Update from the ACIP Pertussis Vaccines Work Group

Art Reingold, MD
Chair, ACIP Pertussis Vaccine Work Group

Advisory Committee for Immunization Practices
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# Work Group Members

*(formation in April 2009)*

### ACIP Members
- Art Reingold, Chair
- Kathleen Harriman
- Ruth Karron

### Ex Officio Members
- Xin-Xing Gu (NIAID)
- Ann Schwartz (FDA)

### Liaison Representatives
- Richard Beigi (ACOG)
- Stephanie Schauer (AIM)
- Tina Q. Tan (AAP)
- Albert Bourbon (AAPA)
- Kenneth Schmader (AGS)
- David Weber (SHEA)
- Alexis Elward (HICPAC)
- Sarah Long (AAP)
- Matthew Zahn (NACCHO)
- Christine Hahn (CSTE)
- Elizabeth Rosenblum (AAFP)
- Jessica Kahn (SAM)
- Mark Sawyer (PIDS)

### Invited Consultants
- William Atkinson
- Scott Halperin (Canada)
- Paul Offit
- Carol Baker
- C. Mary Healy
- Marietta Vázquez
- Lance Chilton
- Peter McIntyre (Australia)

### CDC Lead
- Jennifer Liang
Terms of Reference

- Review existing statements on infants and young children (1997), adolescents (2006), adults (2006), and pregnant and postpartum women and their infants (2008) and consolidate into a single statement.

- Review new data on Tdap, including
  - Impact of ACIP recommendations
  - Interval between Td booster and Tdap
  - Use of Tdap in adults aged 65 yrs and older
  - Pregnant and breastfeeding women
    - Use of Tdap
    - Cocooning strategies
  - Vaccinated healthcare personnel and need for postexposure prophylaxis
  - Tdap revaccination
    - General population
    - Pregnant women
    - Healthcare personnel
    - “Cocooning”

- Review updated epidemiology of tetanus and diphtheria in the U.S.
ACIP Tdap Recommendation for Pregnant Women

- Health-care personnel should administer a dose of Tdap during each pregnancy, irrespective of the patient’s prior history of receiving Tdap

Guidance for Use

- To maximize the maternal antibody response and passive antibody transfer to the infant, optimal timing for Tdap administration is between 27 and 36 weeks gestation

New Data on Timing of Maternal Tdap Vaccination

- Three recently published studies with relevant data
  1. Equal or higher antibody concentrations among infants whose mothers were vaccinated in 2\textsuperscript{nd} trimester compared to those whose mothers vaccinated in 3\textsuperscript{rd} trimester\textsuperscript{*}
  2. Higher pertussis toxin (PT) antibody levels in mothers vaccinated 28-32 wks compared to those vaccinated 33-36 wks \textsuperscript{¶}
  3. No differences in titers of neonatal antibodies between mothers vaccinated in late 2\textsuperscript{nd} trimester and during 3\textsuperscript{rd} trimester\textsuperscript{±}

- United Kingdom’s Joint Committee on Vaccination and Immunization updated their maternal Tdap vaccination recommendation for women to receive the vaccine as early as 16 wks gestation; however, advising after the mid-pregnancy ultrasound (between 18 – 21 wk) [February 2016]

ACIP Pertussis Vaccines WG
Next steps

- **Review new data related to Tdap in pregnancy**
  - Timing of vaccination during pregnancy
  - Tdap effectiveness of preventing pertussis in infants
  - Safety
  - Programmatic considerations

- **Review current guidance on Tdap vaccination of pregnant women**

- **October ACIP**
  - Timing of maternal Tdap vaccination
    - Summary of data, WG discussion and conclusions
  - Consolidated ACIP statement (*draft*)
    - Prevention of Pertussis, Tetanus and Diphtheria with Vaccines in the United States -- Recommendations of the Advisory Committee on Immunization Practices (ACIP)