



Division of Public Health Services

*Office of the Assistant Director
Public Health Preparedness Services*

150 N. 18th Avenue, Suite 120
Phoenix, Arizona 85007
(602) 364-3856
(602) 364-3285 FAX
Internet: www.azdhs.gov

JANICE K. BREWER, GOVERNOR
WILL HUMBLE, DIRECTOR

Arizona Vaccine News

Karen Lewis, M.D.
Medical Director
Arizona Immunization Program Office
September 23, 2011

Newsletter Topics

VACCINE NEWS

- **Institute of Medicine Report Says Vaccines Cause Few Health Problems**
- **Update on Febrile Seizures in Children Following Vaccination with Influenza Vaccines and Pneumococcal Vaccines**

LITERATURE ON VACCINES AND VACCINE PREVENTABLE-DISEASES

- **Lower Antibody Responses to Influenza Vaccine in the Elderly May Be Due to Poor Initial Responses Rather than Waning Immunity**
- **Hepatitis B Vaccines and the Need for Booster Doses**
- **Some Patients Diagnosed in the Past with “Whole Cell Pertussis Vaccine Encephalopathy” Found to Have Dravet Syndrome**
- **Pneumococcal Conjugate Vaccine Given at Birth is Immunogenic**

ARIZONA VACCINE DATA FOR CHILDCARE AND SCHOOLS

- **High Arizona Vaccine Coverage Levels**
- **Increasing Arizona Vaccine Exemptions**

VACCINE NEWS

Institute of Medicine Report Says Vaccines Cause Few Health Problems

- The Institute of Medicine has released an 800-page report on “Adverse Effects of Vaccines: Evidence and Causality.”
- An analysis of more than 1,000 research articles concluded that few health problems are caused by or clearly associated with vaccines.
- This report will help the U.S. Department of Health and Human Services (HHS) to administer the Vaccine Injury Compensation Program.

For a free on-line summary, table of contents, a full pdf report, the media announcement, or how to purchase the full report, go to http://www.nap.edu/catalog.php?record_id=13164.

Update on Febrile Seizures in Children Following Vaccination with Influenza Vaccines and Pneumococcal Vaccines

- CDC has analyzed the risk of febrile seizures in children 6 months-4 years old after influenza and pneumococcal vaccination during the 2010-2011 influenza season using data from the Vaccine Safety Datalink Project.
- Analysis showed that although febrile seizures in children after immunizations were rare, febrile seizures were most common in children **ages 12 through 23 months** when influenza vaccine and pneumococcal vaccines were given during the same healthcare visit. In this age group, about one additional febrile seizure occurred among every 2,225 children vaccinated.
- After thoroughly evaluating the available information, CDC has determined that no changes in the childhood immunization schedule are necessary at this time.
- CDC emphasizes that young children can develop febrile seizures due to influenza and pneumococcal infections, as well as other life-threatening complications. Therefore, CDC recommends continuing to give on-time immunizations including multiple immunizations at one visit if indicated. For more information, see <http://www.cdc.gov/vaccinesafety/Concerns/FebrileSeizures.html>
- A separate CDC statement recommends against the use of Afluria® (CSL Biotherapies influenza vaccine manufactured in Australia) in US children under 9 years of age due to an increased rate of febrile seizures observed after influenza vaccination in young children in the 2010 influenza season in the Southern Hemisphere. <http://www.cdc.gov/media/pressrel/2010/s100806.htm>

LITERATURE ON VACCINES AND VACCINE PREVENTABLE-DISEASES

Lower Antibody Responses to Influenza Vaccine in the Elderly May Be Due to Poor Initial Responses Rather than Waning Immunity

- For over a decade, advisory committees in North America have cautioned that antibody titers decline more rapidly in the elderly, falling below seroprotective levels within 4 months, leading some to delay influenza vaccination until later in the season.
- A review of original studies suggests that lower influenza antibody levels in the elderly may be due to a higher occurrence of *primary* vaccine failure and not waning immunity.
- The authors conclude that there is no compelling evidence for a more rapid decline in the elderly of influenza vaccine-induced antibody response compared with young adults, and no evidence that seroprotection is lost at ≤ 4 months if it has been initially achieved after influenza immunization.
- This argues *against* waiting until later in the influenza season to immunize the elderly.

For more information, see *Journal of Infectious Diseases*, February 15, 2008.

