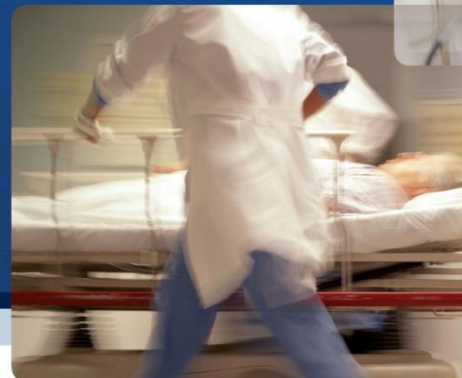




Washington State
Hospital Association



Safe Deliveries Roadmap

Partnership for Patients

Monthly Webcast

February 8, 2016



Washington
State
Hospital
Association

- Get updates on the Safe Deliveries Roadmap
- Hear from Dr. Linda Eckert, from the University of Washington, the what, why and how of Tdap in pregnancy
- Take away strategies and tools to implement in your practice and hospital

2016

Dear OB Leader,

I hope this e-mail finds you well and that your new year is off to a great start!

On behalf of the Washington State Hospital Association (WSHA) Safe Deliveries Roadmap leadership team, between now and the March 1st Obstetric Safe Table I will be meeting (via phone) with maternity program medical and nursing/administrative leadership to discuss the obstetric quality improvement work they are implementing. I do not have a contact for your OB medical staff lead so hoping you will loop them into this communication.

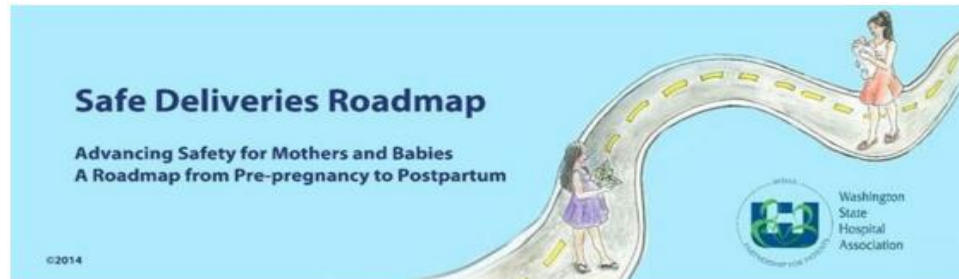
As you probably know, WSHA was awarded the Partnership for Patients 2.0 contract this year, which includes making improvements in obstetric care. Your CEO signed your hospital up to participate and so we will be working together to improve care for moms and babies across the region. In addition to continuing our efforts with early elective deliveries, episiotomy, labor management, preeclampsia and hemorrhage, this year we will have a special focus on:

Severe maternal morbidity - we will be implementing the early warning signs tool to identify women who may be developing critical illness.

Second stage labor – we are developing an evidenced based toolkit.

Unit culture and quality improvement uptake - although hospitals have made great strides in past years toward improved obstetric outcomes by working on the technical aspects of the care, we still see quite a bit of unexplained variation in outcomes which many attribute to “unit culture”. We will be evaluating and working on features of the culture that influence patient outcomes and quality improvement uptake such as leadership, communication, and teamwork.

We will be discussing these topics at the March 1st Safe Table and sharing what hospitals are working on. Before then, on the call I set up with you and your OB medical staff leader, I will be asking you specifically about the items on the attached form. The call will take 20-25 minutes. For ease of scheduling, I am reserving time slots for 7:00 am and 7:30 am every weekday of February except February 8, 10 and 24. Please let me



For All Maternity and Women's Health Providers and Staff

Save the Date!
WSHA Partnership for
Patients Safe Table

Safe Deliveries Roadmap

Tuesday March 1st, 2016
9:00 a.m. - 2:30 p.m.

Hilton Seattle Airport
17620 International Blvd.
SeaTac, 98188

Beyond the Low Hanging Fruit:

***Getting to the Root Causes
of Perinatal Outcomes***

To register for this event: [click here](#)

Speaker and Session Topics to Follow

Please Forward on to Your Maternity and Women's Health Colleagues

Sneak Peek

- Healthy Weight Management
- Detection of Maternal Early Warning Signs
- Mission Possible
- Culture: Leadership, Teamwork and Communication

Your Mission should you decide to accept it...

Be Prepared to Answer the Following Questions:

1: For your hospital's NTSV C-sections, how do your Spontaneous Labor, Induced Labor and No Labor sub-groups compare?

2: What proportion of your NTSV Spontaneous Labor and Induced Labor sub-groups had C-sections for a) Failure to Progress? b) Fetal Distress?

3: At what Stage are the majority of your Primary TSV C-sections occurring: a) prior to 6cm-Induced; b) prior to 6cm-Spontaneous Labor; c) Active phase; d) Second stage?

4: Do you understand your Unexpected Newborn Complications (UNC) scores and know your Moderate and Severe UNC trends ?

5: Based on your analysis, what do you think are the top 2 or 3 areas where you would focus for improvement efforts?

2016 Meetings

- Roadmap Monthly Webcast: 7:00am – 8:00 am

February 8	July 8
April 8	August 8
May 10	October 7
June 8	November 8

- Safe Tables
 - March 1st
 - September 1st

All Things Tdap

Monday, February 8, 2016

7:00-8:00 a.m. PST

Linda Eckert, MD

Professor, Department of Obstetrics and Gynecology
and Global Health
University of Washington

Course Faculty

Linda O. Eckert, MD, has been on faculty at University of Washington for 23 years, based primarily at Harborview. She did a fellowship in Infectious Diseases after completing her Ob/Gyn residency. Dr. Eckert is a member of the ACOG Expert Immunization Committee, is on ACIP HPV vaccine workgroup, a member of Washington State Department of Health Vaccine Advisory Council, and serves as a consultant to the World Health Organization, Global Alliance for Vaccine Initiative (GAVI) and to the Bill & Melinda Gates Foundation on Maternal Immunization.

No conflicts of interest

Learning Objectives

By the end of the webinar participants will be able to :

- Indicate the appropriate Tdap recommendations for general adult population
- Communicate the burden of disease of pertussis, tetanus and diphtheria in both adults and newborns
- Indicate the appropriate recommendations and optimum timing for Tdap vaccination during pregnancy
- Communicate the safety of Tdap vaccination for non-pregnant adults and pregnant women.

What is Tdap?

Tetanus, Diphtheria, and Pertussis

There are four combination vaccines used:

DTaP, **Tdap**, DT, Td

- DTaP and DT are given to children younger than 7 years of age
- **Tdap** and Td are given to older children and adults
- Upper-case letters in abbreviations = pediatric strength doses of Diphtheria (D), Tetanus (T) toxoids and Pertussis (P) vaccine
- Lower-case letters in abbreviations = adult strength doses of Diphtheria (d) and Pertussis (p) used in the adolescent/adult-formulations

For Maternal Immunization use **Tdap**

Tetanus, Diphtheria, and Pertussis

Diphtheria, Tetanus, and Pertussis --> caused by bacteria

Diphtheria: person to person transmission

Pertussis: person to person transmission, Highly infectious (secondary attack rate exceeds 80%)

Tetanus: enters via cuts or wounds

Pertussis (aka whooping cough)

- **Causative organism:**

- *Bordetella pertussis*, a gram-negative bacterium
- Uniquely human pathogen

- Incubation 7-10 days, catarrhal stage followed by paroxysm of coughing that can continue for 4-6 weeks

- **Clinical case definition:**

Cough illness lasting at least 2 weeks with one of the following: paroxysms of coughing, inspiratory "whoop," or post-tussive vomiting, apnea, without other apparent cause (as reported by a health professional)

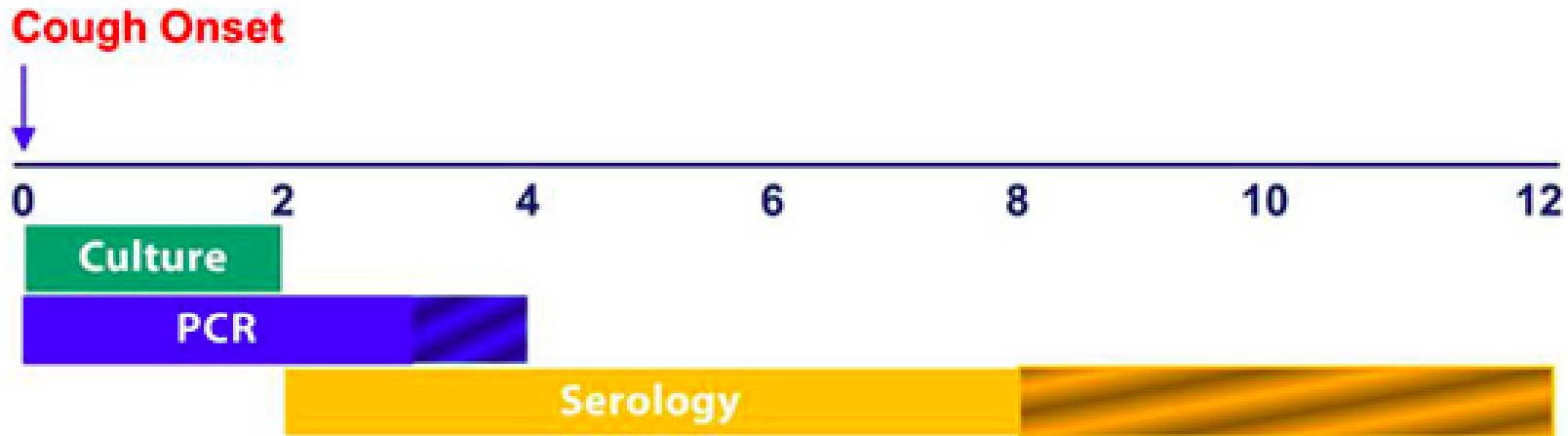
- **Can lead to:** rib fractures, weight loss, pneumonia, seizures , brain damage, incontinence and death

