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Arizona Vaccine News

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VACCINE NEWS

CDC Publishes Influenza Vaccine Recommendations for the 2013-2014 Season

- The Centers for Disease Control and Prevention (CDC) has published its updated recommendations on influenza vaccines for this influenza season.
- Several newly licensed influenza vaccines are available:
 - A live-attenuated, nasally-administered, quadrivalent vaccine for healthy, non-pregnant people ages 2-49 years old.
 - Three inactivated quadrivalent vaccines for both children and adults.
 - A trivalent, cell culture-based, inactivated vaccine for adults ≥ 18 years old.
 - A trivalent hemagglutinin vaccine, manufactured by recombinant technology, for ages 18-49 years old.
- Patients with severe anaphylactic reactions to eggs can receive the recombinant hemagglutinin vaccine, since there are no eggs involved in any stage of its production.
- Persons with only hives after egg exposure may receive inactivated influenza vaccines with additional safety precautions.
- Patients with any severity of egg allergies should not receive a live-attenuated influenza vaccine.
- If a child who is 8 years old or younger has received ≥ 2 seasonal influenza vaccines since July 1, 2010, they only need one influenza vaccine this year.
- No preferential recommendation is made for one influenza vaccine product over another within appropriate indications.

For more details, see *Morbidity and Mortality Weekly Report* ([MMWR](#)), September 20, 2013.

CDC Travel Alert for Rubella in Japan

- Japan has had 13,747 cases of rubella cases this year as of August 21, 2013. As many as 85 of 100 babies born to mothers who have rubella in the first 3 months of her pregnancy will have a birth defect.
- Before traveling to Japan, [CDC recommends](#) that all pregnant women should talk with their health care providers to make sure that they are protected against rubella and if it is advisable for them to travel.
- Adolescents and adults (including non-pregnant females) who are traveling to Japan who have not had rubella or have not been vaccinated against rubella should get 1 dose of measles-mumps-rubella vaccine (MMR).
- Although children in the United States routinely receive their first MMR vaccination at age 12–15 months and their second MMR at 4-6 years of age, children 12 months of age or older traveling to Japan should have 2 doses of MMR, separated by at least 28 days.

CDC Travel Alert for Rubella in Poland

- From January-August 2013, there have been a total of 36,440 cases of rubella reported in Poland.
- [CDC recommends](#) that all travelers to Poland protect themselves from rubella by being up-to-date on their rubella vaccination.
- Pregnant women who are not protected against rubella either through vaccination or previous rubella infection should avoid traveling to Poland during this outbreak. This is especially important during the first 20 weeks of pregnancy.

CDC Travel Alert for Polio in Kenya, Somalia, and Ethiopia

- Polio is still endemic in Nigeria, Pakistan, and Afghanistan. However, new cases are appearing in other countries.
- Somalia has reported 160 cases of polio from April 2013 through September 4, 2013. These are the first wild poliovirus cases reported in Somalia since 2007.
- Kenya has reported 13 polio cases during this time period. These are the first wild poliovirus cases confirmed in Kenya since July 2011.
- In the Somali Region of Ethiopia, there was one case of polio in July 2013. This is the first wild poliovirus case reported in Ethiopia since 2008.
- [CDC recommends](#) that all travelers to Somalia, Kenya, and Ethiopia be fully vaccinated against polio. In addition, CDC recommends a one-time booster dose of polio vaccine for adults who are traveling to Djibouti, Eritrea, South Sudan, and Yemen and who are working in health care facilities, refugee camps, or other humanitarian aid settings.
- Children and adults who have completed a full series of polio vaccine are considered to have lifelong immunity to poliomyelitis. However, as a precaution, adults who are traveling to areas where poliomyelitis cases are occurring should make sure that they have received a one-time booster dose of inactivated polio vaccine (IPV).

Updated Varicella Zoster Immunoglobulin (VariZIG) Recommendations

- VariZIG, an intramuscular varicella zoster immune globulin preparation, is now licensed for post-exposure prophylaxis of varicella for persons at high risk for severe disease who lack immunity to varicella and for whom varicella vaccine is contraindicated.
- Contraindications to VariZIG include anaphylaxis to human immune globulins and certain IgA-deficient patients.
- The CDC recommends VariZIG for high risk patients *as soon as possible* after exposure to varicella but *up to 10 days* after exposure.
- High risk groups (if exposed to varicella) are defined as:
 - ❖ Immune compromised without evidence of varicella immunity.
 - ❖ Pregnant women without evidence of varicella immunity.
 - ❖ Newborn whose mother had varicella 5 days before through 2 days after birth.
 - ❖ Hospitalized, premature infants
 - $\leq 1,000$ grams at birth or < 28 weeks gestation, regardless of mother's varicella immune status.
 - ≥ 28 weeks gestation but mother has no evidence of varicella immunity.

