quadrivalent Vaccines in 2018**
- **HPV-Attributable Cancers in the U.S., 2012-2016**
- **Image of Respiratory Papillomatosis Caused by Human Papillomavirus**
- **Image of Tonsil Cancer Caused by Human Papillomavirus**
- **U.S. Young Adolescents Have Low HPV Vaccine Coverage**
- **Updated CDC HPV Vaccine Recommendations for Adults**
- **Newly FDA-Approved Vaccine for Smallpox and Monkeypox**
- **CDC Recommendations for Japanese Encephalitis Virus Vaccine**



DO YOU KNOW?

- Does Live Oral Cholera Vaccine Need to Be Given at an Interval from Other Live Vaccines?

RESOURCES

- Navigating Difficult Vaccine Conversations with Parents.
- “Evidence Shows Vaccines Unrelated to Autism” Document Updated
- ACOG Graphics for Educating Pregnant Women About Tdap and Influenza Vaccines
- Now Available: “CDC Yellow Book 2020: Health Information for International Travel”
- Providers’ Vaccine Storage and Handling CDC Website
- CDC “Flu Vaccine Finder” Widget for Use in Social Media

INFLUENZA AND INFLUENZA VACCINES

Influenza Vaccine Decreases Hospitalization by Half

- During the 2015-2016 influenza season in the United States (U.S.), influenza vaccination halved the risk of influenza-associated hospitalization in adults, especially those with high-risk conditions or the elderly.

See the article in *Journal of Infectious Diseases* (JID), [October 15, 2019](#).

Influenza Vaccinated ICU Survivors Have a Lower Risk of Death and Stroke (corrected)

- Adults \geq 65 years old who had received an influenza vaccine and who later survived an admission to an intensive care unit (ICU) had a lower 1-year risk of stroke and a lower one-year risk of death than if they had not received an influenza vaccine.

See the abstract in *Intensive Care Medicine*, [July 2019](#).

Pregnant Women Need Both Influenza and Pertussis Vaccines to Protect Their Infants

- Pediatric hospitalizations from influenza are most likely in those < 6 months old.
- The majority (69%) of whooping cough deaths are in babies < 2 months old.
- In the 2018-2019 influenza season, 54% of pregnant women received influenza vaccine and 55% received pertussis vaccine. Only 1/3 received both vaccines.

See *Morbidity and Mortality Weekly Report* (MMWR), [October 11, 2019](#).



Giving Influenza Vaccine to Pregnant Women Decreases Pneumococcal Carriage in Infants

- In Nepal, infants with influenza infection who had been born to mothers given influenza vaccine had lower pneumococcal nasopharyngeal carriage rates compared to influenza-positive infants who were born to mothers who had received a placebo vaccine.

See the article in JID, [September 15, 2019](#).

Arizona Influenza Vaccination Coverage below National Average for 2018-19 Influenza Season

- Influenza vaccine coverage among U.S. adults was 45.3%.
 - Arizona adult coverage was 42.6% (ranking 39th out of 50 states).
- Pediatric influenza vaccine coverage in the U.S. was 62.6%.
 - Arizona pediatric coverage was 55.9% (ranking 38th out of 50 states).

See more details at the Centers for Disease Control and Prevention (CDC) [website](#).

CDC Recommendations for 2019-2020 Influenza Season Flu Vaccination

- Most influenza vaccines are now quadrivalent although both of the vaccines that are approved only for persons ≥ 65 years old are trivalent.
- The goal is to offer influenza vaccine to all patients by October, although vaccination should continue to be offered as long as influenza viruses are circulating in the community and unexpired influenza vaccine is available.

See the full recommendations in MMWR, (RR-3), [August 23, 2019](#).

LITERATURE ON VACCINES AND VACCINE-PREVENTABLE DISEASES

Record Measles Cases in the United States in 2019

- There were 1,249 cases of measles in the U.S. between January 1-October 1, 2019.
 - These are the most U.S. measles cases since 1992.
 - 89% percent were unimmunized.
- Two measles outbreaks lasted 9.5 and 10.5 months respectively. However, they were brought under control in time so that the U.S. did not lose the measles elimination status that it has maintained since 2000.