Burden of Disease: Pertussis

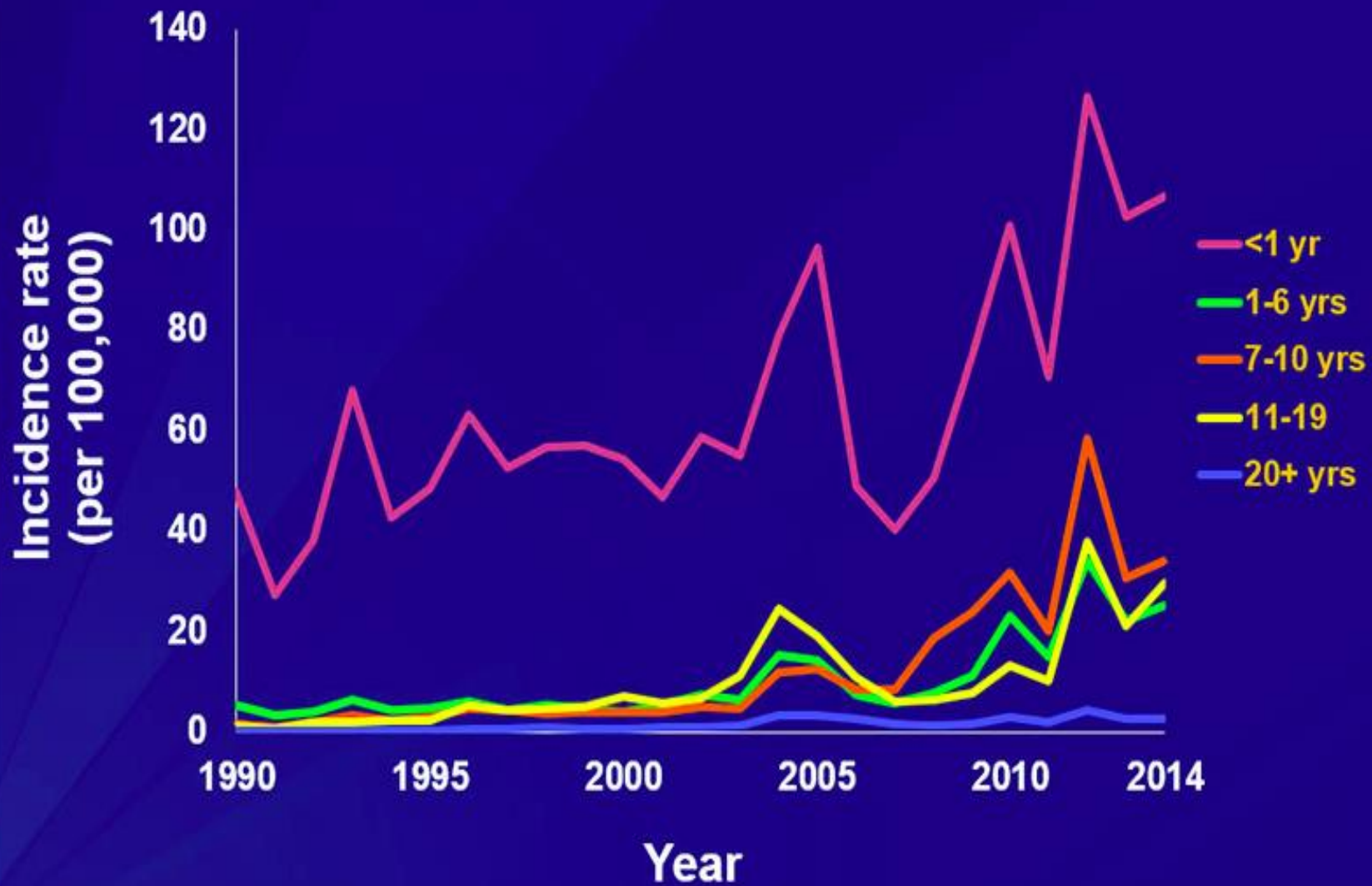
- One of the leading causes of vaccine preventable deaths world-wide
- Up to 2 in 100 adolescents and 5 in 100 adults are hospitalized or have complications such as pneumonia or death
- **Pertussis remains a serious infection in young infants. Most deaths occur in the first 3 months of life, before the infant can be protected by their own vaccine series¹.**

Testing for Pertussis: when and how

Optimal Timing for Diagnostic Testing (weeks)



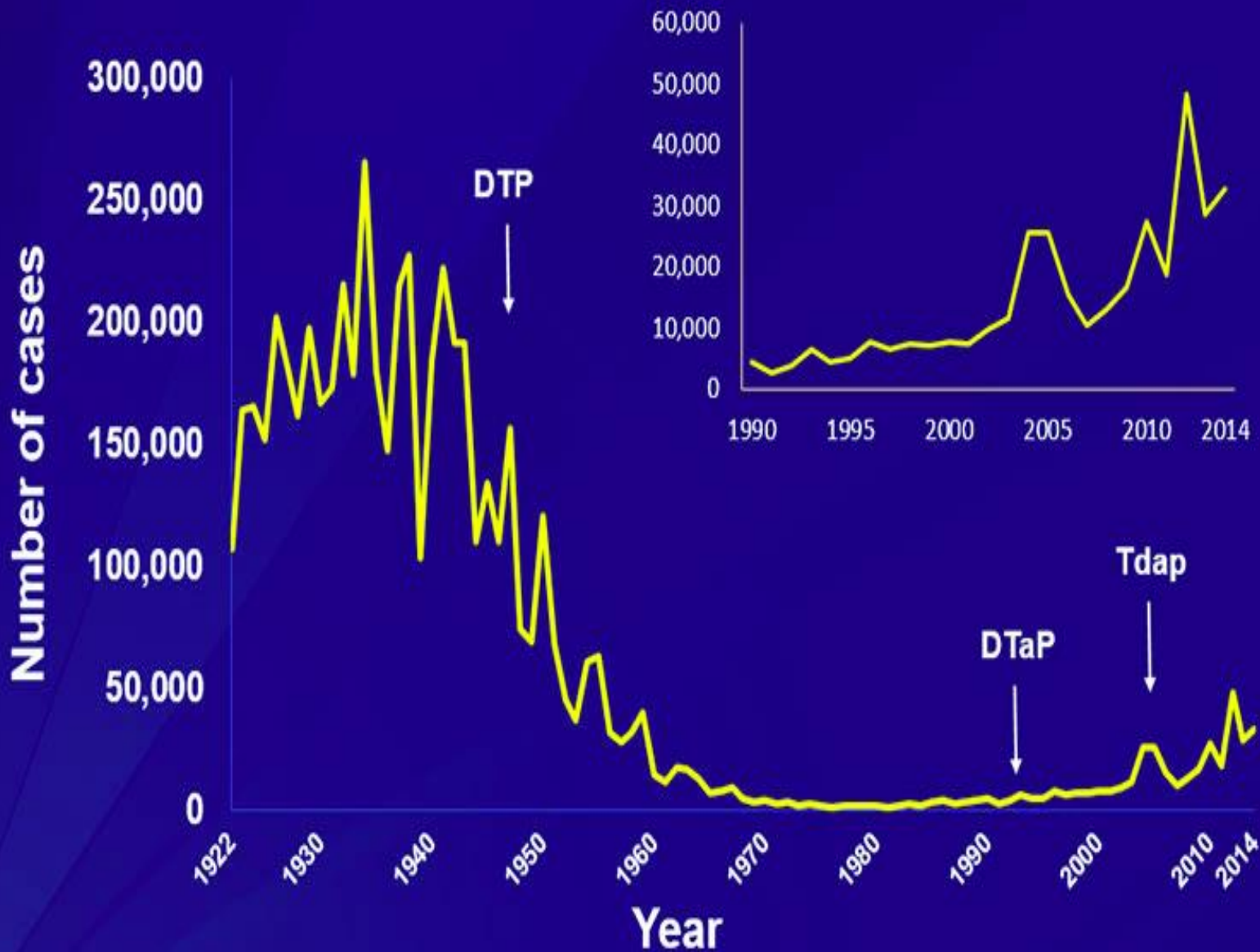
Reported pertussis incidence by age group: 1990-2014



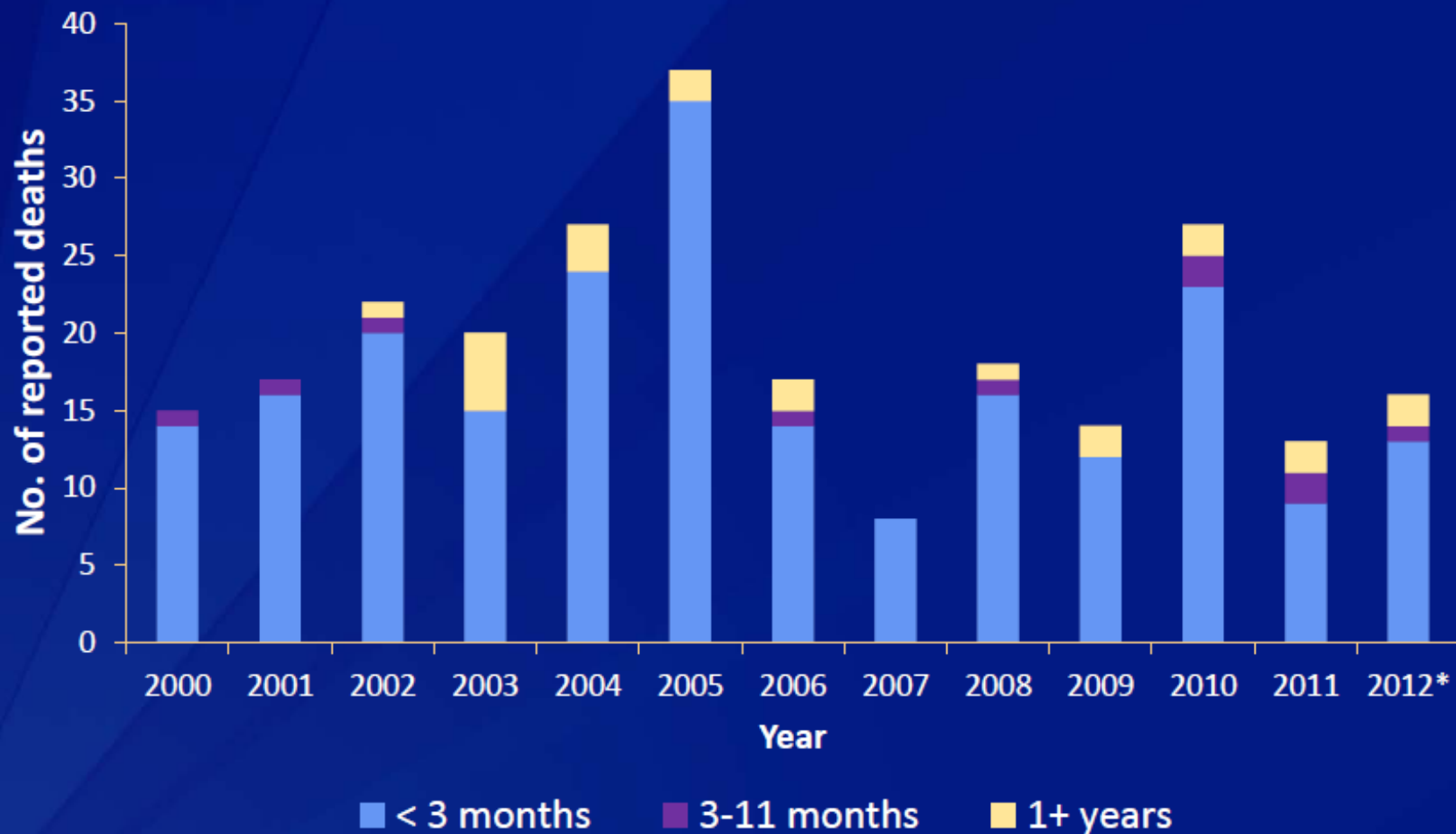
Presented at Washington State Hospital Association Safe Table – February 8, 2016

