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hosted by the Missouri Department of Health and Senior Services' Bureau of Immunization Assessment and Assurance
www.health.mo.gov/immunizations

webinar series

Kenneth Haller, MD
Preteens, Teens, and Vaccines
December 18, 2014

This webinar is designed to help the participant:

- Assure that vaccinations are given on time.
- Give catchup vaccines as efficiently as possible.
- Understand schedules specifically for teens and preteens.
- Use effective scripting to help parents make healthy decisions about vaccination.

I have no relevant financial disclosures.

- Kenneth Haller, MD

The Immunization Schedule

Figure 1. Recommended immunization schedule for persons aged 0 through 18 years – United States, 2014.

(FOR THOSE WHO FALL BEHIND OR START LATE, SEE THE CATCH-UP SCHEDULE (FIGURE 2)).

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are in bold.

Vaccine	Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19–23 mos	2–3 yrs	4–6 yrs	7–10 yrs	11–12 yrs	13–15 yrs	16–18 yrs
Hepatitis B ¹ (HepB)	1 st dose	2 nd dose														
Rotavirus ² (RV) RV1 (2-dose series); RV5 (3-dose series)			1 st dose	2 nd dose	See footnote 2											
Diphtheria, tetanus, & acellular pertussis ³ (DTaP; <7 yrs)			1 st dose	2 nd dose	3 rd dose							5 th dose				
Tetanus, diphtheria, & acellular pertussis ⁴ (Tdap; ≥7 yrs)														(Tdap)		
<i>Haemophilus influenzae</i> type b ⁵ (Hib)			1 st dose	2 nd dose	See footnote 5											
Pneumococcal conjugate ⁶ (PCV13)			1 st dose	2 nd dose	3 rd dose											
Pneumococcal polysaccharide ⁶ (PPSV23)																
Inactivated poliovirus ⁷ (IPV) (<18 yrs)			1 st dose	2 nd dose								4 th dose				
Influenza ⁸ (IV; LAIV) 2 doses for some; See footnote 8																
Measles, mumps, rubella ⁹ (MMR)																
Varicella ¹⁰ (VAR)																
Hepatitis A ¹¹ (HepA)																
Human papillomavirus ¹² (HPV2: females only; HPV4: males and females)																
Meningococcal ¹³ (Hib-Men-CY ≥ 6 weeks; MenACWY-D ≥ 9 mos; MenACWY-CRM ≥ 2 mos)																

Range of recommended ages for all children

Range of recommended ages for catch-up immunization

Range of recommended ages for certain high-risk groups

Range of recommended ages during which catch-up is encouraged and for certain high-risk groups

Not routinely recommended

This schedule includes recommendations in effect as of January 1, 2014. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at <http://www.cdc.gov/vaccines/hcp/acip-recs/index.html>. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (<http://www.vaers.hhs.gov>) or by telephone (800-822-7967). Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for vaccination, is available from CDC online (<http://www.cdc.gov/vaccines/recs/vac-admin/contraindications.htm>) or by telephone (800-CDC-INFO [800-232-4636]).

This schedule is approved by the Advisory Committee on Immunization Practices (<http://www.cdc.gov/vaccines/acip/>), the American Academy of Pediatrics (<http://www.aap.org>), the American Academy of Family Physicians (<http://www.aafp.org>), and the American College of Obstetricians and Gynecologists (<http://www.acog.org>).