See MMWR, [October 11, 2019](#).

Universal Infant Hepatitis B Virus Vaccination Has Reduced Infection in Pregnant Women

- Between 1984-2016, perinatal hepatitis B infection in Taiwan has decreased by about 90-94% as a result of implementing maternal HBsAg screening and giving hepatitis B virus (HBV) vaccination to all infants at birth.
- This strategy has resulted in fewer HBV infections in females, resulting in fewer HBV-infected pregnant women.
 - HBsAg-seropositivity rates in pregnant women decreased from 13.4% to 5.9% from 1984-2016, resulting in fewer infants at risk for perinatal HBV infection.

See the article in JID, [October 1, 2019](#).



This Is Why Varicella Vaccine Is So Important

- An immunocompromised young man died from varicella pneumonia in spite of antiviral therapy and mechanical ventilation.
- Varicella vaccination of healthy individuals provides herd immunity to protect those who cannot be vaccinated.

See the patient's chest X-ray in *New England Journal of Medicine* (NEJM), [September 12, 2019](#).

Childhood Varicella Vaccines Protect Against Pediatric Zoster

- Varicella vaccine was licensed in 1996.
- This study looked at pediatric herpes zoster (HZ) incidence between 2003-2014.
- During this time period, the overall HZ incidence declined by 72% in varicella vaccinated children compared to in unvaccinated children.

See the article in *Pediatrics*, [July 2019](#).

Fatal Diphtheria in an Under-Immunized Adolescent

- Infection with *Corynebacterium diphtheriae* can result in a grayish membrane in the oropharynx that occludes the airway.
- Death can also result from myocarditis due to *C. diphtheriae*-produced toxin.

See photographs of the patient and the patient's clinical course in NEJM, [September 26, 2019](#).

Low Uptake in Meningococcal B Vaccine and 2nd Quadrivalent Meningococcal Vaccine in 2018

- Only 17% of U.S. adolescents have received at least 1 dose of meningococcal B vaccine.
- Only about half of adolescents have received the second quadrivalent meningococcal vaccine.

For more details on adolescent vaccination coverage, see MMWR, [August 23, 2019](#).

HPV-Attributable Cancers in the U.S., 2012-2016

- During 2012–2016, an estimated 32,100 cancers in the U.S. were attributable to the HPV types targeted by the nine valent human papillomavirus vaccine (9vHPV).
 - The largest number were oropharyngeal cancer (12,600), followed by cervical (9,700), anal (6,000), vulvar (2,500), penile (700), and vaginal cancers (600).
- Arizona had an estimated 530 cancers attributable to types targeted by 9vHPV. Of these, 220 were oropharyngeal and 160 were cervical.

For more details, see MMWR, [August 23, 2019](#).

Image of Respiratory Papillomatosis Caused by Human Papillomavirus

- Human papillomavirus (HPV) strains that cause genital warts can also infect the larynx and upper airway, often causing respiratory compromise.
- Nine-valent HPV vaccine (9vHPV) includes the antigens for HPV types 6 and 11, two strains that cause genital warts.

See the photograph in NEJM, [July 25, 2019](#).



Image of Tonsil Cancer Caused by Human Papillomavirus

- HPV is associated with cancers of the oropharynx.
- 9vHPV includes seven antigens that protect against cancer-causing HPV strains.

See the photograph in NEJM, [July 25, 2019](#).

U.S. Young Adolescents Have Low HPV Vaccine Coverage

Of the U.S. adolescents who completed the HPV vaccine series in 2016:

- Only 13% completed the series before turning 13 years old.
- Only 35% completed the series before turning 15 years old.
- Vaccinating at a younger age gives better immunogenicity and better cancer protection.

See the article in JID, [September 1, 2019](#).

Updated CDC HPV Vaccine Recommendations for Adults

- The Centers for Disease Control and Prevention (CDC) has updated its recommendations for giving human papillomavirus (HPV) vaccine to some adults 27-45 years old using shared clinical decision-making.
- Catchup recommendation is now recommended for all persons through age 26 years.