SOURCE: CDC, National Notifiable Diseases Surveillance System and Supplemental Pertussis Surveillance System

Reported NNDSS pertussis cases: 1922-2014



Pertussis deaths by age group, 2000-2012*



*2012 data are provisional and reflect deaths reported to NNDSS as of October 19, 2012.

Source: CDC. National Notifiable Diseases Surveillance System, 2012.

2014 Final Pertussis Surveillance Report

Reported Cases: 2013 and 2014

Weeks 1-52, 2013: 28,639

Weeks 1-53, 2014: 32,971

Reported Case Profiles, By Age

Age	No. of Cases	%	Age Inc /100,000
< 6 mos	3,330	(10.1)	169.0
6-11 mos	875	(2.7)	44.4
1-6 yrs	6,082	(18.5)	25.1
7-10 yrs	5,576	(16.9)	34.0
11-19 yrs	11,159	(33.8)	29.6
20+ yrs	5,839	(17.7)	2.2
Unknown	110	(0.3)	N/A
Total	32,971	(100.0)	10.4*

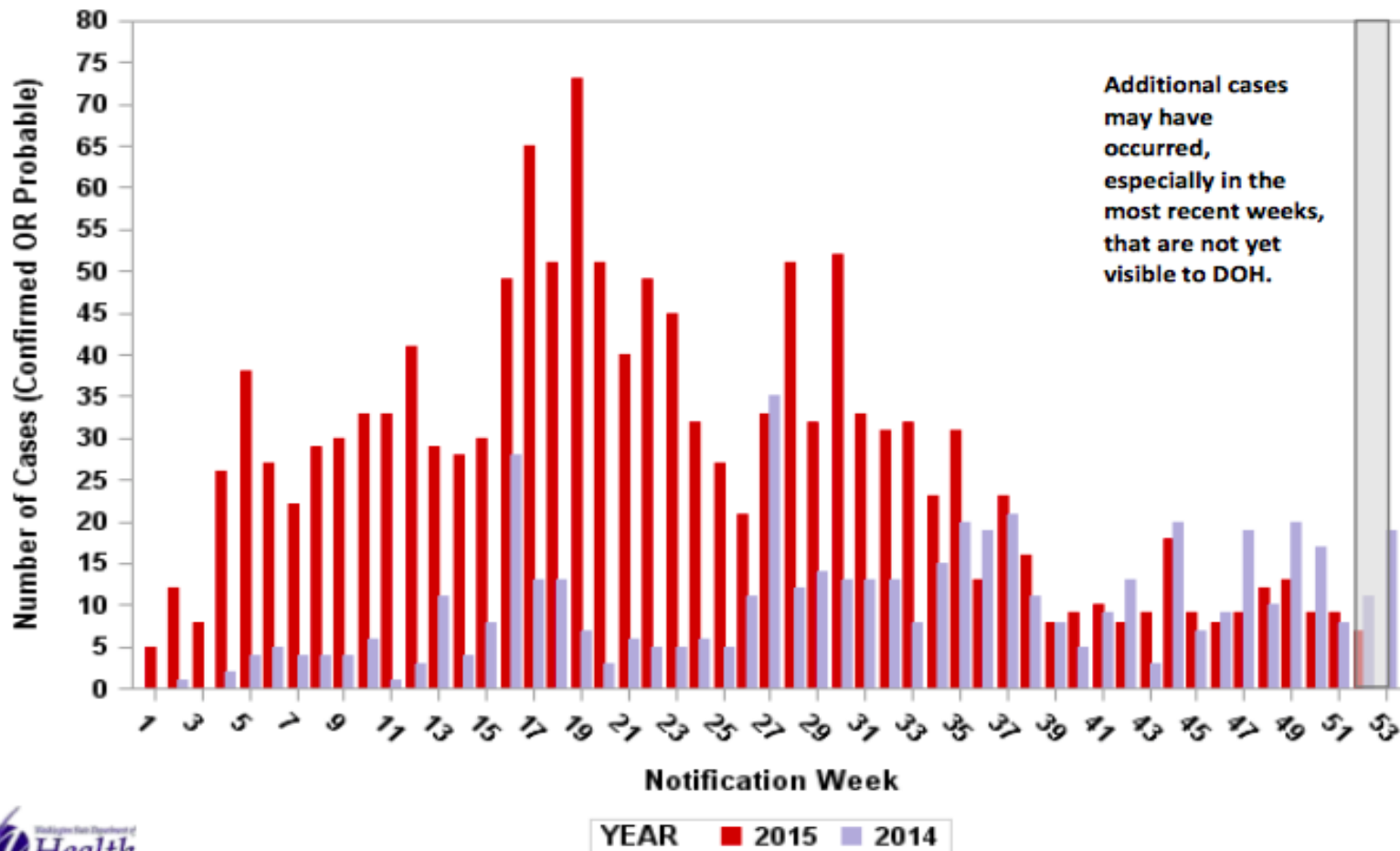
Reported Pertussis Deaths

Age	Deaths**
Infants, aged < 3 mos	8
Infants, aged 3-11 mos	1
Children, aged 1-4 yrs	2
Adults, aged 55+ yrs	2
Total	13

2014 Washington: 601 cases, incidence of 8.6/100,000

Washington: 1402 cases 2015 (601 cases in 2014)

Number of Pertussis Cases Reported in Washington State by Notification Week, 2014 vs. 2015



Pertussis in the Youngest in Washington, 2015

For <1 year of age:

- 104 cases of whooping cough
- 21 hospitalizations
- 16 (76%) <3 months of age



Vaccines are not just for children...

Maternal vaccination saves lives!

Routine adult vaccine recommendations are based on recommendations from the Advisory Committee on Immunization Practices (ACIP)

Visit ACOG's www.immunizationforwomen.org for Adult, Maternal and Childhood/Adolescent Immunization Schedules

CONCEPT OF MATERNAL IMMUNIZATION

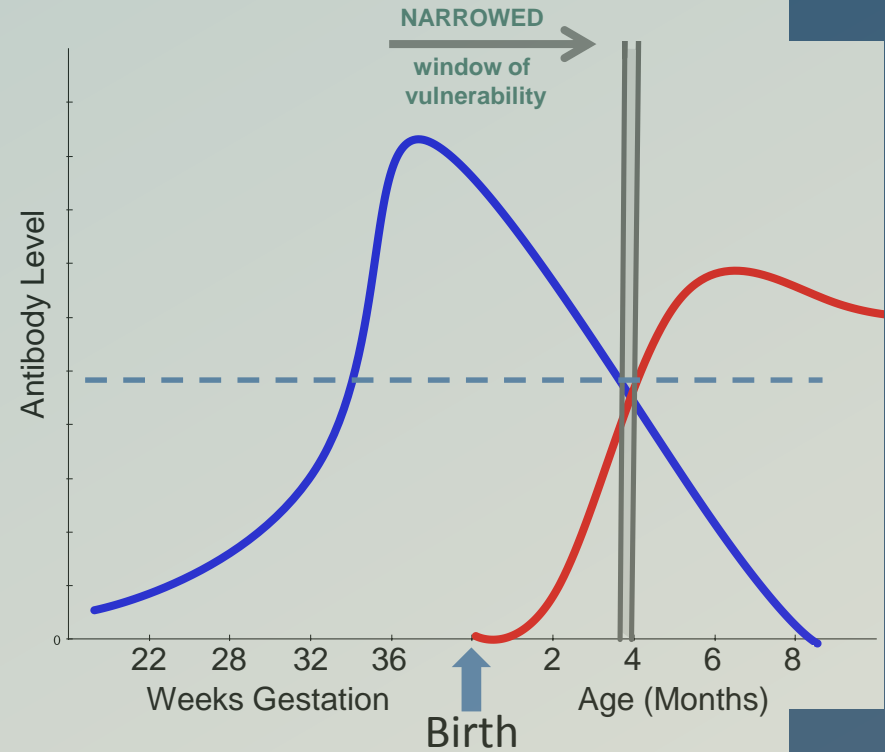
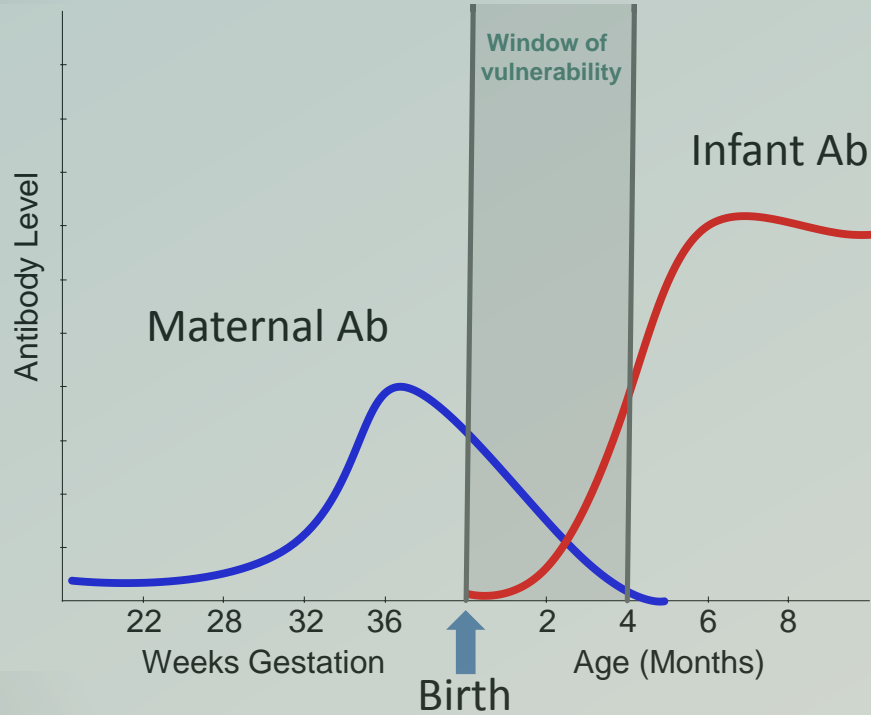
Boosts maternal levels of pathogen-specific antibodies