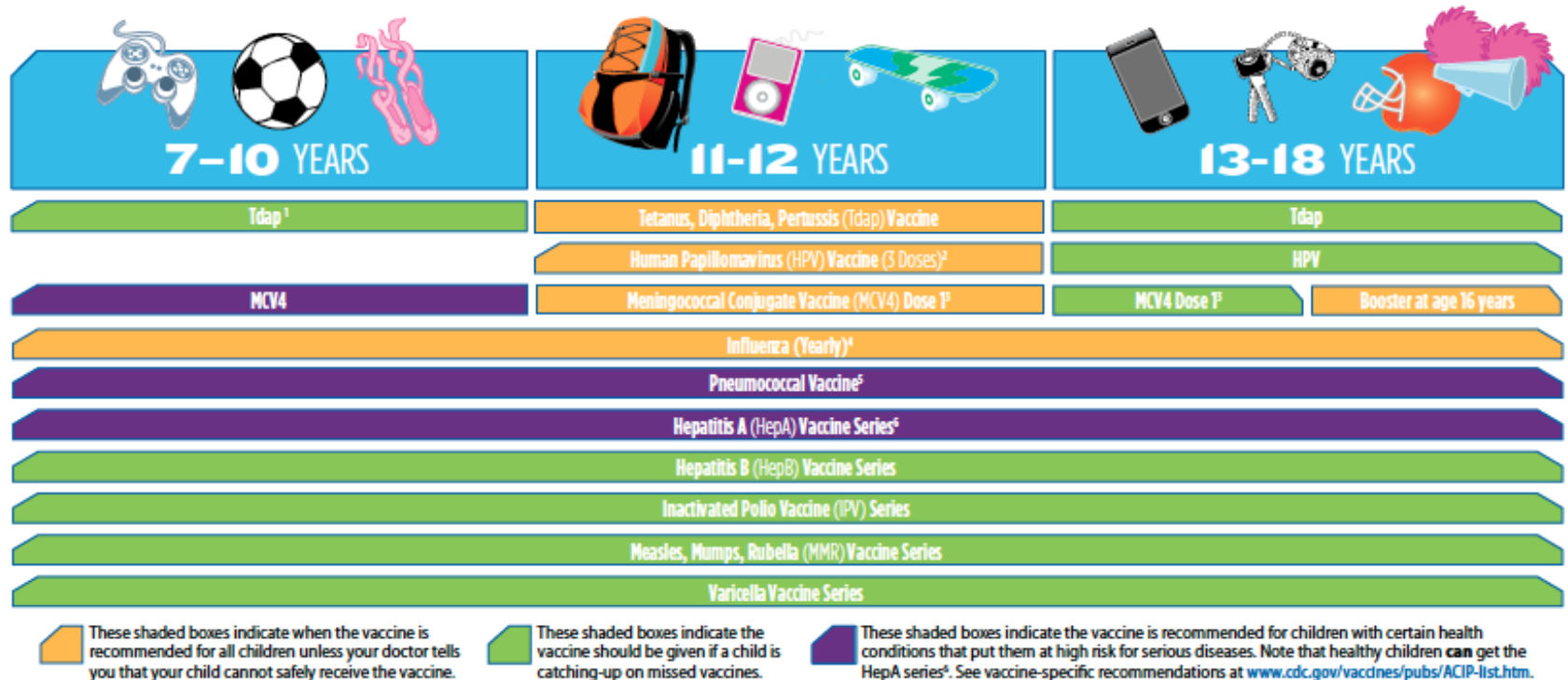
NOTE: The above recommendations must be read along with the footnotes of this schedule.

What Pre-Teens and Teens Need

Vaccine	Usually given	May be given	Boosters
Tdap	11 years	7 years	Every 10 years
HPV	11 years	9 years	2 & 6 months
Meningococcal	11 years	9 months	16 years

Parent-Friendly Version

2014 Recommended Immunizations for Children from 7 Through 18 Years Old



<http://www.cdc.gov/vaccines/who/teens/downloads/parent-version-schedule-7-18yrs.pdf>

Catchup Schedule

FIGURE 2. Catch-up immunization schedule for persons aged 4 months through 18 years who start late or who are more than 1 month behind —United States, 2014.

The figure below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. Always use this table in conjunction with Figure 1 and the footnotes that follow.