See the full recommendations in MMWR, [August 16, 2019](#).

Newly FDA-Approved Vaccine for Smallpox and Monkeypox

- The Food and Drug Administration (FDA) announced the approval of Jynneos Smallpox and Monkeypox Vaccine, Live, Non-Replicating, for the prevention of smallpox and monkeypox disease in adults 18 years of age and older who are determined to be at high risk for smallpox or monkeypox infection.
- This is the only currently FDA-approved vaccine for the prevention of monkeypox.
- Jynneos contains a modified form of the vaccinia virus which does not cause infection in humans, due to it being non-replicating (it cannot reproduce in human cells).
- Jynneos is given as a two-dose, subcutaneous injection (\geq 28 days apart).

In [2003](#), the U.S. experienced an outbreak of monkeypox, which was the first time human monkeypox was reported outside of Africa.

See the FDA News Release, [September 24, 2019](#), and the [package insert](#).

CDC Recommendations for Japanese Encephalitis (JE) Virus Vaccine

- This report summarizes the epidemiology of JE, describes the JE vaccine that is licensed and available in the U.S., and provides recommendations for its use among travelers and laboratory workers.

See the full recommendations in MMWR, (RR-2), [July 19, 2019](#).



DO YOU KNOW?

Does Live Oral Cholera Vaccine Need to Be Given at an Interval from Other Live Vaccines?

- Live oral cholera vaccine (Vaxchora®) may be administered simultaneously or at any interval before or after administration of most other vaccines including live vaccines.
 - One [exception](#) is the timing between oral cholera vaccine and Ty21a oral typhoid vaccine (Vivotif®).
 - Oral cholera vaccine should be administered before Ty21a oral typhoid vaccine, and at least 8 hours should separate the oral cholera vaccine and the first dose of Ty21a.

See the [CDC Yellow Book 2020](#), Health Information for International Travel, [chapter 2](#).

RESOURCES

Navigating Difficult Vaccine Conversations with Parents.

- Medscape, through a CDC grant, has developed an interactive continuing medical education (CME) training program called “Pediatric Immunization: Navigating Difficult Conversations with Parents. “
- The program uses video vignettes to model effective communication strategies with parents who have questions about vaccines.
- Health care providers who successfully complete the post-test can receive CME through 2/11/2020.

Find this training [information](#) at Medscape.

“Evidence Shows Vaccines Unrelated to Autism” Document Updated

- The Immunization Action Coalition (IAC) and the Autism Science Foundation recently updated the document “Evidence Shows Vaccines Unrelated to Autism.” with results and references from the latest scientific research on autism.
- This [document](#) explains to parents why experts have concluded that vaccines do not cause autism.

ACOG Graphics for Educating Pregnant Women About Tdap and Influenza Vaccines

- The American College of Obstetricians and Gynecologists (ACOG), together with CDC, have developed free, downloadable [graphics](#) for educating pregnant women about the importance of receiving the Tdap (pertussis) vaccine and the influenza vaccine in pregnancy.
 - Post these graphics on your practice websites, patient portals, and social media pages, to help patients have access to accurate information about Tdap and influenza vaccines during pregnancy.



Now Available: “CDC Yellow Book 2020: Health Information for International Travel”

- Travel vaccine requirements and recommendations have been updated.
- The full Yellow Book is available for free [online](#).

Providers’ Vaccine Storage and Handling CDC Website

- CDC has updated their vaccine storage and handling [web pages](#) to include a dedicated [link](#) for provider resources.

CDC “Flu Vaccine Finder” Widget for Use in Social Media

- Enter your zip code to find nearby locations providing influenza vaccination.

See the [link](#).

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 - If you wish to subscribe or unsubscribe, email karen.lewis@azdhs.gov.
 - Past issues of *Arizona Vaccine News* are found at <https://www.azdhs.gov/preparedness/epidemiology-disease-control/immunization/index.php#news>.