Provides newborn and infant with sufficient concentration of antibodies to protect against infections

until able to adequately respond to active immunization or infectious challenge

MATERNAL-INFANT ANTIBODIES

Closing the window of vulnerability



Historical Perspective of Pertussis Vaccines

Whole Cell Pertussis Vaccines

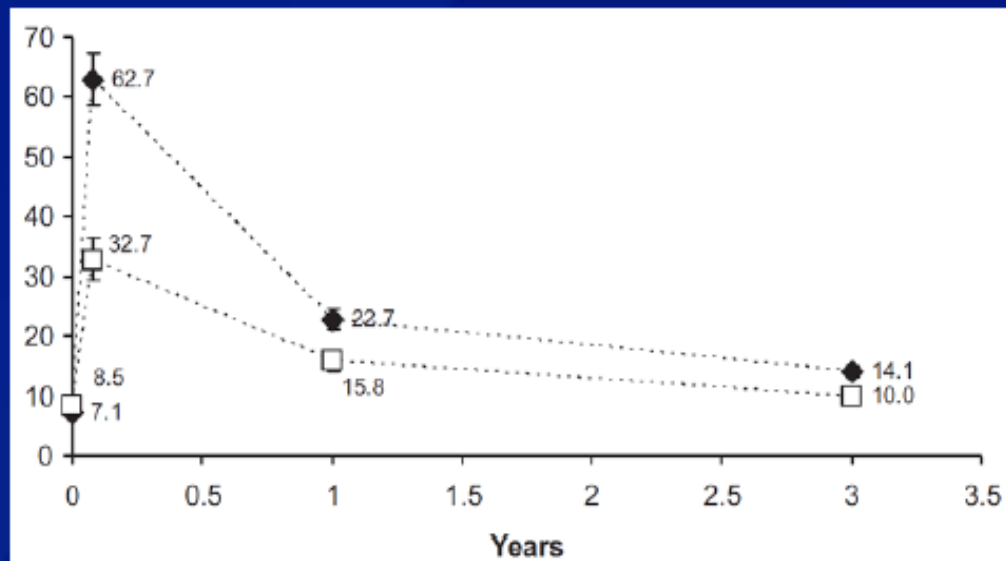
- Prepared from suspensions of inactivated *Bordetella pertussis* bacterial cells
- Licensed for routine vaccination since the mid-1940s.
- Efficacy:
 - Original studies: 70%–90% effective in preventing serious pertussis disease
 - 1990s efficacy studies: 48% in Sweden and 36% in Italy
- Were commonly associated with adverse events:
 - Local: erythema, swelling, and pain at the injection site
 - Systemic: fever, drowsiness, fretfulness, and anorexia
 - Severe AEs: hypotonic hypo-responsive episodes (1 in 1,750 doses administered) and also acute encephalopathy (0–10.5 cases to one million doses administered)

Acellular Pertussis Vaccines

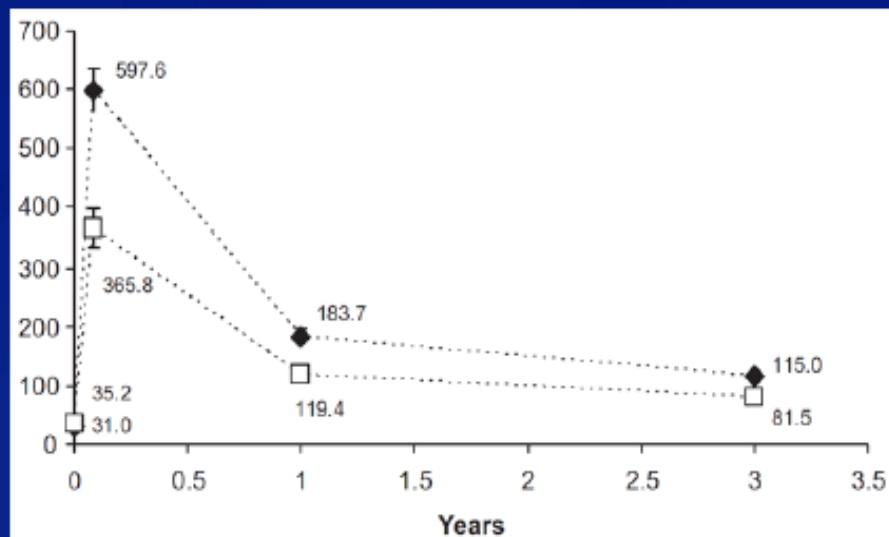
- Safety concerns prompted the development of more purified (acellular) pertussis vaccines
 - Associated with a lower frequency of adverse events and
 - Are effective in preventing pertussis disease
- Efficacy:
 - Recent study 90% effective in England
- Contain inactivated pertussis toxin (PT) as well as other bacterial components
- Contain substantially less endotoxin than whole-cell pertussis

Persistence of pertussis antibodies 3 years after Tdap vaccination of adults

Anti-PT
antibody
GMCs
(EU.L/mL)



Anti-FHA
antibody
GMCs
(EU.L/mL)



GMC = gemetric mean
concentration

ACELLULAR PERTUSSIS VACCINE FOR PREGNANT WOMEN

- 2008:**
- Postpartum women and close contacts of infants
 - Breastfeeding **NOT** a contraindication
- 2011:**
- Pregnant women 2nd–3rd trimester if no previous Tdap
 - Use Tdap without concern for interval since last TT
 - People >65 yrs in contact with infants
- 2012:**
- Pregnant women 2nd–3rd trimester **EVERY** pregnancy



Tdap Vaccination Recommendations During Pregnancy

ACOG CO #566:
Update on Immunization During Pregnancy: Tetanus, Diphtheria, and Pertussis Vaccination, June 2013

A dose of Tdap vaccine should be given to all pregnant women preferably between 27-36 weeks gestation during every pregnancy.

<http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Update-on-Immunization-and-Pregnancy-Tetanus-Diphtheria-and-Pertussis-Vaccination>



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

COMMITTEE OPINION

Number 566 • June 2013

(Replaces No. 521, March 2012)

Committee on Obstetric Practice

This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.

Update on Immunization and Pregnancy: Tetanus, Diphtheria, and Pertussis Vaccination

ABSTRACT: In the face of dramatic and persistent increases in pertussis disease in the United States, the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices has updated its guidelines for the use of the tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine (Tdap) for pregnant women. The new guidance was issued based on an imperative to minimize the significant burden of pertussis disease in vulnerable newborns, the reassuring safety data on the use of Tdap in adults, and the evolving immunogenicity data that demonstrate considerable waning of immunity after immunization. The revised Advisory Committee on Immunization Practices guidelines recommend that health care personnel administer a dose of Tdap during each pregnancy, irrespective of the patient's prior history of receiving Tdap. To maximize the maternal antibody response and passive antibody transfer and levels in the newborn, optimal timing for Tdap administration is between 27 weeks and 36 weeks of gestation, although Tdap may be given at any time during pregnancy. However, there may be compelling reasons to vaccinate earlier in pregnancy. There is no evidence of adverse fetal effects from vaccinating pregnant women with an inactivated virus or bacterial vaccines or toxoids, and a growing body of robust data demonstrates safety of such use. For women who previously have not received Tdap, if Tdap was not administered during pregnancy it should be administered immediately postpartum to the mother in order to reduce the risk of transmission to the newborn. Additionally, other family members and planned direct caregivers also should receive Tdap as previously recommended (sustained efforts at cocooning). Given the rapid evolution of data surrounding this topic, immunization guidelines are likely to change over time and the American College of Obstetricians and Gynecologists will continue to issue updates accordingly.

The overwhelming majority of morbidity and mortality attributable to pertussis infection occurs in infants who are less than or equal to 3 months of age (1). Infants do not begin their own vaccine series against pertussis (with the diphtheria, tetanus and acellular pertussis vaccine [DTaP]) until 2 months of age (2). This situation leaves a window of significant vulnerability for newborns, many of whom appear to contract serious pertussis infections from family members and caregivers, including the mother (3). Starting in 2006, the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC) recommended an approach to combat neonatal pertussis infection referred to as "cocooning" (4). This approach essentially consisted of a recommendation to administer Tdap to all women

in the immediate postpartum period and all other family members and caregivers who had not previously received the vaccine in order to provide a protective cocoon of immunity around the newborn. This approach has proved challenging and insufficient when used alone at preventing neonatal pertussis infections for a variety of reasons. Importantly, cocooning leaves vulnerable infants without any endogenous protective antibody until they begin their own vaccine series at 2 months of age. Thus, they are solely dependent on the immunity of those around them for pertussis protection in the critical first 2–3 months of life.