For more information, see [MMWR](#), July 19, 2013.

LITERATURE ON VACCINES AND VACCINE-PREVENTABLE DISEASES

Maternal Influenza During Pregnancy May Increase a Child's Risk for Bipolar Disorder

- Whether maternal influenza infection could increase the risk of bipolar disease (BD) was examined in a case-control study where 92 cases of BD were compared with 722 matched controls.
- There was a nearly 4-fold increase in the risk of BD after maternal influenza infection at any time during pregnancy. The findings were not confounded by maternal age, race, educational level, gestational age at birth, and maternal psychiatric disorders.
- The authors suggest that prevention of maternal influenza during pregnancy may reduce the risk of BD.

See abstract for [JAMA Psychiatry](#), July 2013.

Lack of Association of Vaccinations with Guillain-Barré Syndrome (GBS)

- At Kaiser Permanente Northern California, 415 cases of GBS were identified retrospectively from 1995 through 2006.
- No evidence was found of an increased risk of GBS following vaccinations of any kind, including influenza vaccination.
- The odds ratio of influenza vaccination within a 6-week interval prior to GBS, compared with the prior 9 months before vaccination, was 1.1, indicating no increased risk.
- The risk of GBS in the 6-week interval following vaccination compared to the prior 12 months interval for tetanus-diphtheria combination, 23-valent pneumococcal polysaccharide, and for all vaccines combined was 1.4, 0.7, and 1.3, respectively, also indicating no increased risk.

See abstract at [Clinical Infectious Diseases](#), July 15, 2013.

Vaccine-induced Changes in Hepatitis A Epidemiology in Arizona, 1988-2007

- Arizona had the highest incidence of hepatitis A cases of any state in the US during the decade of 1987-1997. A study examined the effect of hepatitis A vaccination in Arizona by comparing pre-vaccination hepatitis A incidence in Arizona (1994-1995) with post-vaccination incidence (2006-2007).
- Hepatitis A incidence in Arizona decreased from 58 cases per 100,000 in 1988 to 2 cases per 100,000 in 2007.
- Pre-vaccine cases were more likely to have had contact with a child care facility or another hepatitis A case, while later cases were more likely to be linked to recent international travel.

See the abstract in [Vaccine](#), September 2012.

Number of Antigens in Early Childhood Vaccines and Neuropsychological Outcomes

- To study the question as to whether children may be receiving too many immunizations under the recommended schedule in the US, neuropsychological outcomes in 7-10 year olds were compared with the number of antibody-stimulating proteins and polysaccharides they had received from early childhood vaccines.
- Children were tested for general intellectual function, speech and language, verbal memory, attention and executive function, tics, achievement, visual spatial ability, and behavior regulation.
- On average, children (N = 1,047) received 7266, 8127, and 10 341 antigens by ages 7 months, 12 months, and 24 months, respectively.
- Increases (per 1,000) in the number of antigens were not associated with any adverse outcomes, nor were antigen counts above the 10th percentile, compared with lower counts. However, children with higher antigen counts up to 24 months performed better on attention and executive function tests.

See the abstract in [Pharmacoepidemiology and Drug Safety](#), July 12, 2013.

RESOURCES

Website That Shares Stories of Healthy Children Who Died from Influenza

- See the [website](#) of “Families Fighting Flu” for stories of healthy children who died from influenza. The website also offers resources to help families get influenza vaccines for their children.

New App to Help with Scheduling Vaccinations

- The Society of Teachers of Family Medicine has used the 2013 CDC immunization schedules to develop “Shots by STFM,” an electronic tool for determining the proper immunization schedule for children and adults.
- This free [app](#) can be used on-line, on android phones, and on iPhones.
- “Shots by STFM” and the associated website are funded by a grant from CDC.

New Vaccine Safety Booklet for Parents

- *Vaccine Safety and Your Child* is a booklet excerpted from the book “Vaccines and your Child,” written by Dr. Paul Offit and Charlotte Moser from the Children’s Hospital of Philadelphia.
- The booklet is available in [English](#) and [Spanish](#) and can be downloaded for free.
- Booklets can also be [ordered](#) for \$1/booklet plus shipping.