Persons aged 4 months through 6 years					
Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to dose 2	Dose 2 to dose 3	Dose 3 to dose 4	Dose 4 to dose 5
Hepatitis B ¹	Birth	4 weeks	8 weeks and at least 16 weeks after first dose; minimum age for the final dose is 24 weeks		
Rotavirus ²	6 weeks	4 weeks	4 weeks ²		
Diphtheria, tetanus, & acellular pertussis ³	6 weeks	4 weeks	4 weeks	6 months	6 months ³
<i>Haemophilus influenzae</i> type b ⁵	6 weeks	4 weeks if first dose administered at younger than age 12 months 8 weeks (as final dose) if first dose administered at age 12 through 14 months No further doses needed if first dose administered at age 15 months or older	4 weeks ⁵ if current age is younger than 12 months and first dose administered at < 7 months old 8 weeks and age 12 months through 59 months (as final dose) ⁵ if current age is younger than 12 months and first dose administered between 7 through 11 months (regardless of Hib vaccine [PRP-T or PRP-OMP] used for first dose); OR if current age is 12 through 59 months and first dose administered at younger than age 12 months; OR first 2 doses were PRP-OMP and administered at younger than 12 months. No further doses needed if previous dose administered at age 15 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 3 (PRP-T) doses before age 12 months and started the primary series before age 7 months	
Pneumococcal ⁶	6 weeks	4 weeks if first dose administered at younger than age 12 months 8 weeks (as final dose for healthy children) if first dose administered at age 12 months or older No further doses needed for healthy children if first dose administered at age 24 months or older	4 weeks if current age is younger than 12 months 8 weeks (as final dose for healthy children) if current age is 12 months or older No further doses needed for healthy children if previous dose administered at age 24 months or older	8 weeks (as final dose) This dose only necessary for children aged 12 through 59 months who received 3 doses before age 12 months or for children at high risk who received 3 doses at any age	
Inactivated poliovirus ⁷	6 weeks	4 weeks ⁷	4 weeks ⁷	6 months ⁷ minimum age 4 years for final dose	
Meningococcal ¹³	6 weeks	8 weeks ¹³	See footnote 13	See footnote 13	
Measles, mumps, rubella ⁹	12 months	4 weeks			
Varicella ¹⁰	12 months	3 months			
Hepatitis A ¹¹	12 months	6 months			
Persons aged 7 through 18 years					
Tetanus, diphtheria; tetanus, diphtheria, & acellular pertussis ⁴	7 years ⁴	4 weeks	4 weeks if first dose of DTaP/DT administered at younger than age 12 months 6 months if first dose of DTaP/DT administered at age 12 months or older and then no further doses needed for catch-up	6 months if first dose of DTaP/DT administered at younger than age 12 months	
Human papillomavirus ¹²	9 years	Routine dosing intervals are recommended ¹²			
Hepatitis A ¹¹	12 months	6 months			
Hepatitis B ¹	Birth	4 weeks	8 weeks (and at least 16 weeks after first dose)		
Inactivated poliovirus ⁷	6 weeks	4 weeks	4 weeks ⁷	6 months ⁷	
Meningococcal ¹³	6 weeks	8 weeks ¹³			
Measles, mumps, rubella ⁹	12 months	4 weeks			
Varicella ¹⁰	12 months	3 months if person is younger than age 13 years 4 weeks if person is aged 13 years or older			

NOTE: The above recommendations must be read along with the footnotes of this schedule.

Scheduling and Spacing Rules

1. There are minimum ages at which vaccines can be administered.
2. There are minimum intervals between successive doses of the same vaccine.
3. Assume immune memory when doing catchup, i.e, pick up where you left off.
4. As children get older, some vaccines or boosters can be dropped.

FAQs: Why this schedule/spacing?

- Based on how vaccines were tested and approved.
- Fits the need to get kids immunized as early and safely as possible.
- Represents a consensus of representatives from:
 - Advisory Committee on Immunization Practices
 - American Academy of Pediatrics
 - American Academy of Family Physicians

FAQs: Who enforces this?

- State and local jurisdictions through regulations on entry to daycare and school.
- Public Health perspective vs. Medical perspective.
- If vaccines are given at the wrong time (usually too early), kids may not be able to attend daycare or school.

Vaccine refusal for pre-teens and teens

Fear of vaccines

Fear of **sex**, i.e., of their kids ever having it...

First: Parental Fear of Vaccines

The Lancet, Vol 351, February 28, 1998

The Wakefield Paper

EARLY REPORT

Early report

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnoli, D M Casson, M Malik, M Bereicowitz, A P Dillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith

Summary

Background We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Methods 12 children (mean age 6 years [range 3–10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological and developmental

Introduction

We saw several children who, after a period of apparent normality, lost acquired skills, including communication. They all had gastrointestinal symptoms, including abdominal pain, diarrhoea, and bloating and, in some cases, food intolerance. We describe the clinical findings, and gastrointestinal features of these children.

Patients and methods

12 children, consecutively referred to the department of paediatric gastroenterology with a history of a pervasive

Addressing Parental Fear of Vaccines

The Panic Virus, Seth Mnookin, 2011

“It’s remarkable how static the makeup, rhetoric, and tactics of vaccine opponents have remained over the past 150 years. Then, as now, anti-vaccination forces fed on anxiety about the individual’s fate in industrialized societies; then, as now, they appealed to knee-jerk populism by conjuring up an imaginary elite with an insatiable hunger for control; then, as now, they preached the superiority of subjective beliefs over objective proofs, of knowledge acquired by personal experience rather than through scientific rigor.”