In June of 2011, the ACIP considered this situation and issued a new recommendation that pregnant women who had not previously received a dose of Tdap should

Mother-Fetus antibody response, every pregnancy, every infant

- Transplacental transfer of antibodies from mother to infant provides some protection against pertussis in early life
- Immune response to vaccine peaks about 2 weeks after administration, hence:

Tdap vaccine is recommended preferably between 27 and 36 weeks gestation, to optimize antibody transfer and protection at birth.

- The level of pertussis antibodies decreases over time, hence:

Tdap vaccine should be administered during every pregnancy so that each infant receives high levels of protective antibodies.

Immunizing Pregnant Women DOES protect infants

- Pertussis outbreak in England in 2011-2012, with deaths in newborns <3 months
- Program initiated to immunize all pregnant women at 28-37 weeks of gestation
- 92% effective in preventing infant pertussis if mother received the vaccine at least 7 days before birth
- No safety concerns for the 23,000 infants whose mothers received Tdap in the 3rd trimester

Armirthalingam et al. www.thelancet.com Published online July 16, 2014 [http://dx.doi.org/10.1016/S0140-6736\(14\)60686-3](http://dx.doi.org/10.1016/S0140-6736(14)60686-3)

Donegan et al. *BMJ* 2014;349:g4219 doi: 10.1136/bmj.g4219
(Published 11 July 2014)

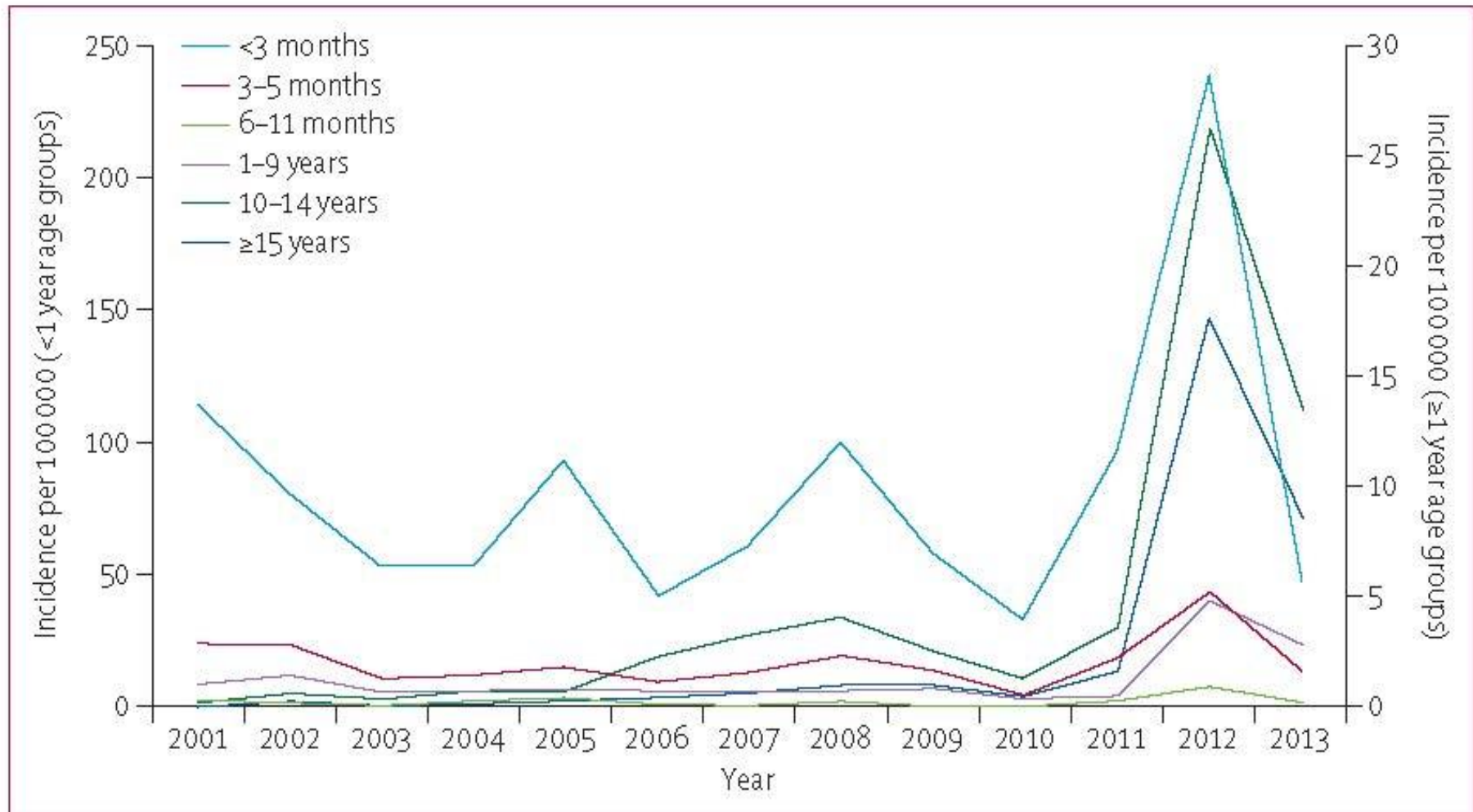


Figure 2: Annual incidence of laboratory-confirmed cases of pertussis by age group
 Figure shows incidence from 2001 to 2013 in England only.

Tdap Vaccine Safety data

New Study Finds Tdap Vaccine During Pregnancy Not Associated With Increased Risk of Preterm Delivery or Small Birth Size

- Safety of Tdap vaccine during pregnancy
- Analyzed administrative and electronic health record data from two California Vaccine Safety Datalink sites to assess risk of maternal Tdap vaccination during pregnancy for mother or baby
- **The study found that Tdap vaccination during pregnancy was not associated with increased risk for hypertensive disorders of pregnancy, preterm birth, or having a baby who is small for his or her gestational age.**

Kharbanda EO, Vazquez-Benitez G, Lipkind HS, et al. Evaluation of the Association of Maternal Pertussis Vaccination With Obstetric Events and Birth Outcomes. *JAMA*.2014;312(18):1897-1904. doi:10.1001/jama.2014.14825. <http://jama.jamanetwork.com/article.aspx?articleid=1930817>

Tdap Vaccine Safety Monitoring

- **Vaccine Adverse Event Report System (VAERS)**
 - national program,
 - jointly managed by CDC and FDA
 - monitors the safety of all vaccines licensed in the United States.
- **Vaccine Safety Datalink (VSD) :**
 - vaccine safety system
 - monitors and assesses adverse events following vaccination

The Ob-Gyn's Role

- **Studies show the provider recommendation is the MOST influential factor in a patient's decision to receive an immunization.**¹
- Ob-Gyns:
 - long-standing role of providing primary and preventive care to women
 - major source of ambulatory care for women,
 - account for 44% of preventive care visits for women over age 18 years.²
- Pregnant women see their ob-gyn regularly throughout the course of their prenatal and postpartum care allowing for multiple opportunities to vaccinate.

1. http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6337a3.htm?s_cid=mm6337a3_e#fig


2. Stormo AR, Saraiya M, Hing E, Henderson JT, Sawaya GF. Women's Clinical Preventive Services in the United States: Who Is Doing What?. *JAMA Intern Med*. Published online July 07, 2014. doi:10.1001/jamainternmed.2014.3003.

Business Practice: Office Vaccine Delivery “How To’s?”

Information about business practice can be found at [Immunizationforwomen.org](http://immunizationforwomen.org)

Including:

- Tdap Toolkit including: ***Coding Information on Tdap Immunization***
- On-Demand webinar: ***ACOG Immunization & Clinical Strategies for Ob-Gyn Practices***
<http://goo.gl/OX1gFu>



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WOMEN'S HEALTH CARE PHYSICIANS

Coding Information on Tdap Immunization for Patients

CPT Codes for Vaccine Administration

Code	Method	Route of Administration	Type of Service	Reporting Rules
90471	Injection	Percutaneous, intradermal, subcutaneous, or intramuscular	Primary	Report only one primary vaccine administration per encounter.
+90472	Injection	Percutaneous, intradermal, subcutaneous, or intramuscular	Additional	Report for secondary or subsequent vaccine administration. Report only with code 90471 or code 90473.
90460	Any Route	Percutaneous, intradermal, subcutaneous, or intramuscular	Primary	Report only one primary vaccine administration per day. Report for administration of first vaccine if more than one was provided. Physician also provides counseling. Patient is 18 years of age or younger.
90461	Any Route	Percutaneous, intradermal, subcutaneous, or intramuscular	Additional	Report for secondary or subsequent vaccine administration. Physician also provides counseling. Patient is 18 years of age or younger.

Tdap Vaccines Administered to Adolescents and Adults

Vaccine	Code for Vaccine Product	CPT Administration Code
Tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap), patient 7 years of age or older, intramuscular	90715	90471-90472

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For more information, please visit the Coding section on the Immunization for Women web page, http://www.immunizationforwomen.org/practice_management/coding.