<http://jid.oxfordjournals.org/content/197/4/490.full.pdf+html>

Hepatitis B Vaccines and the Need for Booster Doses

- In a recent *Clinical Infectious Diseases* article, scientists from the World Health Organization argue that there is no need for hepatitis B vaccine boosters in people with normal immunity as long they have received a full course of hepatitis B vaccine that was properly administered and given according to the recommended schedules.
- In contrast, immunocompromised patients should have their hepatitis B surface antibody (HBsAb) titers monitored, and should receive a booster dose when their HBsAb falls below 10 mIU/mL.

See *Clinical Infectious Diseases* article from July 1, 2011

<http://cid.oxfordjournals.org/content/53/1/68.full.pdf+html?etoc>

Some Patients Diagnosed in the Past with “Whole Cell Pertussis Vaccine Encephalopathy” Found to Have Dravet Syndrome

- In the 1970s, children with unexplained childhood encephalopathy were often diagnosed as having “pertussis vaccine encephalopathy.”
- The clinical presentation of Dravet syndrome can resemble cases of alleged vaccine encephalopathy. Dravet syndrome is a rare epileptic encephalopathy linked to mutations in *SCN1A* (neuronal sodium channel $\alpha 1$ subunit) and characterized by polymorphous seizure types and developmental decline with onset in infancy.
- The authors describe 5 children who presented for epilepsy care with presumed parental diagnoses of alleged vaccine encephalopathy caused by pertussis vaccinations in infancy. With the support of genetic testing, their conditions were all rediagnosed years later as Dravet syndrome.
- Although Dravet syndrome is rare, its recognition is important because it offers an alternative genetic explanation to refute alleged cases of vaccine encephalopathy.
- Because *SCN1A* genetic testing has become more available only recently, patients of any age with an unexplained chronic encephalopathy and a suggestive clinical history should be considered for genetic testing for Dravet syndrome.

See abstract in *Pediatrics*, September 2011

<http://pediatrics.aappublications.org/content/128/3/e699.abstract>

Pneumococcal Conjugate Vaccine Given at Birth is Immunogenic

- Three hundred infants were randomized to receive 7-valent pneumococcal conjugate vaccines (PCV-7) at either 6, 10, and 14 weeks of age, or at 0, 10, and 14 weeks of age.
- At 18 weeks of age, protective antibody concentrations (≥ 0.35 $\mu\text{g/mL}$ by ELISA) were achieved against each serotype by $\geq 87\%$ of both groups. Booster responses and vaccine-type/nonvaccine-type carriage prevalence did not differ between groups.
- PCV-7 was safe and immunogenic when given at birth. There was no evidence of immune tolerance.
- The authors suggest that vaccination beginning at birth may be able to offer an alternative to control invasive pneumococcal disease in vulnerable young infants.

For more information, see *Clinical Infectious Diseases* October 1, 2011 at

<http://cid.oxfordjournals.org/content/53/7/663.full.pdf+html>

ARIZONA VACCINE DATA FOR CHILDCARE AND SCHOOLS

High Arizona Vaccine Coverage Levels

- The Assessment Unit of the Arizona Immunization Program Office (AIPO) collects and analyzes Immunization Data Reports submitted by childcare programs and schools each year as required by Arizona Revised Statutes 15-871 through 874 and Arizona Administrative Code R9-6-701 through 708.
- Tables in the Fall 2011 issue of *Immunications* show the high levels of immunizations in Arizona childcare attendees and preschool and school children for the 2010-2011 school year.

http://www.azdhs.gov/phs/immun/pdf/immunications/fall11/Fall2011_Immunications.pdf

Increasing Arizona Vaccine Exemptions

- In Arizona, parents are able to request that their child be exempted from school vaccine requirements. Religious belief vaccine exemptions are granted for childcare attendance, and personal belief vaccine exemptions are granted for school children.
- In spite of overall high vaccine coverage, religious belief and personal belief vaccine exemptions have **doubled** in Arizona in the last decade.
- Vaccine exemptions for the 2011-2011 school year were 3.4%, 3.2% and 3.7% for childcare, kindergarten, and 6th grades respectively.

http://www.azdhs.gov/phs/immun/pdf/immunications/fall11/Fall2011_Immunications.pdf

- In comparison, United States nonmedical vaccine exemptions for kindergarten 2009-2010 ranged from 0.2% (Rhode Island) to 5.7% (Washington state).

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6021a4.htm?s_cid=mm6021a4_w

- Researchers at the University of Arizona, School of Public Health are working with AIPO to study the reasons for Arizona's increase in childcare and school vaccine exemptions.

- 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://www.azdhs.gov/phs/immun/vacNews.htm>