The Unnatural Act of Vaccination: a short history

- Before vaccination, inoculation
- Smallpox inoculation introduced to Europe, from China
- Implant smallpox scabs/pus into wounds in the skin of an uninfected person
- Develop milder disease & lifelong immunity
- Death after inoculation was not uncommon

Numb. XL.

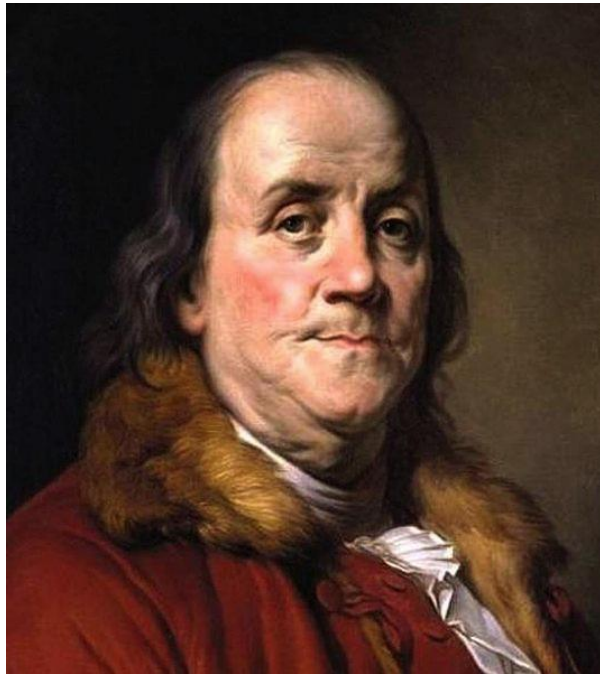
THE
Pennsylvania GAZETTE.

Containing the freshest Advices Foreign and Domestick.

From Thursday, September 25. to Thursday, October 2. 1729.

THE Pennsylvania Gazette being now to be carry'd on by other Hands, the Reader may expect some Account of the Method we design to proceed in.
Upon a View of Chambers's great Dictionaries, from whence were taken the Materials of the Universal Instructor in all Arts and Sciences, which account made the First Part of this Paper

There are many who have long desired to see a good News-Paper in Pennsylvania; and we hope those Gentlemen who are able, will contribute towards the making this such. We ask Assistance, because we are fully sensible, that to publish a good News-Paper is not so easy an Undertaking as many People imagine it to be. The Author of a Gazette for the Christian of the Learned I count

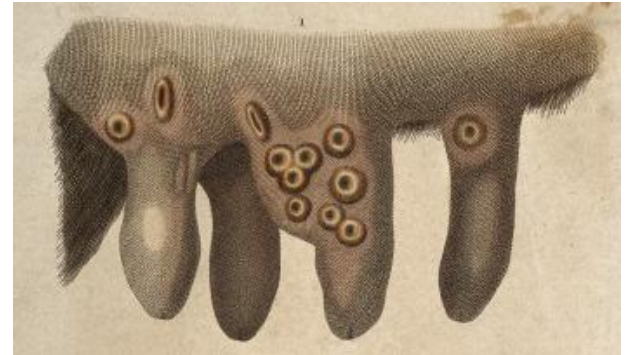


Benjamin Franklin

- Benjamin Franklin reported in his newspaper, The Pennsylvania Gazette, that, of 72 Bostonians recently inoculated with smallpox, only two died while “the rest have recovered perfect health... Of those who had [smallpox] in the common way, ’tis computed that one in four died.”
- His own son, Francis Folger Franklin, was born October 1732, and died of smallpox in 1736.

Vaccination

- Edward Jenner
- Milkmaids and Cowpox
- *Vaccinus* [Latin] of or from cows
- Ministers railed against vaccination since inoculation sometimes led to death: “Thou Shalt Not Kill.”
- Anti-vaccine political cartoons



The Cow-Pock — or — the Wonderful Effects of the New Inoculation! — vide. the Publications of the Anna-Vaccine Society.



National Vaccine Information Center

Your Health. Your Family. Your Choice.