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AAS768

Provider Responsibilities

- Patient vaccine records are kept up to date
- Consider Standing Orders
- Provide VIS (Vaccine Information Statement) forms for each vaccine administered
- Set up a “Vaccine Champion” in the office
- Educate nursing/MA/front desk staff
- Consider placing signs at front desk in flu season; and sign stating Tdap will be offered in all pregnancies
- Use Electronic prompts/sticky notes in chart to help remember

VIS: Vaccine Information Statement

VACCINE INFORMATION STATEMENT	
Tdap Vaccine (Tetanus, Diphtheria, and Pertussis)	
<small>Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis. Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis.</small>	
1 Why get vaccinated?	2 Tdap vaccine
<p>Tetanus, diphtheria and pertussis can be very serious diseases, even for adolescents and adults. Tdap vaccine can protect us from these diseases.</p> <p>TETANUS (Lockjaw) causes painful muscle tightening and stiffness, usually all over the body.</p> <ul style="list-style-type: none">• It can lead to tightening of muscles in the head and neck so you can't open your mouth, swallow, or sometimes even breathe. Tetanus kills about 1 out of 5 people who are infected. <p>DIPHTHERIA can cause a thick coating to form in the back of the throat.</p> <ul style="list-style-type: none">• It can lead to breathing problems, paralysis, heart failure, and death. <p>PERTUSSIS (Whooping Cough) causes severe coughing spells, which can cause difficulty breathing, vomiting and disturbed sleep.</p> <ul style="list-style-type: none">• It can also lead to weight loss, incontinence, and rib fractures. Up to 2 in 100 adolescents and 5 in 100 adults with pertussis are hospitalized or have complications, which could include pneumonia or death. <p>These diseases are caused by bacteria. Diphtheria and pertussis are spread from person to person through coughing or sneezing. Tetanus enters the body through cuts, scratches, or wounds.</p> <p>Before vaccines, the United States saw as many as 200,000 cases a year of diphtheria and pertussis, and hundreds of cases of tetanus. Since vaccination began, tetanus and diphtheria have dropped by about 99% and pertussis by about 80%.</p>	<p>Tdap vaccine can protect adolescents and adults from tetanus, diphtheria, and pertussis. One dose of Tdap is routinely given at age 11 or 12. People who did <i>not</i> get Tdap at that age should get it as soon as possible.</p> <p>Tdap is especially important for health care professionals and anyone having close contact with a baby younger than 12 months.</p> <p>Pregnant women should get a dose of Tdap during every pregnancy, to protect the newborn from pertussis. Infants are most at risk for severe, life-threatening complications from pertussis.</p> <p>A similar vaccine, called Td, protects from tetanus and diphtheria, but not pertussis. A Td booster should be given every 10 years. Tdap may be given as one of these boosters if you have not already gotten a dose. Tdap may also be given after a severe cut or burn to prevent tetanus infection.</p> <p>Your doctor can give you more information.</p> <p>Tdap may safely be given at the same time as other vaccines.</p>
3 Some people should not get this vaccine	<ul style="list-style-type: none">• If you ever had a life-threatening allergic reaction after a dose of any tetanus, diphtheria, or pertussis containing vaccine, OR if you have a severe allergy to any part of this vaccine, you should not get Tdap. Tell your doctor if you have any severe allergies.• If you had a coma, or long or multiple seizures within 7 days after a childhood dose of DTP or DTaP, you should not get Tdap, unless a cause other than the vaccine was found. You can still get Td.• Talk to your doctor if you:<ul style="list-style-type: none">- have epilepsy or another nervous system problem,- had severe pain or swelling after any vaccine containing diphtheria, tetanus or pertussis,- ever had Guillain-Barré Syndrome (GBS),- aren't feeling well on the day the shot is scheduled.



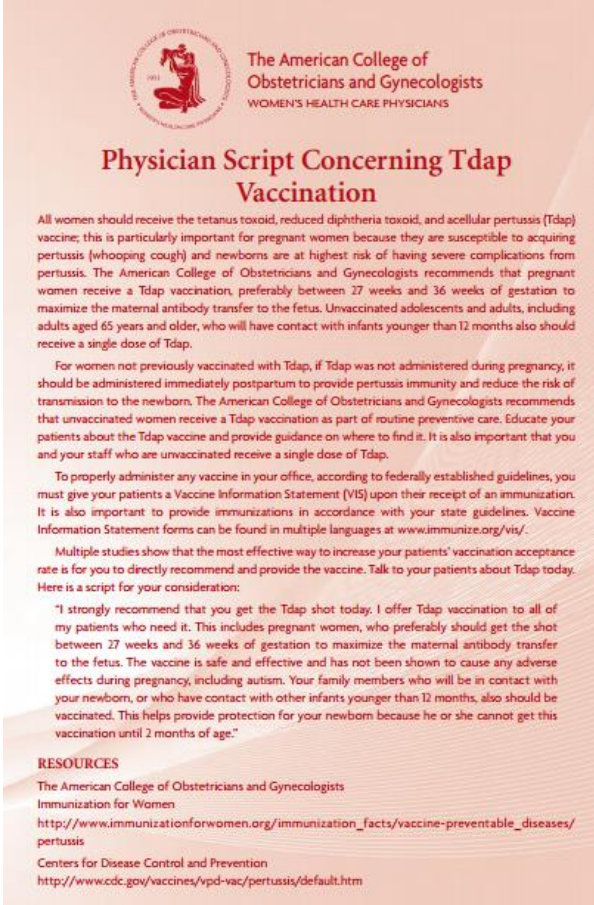
Provider Recommendation Scripts

Physician Script Concerning Tdap Vaccination:

- How to incorporate into routine practice
- How to respond to common myths
- Pre and Post Op visits in non-pregnant adults
- Cocooning, caregivers should get vaccine too, 2 weeks before contact with infant

Can be found at

Immunizationforwomen.org



The American College of Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Physician Script Concerning Tdap Vaccination

All women should receive the tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) vaccine; this is particularly important for pregnant women because they are susceptible to acquiring pertussis (whooping cough) and newborns are at highest risk of having severe complications from pertussis. The American College of Obstetricians and Gynecologists recommends that pregnant women receive a Tdap vaccination, preferably between 27 weeks and 36 weeks of gestation to maximize the maternal antibody transfer to the fetus. Unvaccinated adolescents and adults, including adults aged 65 years and older, who will have contact with infants younger than 12 months also should receive a single dose of Tdap.

For women not previously vaccinated with Tdap, if Tdap was not administered during pregnancy, it should be administered immediately postpartum to provide pertussis immunity and reduce the risk of transmission to the newborn. The American College of Obstetricians and Gynecologists recommends that unvaccinated women receive a Tdap vaccination as part of routine preventive care. Educate your patients about the Tdap vaccine and provide guidance on where to find it. It is also important that you and your staff who are unvaccinated receive a single dose of Tdap.

To properly administer any vaccine in your office, according to federally established guidelines, you must give your patients a Vaccine Information Statement (VIS) upon their receipt of an immunization. It is also important to provide immunizations in accordance with your state guidelines. Vaccine Information Statement forms can be found in multiple languages at www.immunize.org/vis/.

Multiple studies show that the most effective way to increase your patients' vaccination acceptance rate is for you to directly recommend and provide the vaccine. Talk to your patients about Tdap today. Here is a script for your consideration:


"I strongly recommend that you get the Tdap shot today. I offer Tdap vaccination to all of my patients who need it. This includes pregnant women, who preferably should get the shot between 27 weeks and 36 weeks of gestation to maximize the maternal antibody transfer to the fetus. The vaccine is safe and effective and has not been shown to cause any adverse effects during pregnancy, including autism. Your family members who will be in contact with your newborn, or who have contact with other infants younger than 12 months, also should be vaccinated. This helps provide protection for your newborn because he or she cannot get this vaccination until 2 months of age."

RESOURCES

The American College of Obstetricians and Gynecologists
Immunization for Women
http://www.immunizationforwomen.org/immunization_facts/vaccine-preventable_diseases/pertussis

Centers for Disease Control and Prevention
<http://www.cdc.gov/vaccines/vpd-vac/pertussis/default.htm>

Cocooning (*protecting infants from pertussis by vaccinating those in close contact with them*)

- 2005 ACIP recommendation: cocooning with Tdap vaccine for all those with expected close contact with infants younger than 1 year of age.
- Cocooning + maternal Tdap vaccination + childhood DTaP series on schedule,  best protection to the infant.
- Providers should educate pregnant women about encouraging others (dads, grandparents and other caregivers) to be up-to-date with pertussis vaccination.
- Family members & caregivers who aren't current with Tdap vaccine: get vaccinated at least 2 weeks before coming into contact with the infant.

Tdap Vaccination: Adults

- **Since 2005, the Advisory Committee on Immunization Practices (ACIP) has recommended a Tdap vaccine booster dose for all adolescents aged 11 through 18 years (preferred at 11 through 12 years) and for those adults aged 19 through 64 years who have not yet received a dose.**
- In February 2012, ACIP recommended Tdap for all adults aged 65 years and older.
- Tdap needs to be given only once:
 - Td every 10 years.
 - Substitute Tdap for Td if Tdap never given
- In wound management care, if a tetanus booster is indicated, Tdap is preferred over Td in adults aged 19 years and older who have not received Tdap previously.

Do Not give Tdap Vaccine if:

- Prior life-threatening allergic reaction after a dose of any tetanus, diphtheria, or pertussis containing vaccine, OR, a severe allergy to any part of this vaccine,
- Prior coma, or long or multiple seizures within 7 days after a childhood dose of DTP or DTaP. You can still get Td.
- Potential contraindications
 - epilepsy or another nervous system problem,
 - *severe* pain or swelling after any vaccine containing diphtheria, tetanus or pertussis,
 - Prior Guillain Barré Syndrome (GBS),

<http://www.cdc.gov/vaccines/vpd-vac/should-not-vacc.htm>

Tdap Vaccine Administration Guidance:

Immunization Action Coalition:

www.immunize.org/handouts

- > Administering Vaccines
- > Administering Vaccines: Dose, Route, Site, and Needle size

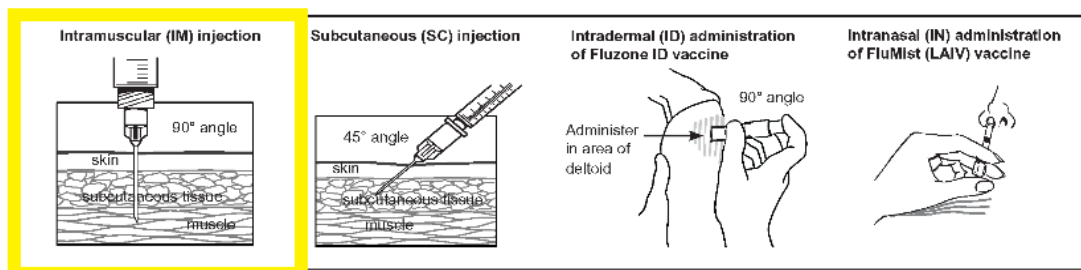
<http://www.immunize.org/catg.d/p3085.pdf>