New Hospital Guidebook to Prevent Perinatal Hepatitis B Infections

- The Immunization Action Coalition (IAC) has recently published a comprehensive guidebook titled “[Hepatitis B: What Hospitals Need to Do to Protect Newborns](#)” to provide hospitals with essential resources for administering hepatitis B vaccine at birth.
- Hospitals play an important role in giving the birth dose of hepatitis B vaccine. Unfortunately, in the US, about 1/3 of children go home from the hospital without their birth dose, and about 800 US infants become chronically infected with hepatitis B due to perinatal infection every year.


ADHS Perinatal Hepatitis B Prevention Program Manual

- The [Perinatal Hepatitis B Prevention Program Manual](#) of the Arizona Department of Health Services is an additional resource for obstetricians, hospitals, and pediatricians in protecting infants against perinatal hepatitis B virus transmission.

Spanish Translations of IAC's Handouts on Child, Teen, and Adult Vaccinations

- The IAC has published Spanish translations of the IAC’s vaccine and vaccine preventable diseases handouts for parents and patients.
- The translations can be found at the IAC's new [Vaccine Summaries](#) web page. Scroll down to see all the selections.

- Please feel free to distribute ADHS’ *Arizona Vaccine News* to any of your partners who may be interested. Past issues of *Arizona Vaccine News* can be found at: <http://azdhs.gov/phs/immunization/newsletters.htm>.

INFLUENZA VACCINES LICENSED IN THE UNITED STATES Summary by Karen Lewis, MD 9/24/2013						
Company	Formulation and Number of Strains [§]	Trade name	Ages	How to Give	Grown in chicken eggs	OK to use if egg allergy
NEWLY LICENSED INFLUENZA VACCINES						
Medimmune	LAIV4	FluMist Quadrivalent [®]	2-49 yo	Intranasal	Yes	No
GSK	IIV4	Fluarix Quadrivalent [®]	≥ 3 yo	IM	Yes	Yes [¶]
GSK	IIV4	FluLaval Quadrivalent [®]	≥ 3 yo	IM	Yes	Yes [¶]
Sanofi Pasteur	IIV4	Fluzone Quadrivalent [®]	≥ 6 mo	IM	Yes	Yes [¶]
Novartis	ccIIV3	Flucelvax [®]	≥ 18 yo	IM	No*	Yes [¶]
Protein Sciences	RIV3	FluBlok [®]	18-49 yo	IM	No [°]	Yes
PREVIOUSLY LICENSED INFLUENZA VACCINES						
CSL	IIV3	Afluria [®]	≥ 9 yo ^Δ	IM	Yes	Yes [¶]
GSK	IIV3	Fluarix [®]	≥ 3 yo	IM	Yes	Yes [¶]
GSK	IIV3	FluLaval [®]	≥ 3 yo **	IM	Yes	Yes [¶]
Medimmune	LAIV3	FluMist [®]	2-49 yo	Intranasal	Yes	No
Novartis	IIV3	Fluvirin [®]	≥ 4 yo	IM	Yes	Yes [¶]
Novartis	IIV3	Agriflu [®]	≥ 18 yo	IM	Yes	Yes [¶]
Sanofi Pasteur	IIV3	Fluzone [®]	≥ 6 mo	IM	Yes	Yes [¶]
Sanofi Pasteur	IIV3	Fluzone High Dose [®]	≥ 65 yo	IM	Yes	Yes [¶]
Sanofi Pasteur	IIV3	Fluzone Intradermal [®]	18-64 yo	Intradermal	Yes	Yes [¶]
<p>[¶] Permitted if mild to moderate egg allergy, but not when there is anaphylactic reaction to eggs.</p> <p>*Influenza virus grown in cell culture (not eggs) but vaccine may not be completely free of egg protein due to influenza viruses having previously been grown in eggs.</p> <p>[°]Manufactured with recombinant DNA technology by inserting influenza hemagglutinin genes into baculoviruses; as the baculoviruses grow in cell culture, they also produce influenza hemagglutinins.</p> <p>[§]Abbreviations: IIV: Inactivated influenza vaccine. ccIIV: Cell culture inactivated influenza vaccine. RIV: Recombinant influenza vaccine. LAIV: Live attenuated influenza vaccine. The numbers at the end of the abbreviations show how many influenza strains (3=2A, 1B; 4=2A, 2B). IM: Intramuscular.</p> <p>^ΔMay be given at age ≥ 5 years old If there is no other age-appropriate, licensed inactivated seasonal influenza vaccine available for a child aged 5-through-8 years who has a medical condition that increases the child's risk for complications from influenza.</p> <p>**Newly approved age indication.</p>						
For more details, see Morbidity and Mortality Weekly Report , September 20, 2013.						