- “The National Vaccine Information Center (NVIC) is **dedicated** to the **prevention of vaccine injuries and deaths** through **public education** and to **defending** the **informed consent** ethic in medicine. As an **independent** clearinghouse for information on diseases and vaccines, NVIC does not advocate for or against the use of vaccines. We support the availability of all preventive health care options, including vaccines, and the **right of consumers** to make **educated, voluntary** health care choices.”
- “American Academy of Pediatrics (AAP) is a **private membership** organization representing 60,000 pediatricians. The AAP **issues** vaccination **guidelines** for its members and works to increase vaccine use and **mandatory** vaccination of all children.”
- <http://www.nvic.org/>

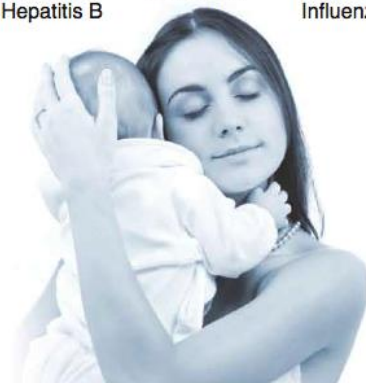


National Vaccine Information Center

49 Doses of 14 Vaccines Before Age 6?

Before you take the risk, find out what it is.

Pregnancy	Birth	2 Months	4 Months	6 Months	7 Months	12-15 Months	18 Months	3 Years	4-6 Years
Influenza	Hepatitis B	Diphtheria Tetanus Pertussis Polio HIB PCV Rotavirus Hepatitis B	Diphtheria Tetanus Pertussis Polio HIB PCV Rotavirus	Diphtheria Tetanus Pertussis Polio PCV Rotavirus Hepatitis B Influenza	Influenza	HIB PCV Measles Mumps Rubella Varicella Hepatitis A	Diphtheria Tetanus Pertussis Hepatitis A Influenza	Influenza	Diphtheria Tetanus Pertussis Polio Measles Mumps Rubella Varicella Influenza (2)



Vaccine excipients or ingredients in trace or larger amounts depending on specific vaccine (partial list):

lab altered viruses and bacteria; aluminum; mercury; formaldehyde; phenoxyethanol; glutaraldehyde; sodium borate; sodium chloride; sodium acetate; monosodium glutamate (MSG); hydrochloric acid; hydrogen peroxide; lactose; gelatin; yeast protein; egg albumin; bovine and human serum albumin; antibiotics; unidentified contaminants.



National
Vaccine
Information
Center

www.NVIC.org

Parental Fear of Sex and Their Kids

- “...giving the HPV vaccine to young women could be potentially harmful, because they may see it as a license to engage in premarital sex.”
 - Bridget Maher, Family Research Council, 2007
- “Cervical Cancer Vaccine Gets Injected With a Social Issue: Some Fear a Shot For Teens Could Encourage Sex.”
 - *Washington Post* headline, 2007
- “...because the HPV vaccine's target is *sexually* transmitted, it provokes longstanding controversies swirling around sex, gender, and women's bodies in the US.”
 - Sex, drugs, and politics: the HPV vaccine for cervical cancer, Monica J. Casper and Laura M. Carpenter, *Sociology of Health & Illness*, Volume 30, Issue 6, pages 886–899, September 2008

Effective Scripting for Difficult Subjects

Skills of Master Physicians

- Do the little things
- Take time and listen
- Be open
- Find something to like, to love
- Remove barriers
- Let the patient explain
- Share authority
- Be committed and trustworthy

Healing Skills for Medical Practice

Larry R. Churchill, PhD, and David Schenck, PhD

18 November 2008 Annals of Internal Medicine Volume 149 •

Number 10

Skills of Good Actors

- Actively listen & watch what is going on
- Connect with the actor across from you
- Find what you like about characters
- Be prepared before you go onstage
- Do your work, let your colleagues do theirs
- Let your partner explain
- Treat all your colleagues with respect.
- Be committed and trustworthy

Acting Essentials: A Practical Beginning Acting Handbook

Alex Golson

McGraw-Hill 2002

Health Care Providers and Actors

- Competence
- Respect for colleagues
- Clear communication
- Awareness of self and others
- Empathy for clients (patients/audience)
- Ability to connect

Acting:

Performing? Pretending? Becoming?