Administering Vaccines: Dose, Route, Site, and Needle Size

Vaccine	Dose	Route
Diphtheria, Tetanus, Pertussis (DTaP, DT, Tdap, Td)	0.5 mL	IM
<i>Haemophilus influenzae</i> type b (Hib)	0.5 mL	IM
Hepatitis A (HepA)	≤18 yrs: 0.5 mL. ≥19 yrs: 1.0 mL	IM
Hepatitis B (HepB) <i>*Persons 11–15 yrs may be given Recombivax HB (Merck) 1.0 mL adult formulation on a 2-dose schedule.</i>	≤19 yrs: 0.5 mL. ≥20 yrs: 1.0 mL	IM
Human papillomavirus (HPV)	0.5 mL	IM
Influenza, live attenuated (LAIV)	0.2 mL	Intranasal spray
Influenza, inactivated (IIV)	6–35 mos: 0.25 mL. ≥3 yrs: 0.5 mL	IM
IIV: Fluzone intradermal (18–64 yrs)	0.1 mL	ID
Measles, Mumps, Rubella (MMR)	0.5 mL	SC
Meningococcal – conjugate (MCV)	0.5 mL	IM
Meningococcal – polysaccharide (MPSV)	0.5 mL	SC
Pneumococcal conjugate (PCV)	0.5 mL	IM
Pneumococcal polysaccharide (PPSV)	0.5 mL	IM or SC
Polio, inactivated (IPV)	0.5 mL	IM or SC
Rotavirus (RV)	Rotarix: 1.0 mL. Rotateq: 2.0 mL	Oral
Varicella (Var)	0.5 mL	SC
Zoster (Zos)	0.65 mL	SC
Combination Vaccines		
DTaP-HepB-IPV (Pediarix) DTaP-IPV/Hib (Pentacel) DTaP-IPV (Kinrix) Hib-HepB (Comvax)	0.5 mL	IM
MMRV (ProQuad)	≤12 yrs: 0.5 mL	SC
HcpA-HcpB (Twinvix)	≥18 yrs: 1.0 mL	IM

Injection Site and Needle Size		
Subcutaneous (SC) injection Use a 23–25 gauge needle. Choose the injection site that is appropriate to the person's age and body mass.		
Age	Needle Length	Injection Site
Infants (1–12 mos)	5/8"	Fatty tissue over anterolateral thigh muscle
Children 12 mos or older, adolescents, and adults	5/8"	Fatty tissue over anterolateral thigh muscle or fatty tissue over triceps
Intramuscular (IM) injection Use a 22–25 gauge needle. Choose the injection site and needle length appropriate to the person's age and body mass.		
Age	Needle Length	Injection Site
Newborns (1 st 28 days)	5/8"*	Anterolateral thigh muscle
Infants (1–12 mos)	1"	Anterolateral thigh muscle
Toddlers (1–2 yrs)	1–1 1/4" 5/8–1"*	Anterolateral thigh muscle or deltoid muscle of arm
Children & teens (3–18 years)	5/8–1"* 1"–1 1/4"	Deltoid muscle of arm or anterolateral thigh muscle
Adults 19 yrs or older		
Male or female less than 130 lbs	5/8–1"*	Deltoid muscle of arm
Female 130–200 lbs Male 130–260 lbs	1–1 1/2"	Deltoid muscle of arm
Female 200+ lbs Male 260+ lbs	1 1/2"	Deltoid muscle of arm

*A 3/8" needle may be used for patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin is stretched tight. The subcutaneous tissue is not bunched, and the injection is made at a 90-degree angle.



Please note: Always refer to the package insert included with each biologic for complete vaccine administration information. CDC's Advisory Committee on Immunization Practices (ACIP) recommendations for the particular vaccine should be reviewed as well (see www.immunize.org/acip).

Possible Side Effects

Most side effects from Tdap vaccination are mild or moderate, and self-limited.

- **Mild problems** following Tdap (*Did not interfere with activities*)
 - Pain at injection site (about 3 in 4 adolescents or 2 in 3 adults)
 - Redness or swelling at injection site (about 1 person in 5)
 - Mild fever of at least 100.4°F (up to about 1 in 25 adolescents or 1 in 100 adults)
 - Headache (about 3 or 4 people in 10)
 - Tiredness (about 1 person in 3 or 4)
 - Nausea, vomiting, diarrhea, stomach ache (up to 1 in 4 adolescents or 1 in 10 adults)
 - Chills, body aches, sore joints, rash, swollen glands (uncommon)

Possible Side Effects

- **Moderate problems** following Tdap (*Interfered with activities, but did not require medical attention*)
 - Pain at injection site (about 1 in 5 adolescents or 1 in 100 adults)
 - Redness or swelling at injection site (up to about 1 in 16 adolescents or 1 in 25 adults)
 - Fever over 102°F (about 1 in 100 adolescents or 1 in 250 adults)
 - Headache (about 3 in 20 adolescents or 1 in 10 adults)
 - Nausea, vomiting, diarrhea, stomach ache (up to 1 or 3 people in 100)
 - Swelling of the entire arm where the shot was given (up to about 3 in 100).

Possible Side Effects

- **Severe problems** following Tdap (*Unable to perform usual activities; required medical attention*)
 - Swelling, severe pain, bleeding and redness in the arm where the shot was given (rare).

A **severe allergic reaction** could occur after any vaccine (estimated less than 1 in a million doses), extremely rare, especially in adults.

FAQs

Is breastfeeding Safe after Tdap Vaccination?

- YES! Breastfeeding is not a contraindication for receiving Tdap vaccine and is, in fact, fully compatible with Tdap vaccination. Tdap vaccine can and should be given to women who plan to breastfeed.

Can Pertussis and Flu Vaccines be co-administered?

- YES! Pregnant women
 - should receive the flu vaccine as early as possible in the flu season, during any trimester,
 - pertussis vaccine is recommended later in pregnancy (between 27 and 36 weeks gestation).

Do Pertussis vaccines contain Thimerosal?

- None of the pertussis vaccines (Tdap and DTaP) currently used in the United States contain thimerosal.

FAQs Continued

I had Tdap with my last pregnancy, why do I need it again with my current pregnancy?

- The vaccine is recommended during *each* pregnancy between 27-36 weeks to increase the antibodies produced in-utero and passed to the baby.

How serious is pertussis and is the vaccine really necessary?

- Pertussis in infants can be extremely dangerous especially for infants and young children. The vast majority of pertussis deaths occur in infants younger than 3 months of age. By getting vaccinated while pregnant you are giving you baby protection they normally would not receive until 2 months of age.

Provider Responsibilities Cont'd

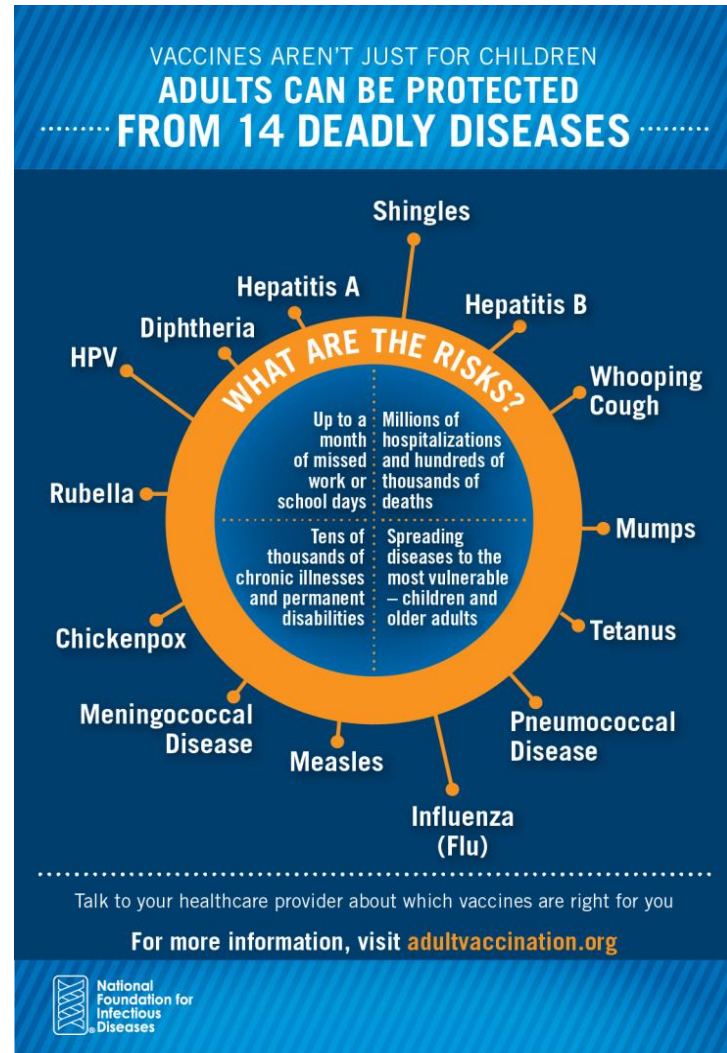
- Patient or provider may report adverse event to VAERS (Vaccine Adverse Event Reporting System)
- Record vaccines in State Immunization Information System —requirements vary by state
- Registry may be useful for verifying immunization history where vaccines may have been administered in other settings and avoiding unnecessary duplication of vaccines. Contact state/local health department
- State Registry Contacts:
<http://www.cdc.gov/vaccines/programs/iis/contacts-registry-staff.html>

Conclusions

- Tdap vaccination is recommended for all pregnant women during *each* pregnancy between 27-36 weeks.
- Adults who have not received a dose of Tdap vaccine should receive one dose, regardless of the interval since their last Tetanus booster.
- Pertussis is a serious disease that is particularly dangerous for infants and young children.
- Tdap vaccine is proven to be safe for use in pregnant women and the general adult population.

Additional Vaccination Opportunities for Obstetricians and Gynecologists

- Influenza vaccine for all women including those who are pregnant
- **Tdap vaccine for all adults who have not been vaccinated and all women during each pregnancy**
- Pneumococcal vaccine for high risk women including those who are pregnant
- Hepatitis B vaccine for all at risk women including those who are pregnant
- MMR vaccine for women who were not previously vaccinated. Should give before or after pregnancy
- Varicella vaccine for women who were not previously vaccinated or have not had chickenpox. Should give before or after pregnancy
- HPV vaccine for girls and women ages 9-26. Not recommended during pregnancy



Graphic courtesy of the National Foundation for Infectious Diseases.