- Act: verb - take action; do something, take effect, perform (a part or role), behave so as to appear to be; pretend to be
- Perform: verb - carry out, accomplish, or fulfill (an action, task, or function)
- Pretend: verb - speak and act so as to make it appear that something is the case when in fact it is not
- Become: verb - grow to be; turn into; qualify or be accepted as; acquire the status of

What we can learn from actors

- Use emotional mirroring
- Meet people where they are
- Show our emotions without trumping theirs
- Give focus to the other
- “Yes &,” not “No, but”

“Yes &”: Improv & Medicine

- “Yes, &... is the most important rule in improv... [It] means that whenever two actors are on stage, they agree with each other to the Nth degree.”
 - Halpern C., Close D., Johnson K. H. (1994). Truth in Comedy. Colorado Springs, CO: Meriwether.
- Unconditional Positive Regard (Rogers): **close and positive “regarding,” as active engagement with the other**
- Desired cognitive/emotional stance of the improviser toward her partners.
 - Iberg J. R. (2001). Unconditional positive regard: constituent activities, in Rogers' Therapeutic Conditions: Evolution, Theory and Practice

Pro-vaccine physicians:

Annoyance with/Accusation of parents

- *Deadly Choices: How the Anti-Vaccine Movement Threatens Us All*, Dr. Paul Offit, ID specialist at CHOP, co-developer of a rotavirus vaccine: “There’s a war going on out there... On one side are parents... On the other side are doctors... Caught in the middle are children...”
- *The Ladue News*, a local pediatrician, 2009: “I tell parents that there is absolutely no data to support [a vaccine-autism link, and failure to vaccinate children is] foolish and dangerous. Immunization is safe and effective with minimal minor side effects. There is a small but real chance of complications, including fatal complications, with both the chicken pox vaccine, which can lead to pneumonia, encephalitis and hepatitis, and the influenza vaccine, which can develop into pneumonia or other secondary bacterial infections.”

Scripts That Work

Remember when Carla was 4 years old? We gave her vaccines for infections she might get as a kid. Now that she's 11, we'd like to give her vaccines for infections she might get as a teenager or young adult.

First, is the Tdap vaccine. That's her tetanus shot. That will be good for ten years, so it, heaven forbid, she gets a bad cut that needs stitches, the first thing they'll ask in the emergency room is when was her last tetanus shot. If you can tell them it's December 2014, she's good till December 2024.

Scripts That Work

Next is the meningococcal vaccine. This protects against a bacteria that causes meningitis, a serious infection of the brain and spinal cord. For reasons no one quite understands, this seems to mostly affect kids in their late teens and young adults so we give one dose now and one at age 16.

Finally is the HPV vaccine. HPV is a virus that causes cancer. In women it causes cervical cancer and in men it causes cancer of the lower GI tract and genitals. In anyone it can cause cancer in the throat. Currently, about 4000 women a year die of cervical cancer, and this vaccine can prevent over 2700 of those deaths. That's really exciting to me. We give one dose of this vaccine today, then another in 2 months and a third one in six months and then we're done.

Any questions?

Followup ??? and script

Mom: “How does a person catch HPV?”

Me: “Generally, it’s through sex.”

Long pause.

Me: “That’s why we give it at age 11, long, LOOOOONG before your daughter is ever going to even THINK about sex.”

Smile.

Mom smiles, acknowledging her embarrassment.

Mom: “Okay.”

More Followup ??? and script

“Well, I don’t want to give her the message that it’s okay to have sex.”

“My child is not going to have sex until she’s married.”

“Yes” – Acknowledge and validate these goals and aspirations.

“Yes” – Recognize the love the parent is showing for the child.

“&” – Ask about other safety messages that parents may have given their child about, for example, drinking and driving.

“&” – Seek agreement that we want kids to be as safe as possible even if they make mistakes.

If the parents still says “No,” thank them, and set up the next appointment.

Allow them time to get to acceptance.

Meeting Parents Where They Are

- Assume parents love their kids.
- Ask parents about the basis for their fears and discomfort.
- Honor and value emotions.
- Acknowledge that parental fear and discomfort is real and even healthy.
- Share your stories.
- Help parents recognize the appropriate target for fear.
- Provide a fertile ground in which trust can grow.

Preteens, Teens and Vaccines

Kenneth Haller, MD

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December 18, 2014

Questions?

Criticisms?

Comments?