Recommended Adult Immunization Schedule—United States - 2014

Note: These recommendations must be read with the footnotes that follow containing number of doses, intervals between doses, and other important information.

Figure 1. Recommended adult immunization schedule, by vaccine and age group¹

VACCINE ▼	AGE GROUP ►	19-21 years	22-26 years	27-49 years	50-59 years	60-64 years	≥ 65 years	
Influenza ^{2,*}		1 dose annually						
Tetanus, diphtheria, pertussis (Td/Tdap) ^{3,*}		Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs						
Varicella ^{4,*}		2 doses						
Human papillomavirus (HPV) Female ^{5,*}		3 doses						
Human papillomavirus (HPV) Male ^{5,*}		3 doses						
Zoster ⁶						1 dose		
Measles, mumps, rubella (MMR) ^{7,*}		1 or 2 doses						
Pneumococcal 13-valent conjugate (PCV13) ^{8,*}		1 dose						
Pneumococcal polysaccharide (PPSV23) ^{9,10}		1 or 2 doses					1 dose	
Meningococcal ^{11,*}		1 or more doses						
Hepatitis A ^{12,*}		2 doses						
Hepatitis B ^{13,*}		3 doses						
<i>Haemophilus influenzae</i> type b (Hib) ^{14,*}		1 or 3 doses						

*Covered by the Vaccine Injury Compensation Program

- For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster
- Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indication)
- No recommendation

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.hhs.gov or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at www.cdc.gov/vaccines or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 8:00 a.m. - 8:00 p.m. Eastern Time, Monday - Friday, excluding holidays.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Physicians (ACP), American College of Obstetricians and Gynecologists (ACOG) and American College of Nurse-Midwives (ACNM).

Figure 2. Vaccines that might be indicated for adults based on medical and other indications¹

VACCINE ▼	INDICATION ►	Pregnancy	Immuno-compromising conditions (excluding human immunodeficiency virus [HIV]) ^{4,6,7,8,15}	HIV infection CD4+ T lymphocyte count ^{4,6,7,8,15}		Men who have sex with men (MSM)	Kidney failure, end-stage renal disease, receipt of hemodialysis	Heart disease, chronic lung disease, chronic alcoholism	Asplenia (including elective splenectomy and persistent complement component deficiencies) ^{8,14}	Chronic liver disease	Diabetes	Healthcare personnel	
				< 200 cells/μL	≥ 200 cells/μL								
Influenza ^{2,*}			1 dose IIV annually			1 dose IIV or LAIV annually	1 dose IIV annually					1 dose IIV or LAIV annually	
Tetanus, diphtheria, pertussis (Td/Tdap) ^{3,*}		1 dose Tdap each pregnancy	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs										
Varicella ^{4,*}		Contraindicated		2 doses									
Human papillomavirus (HPV) Female ^{5,*}		3 doses through age 26 yrs		3 doses through age 26 yrs									
Human papillomavirus (HPV) Male ^{5,*}		3 doses through age 26 yrs		3 doses through age 21 yrs									
Zoster ⁶		Contraindicated		1 dose									
Measles, mumps, rubella (MMR) ^{7,*}		Contraindicated		1 or 2 doses									
Pneumococcal 13-valent conjugate (PCV13) ^{8,*}						1 dose							
Pneumococcal polysaccharide (PPSV23) ^{9,10}						1 or 2 doses							
Meningococcal ^{11,*}						1 or more doses							
Hepatitis A ^{12,*}						2 doses							
Hepatitis B ^{13,*}						3 doses							
<i>Haemophilus influenzae</i> type b (Hib) ^{14,*}			post-HSCT recipients only				1 or 3 doses						

*Covered by the Vaccine Injury Compensation Program

For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)

No recommendation



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages 19 years and older, as of February 1, 2014. For all vaccines being recommended on the Adult Immunization Schedule: a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/hcp/acip-recs/index.html). Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

Resources

ACOG Immunization for Women :

http://www.immunizationforwomen.org/immunization_facts/vaccine-preventable_diseases/pertussis

ACOG Committee Opinion 566: Update on Immunization During Pregnancy: Tetanus, Diphtheria, and Pertussis Vaccination, June 2013. <http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Update-on-Immunization-and-Pregnancy-Tetanus-Diphtheria-and-Pertussis-Vaccination>

CDC: <http://www.cdc.gov/vaccines/vpd-vac/pertussis/tdap-pregnancy-hcp.htm>

Born With Protection Against Whooping Cough

(Coming Soon)

After extensive research, CDC, ACOG, and additional partners will soon launch a new campaign to help increase the number of women who receive Tdap vaccine during each pregnancy.

Healthcare Professionals

Pregnant Women

Need to provide a strong recommendation and referral (when vaccine is not available in their office) for Tdap

Need to know vaccine is safe, important, and recommended by their ob-gyns or midwives

Making a strong vaccine referral to pregnant women
Strategies for healthcare professionals

Making the Referral
Begin each referral with a vaccine recommendation that includes information on why the vaccine is beneficial and safe for mother and baby. Tailoring your message with scientific data or personal anecdotes may help convey the vaccine's importance to individual patients.

Provide information on where patients can get the vaccine if you recommend it. For help locating a provider in your state, the HealthMap Vaccine Finder is available at <http://vaccine.healthmap.org>

Always write a patient-specific prescription. This will help your patients verify the accuracy of another location where a vaccine may be required.

Answer questions on why a vaccine is recommended. If you are not prepared to answer questions, refer your patient to a provider who can help answer them. If you are not prepared to answer questions, refer your patient to a provider who can help answer them. If you are not prepared to answer questions, refer your patient to a provider who can help answer them.

Have a plan in place to answer questions from other healthcare professionals who are concerned with recommending your patient get the vaccine. Questions should be answered promptly, as it is likely your patient will be with them at the time they contact you.

www.cdc.gov/whoopingcough

Provide the best prenatal care to prevent pertussis
Strategies for healthcare professionals

5 Facts about Tdap and Pregnancy

1. **Tdap during pregnancy provides the best protection for mother and infant.**
 - Recommend and administer or refer your patients to receive Tdap during every pregnancy.
 - Optimal timing is between 27 and 36 weeks gestation to maximize the infant's antibody response and passive antibody transfer to the infant.
 - Never believe you'll be hospitalized for you due from pertussis when Tdap is given during pregnancy rather than during the postpartum period.
2. **Postpartum Tdap administration is NOT optimal.**
 - Patients receive at risk of contracting pertussis from others, including siblings, grandparents, and other caregivers.
 - It takes about 2 weeks after Tdap receipt for the mother to have protection against pertussis, which means the majority of all risk for contracting and spreading the disease to her newborn.
3. **Exposures alone may not be enough to protect your infant.**
 - Many women at risk of contracting pertussis from others, including siblings, grandparents, and other caregivers.
 - It takes about 2 weeks after Tdap receipt for the mother to have protection against pertussis, which means the majority of all risk for contracting and spreading the disease to her newborn.
4. **Tdap is the preferred as part of routine preconception care.**
 - Tdap is recommended during pregnancy in order to provide optimal protection to the infant.
 - Tdap is administered at a pre-conception visit. It should be administered again during pregnancy between 27 and 36 weeks gestation.
5. **Tdap can be safely administered earlier in pregnancy if it is indicated for medical care or during a community pertussis outbreak.**
 - Pregnant women should receive Tdap anytime during pregnancy if it is indicated for medical care or during a community pertussis outbreak.
 - Tdap is administered earlier in pregnancy. It should not be repeated during any pregnancy.

Strongly recommend Tdap to your patients during the 3rd trimester of each pregnancy.

www.cdc.gov/whoopingcough

Getting your whooping cough vaccine in your 3rd trimester... helps protect your baby from the start.

Outbreaks of whooping cough are happening across the country. Getting the vaccine for you and your baby from the start will help keep your baby protected during his first few months of life.

Talk to your doctor or midwife about whooping cough disease and complications.

Born with protection against whooping cough

www.cdc.gov/whoopingcough

You can start protecting your baby from whooping cough before birth

Information for pregnant women

When you get the whooping cough vaccine during your 3rd trimester, your baby will be born with protection against whooping cough.

Why do I need to get a whooping cough vaccine before I am pregnant?
The whooping cough vaccine is recommended during each pregnancy because it helps protect your baby from the start. It also helps protect you from the disease. The vaccine does not contain any live bacteria.

In this vaccine, you get a small amount of the bacteria that causes whooping cough. This is not enough to make you sick, but it is enough to help your body learn to fight off the bacteria. The vaccine does not contain any live bacteria.

Doctors and midwives who specialize in caring for pregnant women agree that the whooping cough vaccine is safe and effective for you and your baby. It is recommended for all pregnant women who are not currently vaccinated. The vaccine does not contain any live bacteria.

If I already got this vaccine, why do I need to get it again?
The amount of antibodies in your body is highest about 2 months after getting the vaccine. That is why the vaccine is recommended during every pregnancy. It is important to get the vaccine during each pregnancy because the amount of antibodies in your body will decrease over time.

Are babies ever getting whooping cough anymore?
Yes, babies are at greatest risk for getting whooping cough if they are born to a mother who is not vaccinated. Recently, we saw the most cases we had seen in 20 years. Since 2010, we've seen between 1,500 and 2,000 cases of whooping cough each year in the United States. Cases which include severe illness are reported as well.

www.cdc.gov/whoopingcough

"Mamá, tú siempre protegerás a tu pequeño milagro." Empiece ahora con tu vacuna contra la tos ferina.

La tos ferina (whooping cough) puede ser una enfermedad grave y potencialmente mortal para los bebés y los niños pequeños. La vacuna contra la tos ferina puede ayudar a proteger a su bebé desde el primer momento.

Tu vacuna contra la tos ferina: protección desde el primer respiro.

www.cdc.gov/whoopingcough

www.cdc.gov/pertussis/pregnant/hcp

Thank You!

Safe Deliveries Roadmap Website
<http://www.wsha.org/0513.cfm%20>



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