



Hot Topics in Adolescent Sex: Protections, Infections, and Shots

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Disclosure

- We talk about lots of medications, devices, and pharmaceuticals during this presentation, but we are not paid anything by any of the companies for doing so and don't have a known financial interest in the companies.

Overview

- Sex is not discussed as in depth as could be.
- Limits of this lecture
 - You know the basics
 - We are focusing on what is NEW
- Birth Control
- STI's and Testing
- HPV – Proof it works. Why to give it when and how.

Birth Control

- Female condom
- Pills
- Transdermal Patch
- Vaginal Ring
- Shots
- Implants (under the skin)
- Diaphragm
- IUD's
- Emergency Contraception

Female Condom

- Female condom that has foam attached to tip of condom that dissolves and acts as spermicide. (?brand – Reality Female Condom)



Pills

- Low dose pills – 20 mcg estrogen (10mcg soon)
 - Break through spotting, ?bone, ?effective if weight>200 pounds?
- Continuous contraception
 - Seasonique – 84 pills combined, 7 low estradiol
 - Continuous contraception without placebos
- OTC – Oregon, California, Washington, Colorado



Transdermal Patch

- Ortho Evra
- Xulane
- ?bones, ?effective if weight >200 pounds?
- Phase 3 trials with lower dose estradiol



Vaginal Ring

- Nuvaring (1 week)
- Soon – 1 year ring
 - Remove every 21 days for 1 week, then reinsert.
 - ?May be able to leave in long term?



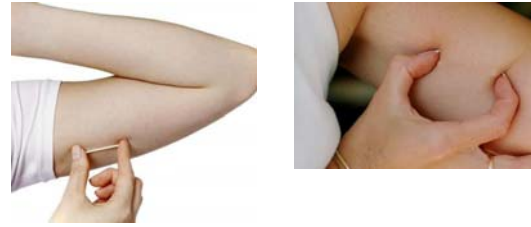
Shots

- Depo Provera (every 3 months)
- Mesigyna or Cyclofem (soon) – monthly shot which also has combined estrogen/progestin
 - Less menstrual irregularity, less amenorrhea than depo provera.



Implants (under the skin)

- Nexplanon (replaced Implanon)
 - 3yr duration (probably longer)
 - Place within 5 days of menses



Diaphragm

- Caya (SILCS) – put spermicide jelly on it.
 - Don't need to be fitted. ("one size fits most")
 - No hormones



IUD's

- Mirena – 5yr (?7yr), progestin
- Liletta – 3yr (?5yr), lower cost, progestin
- Paraguard – 10 yr, no hormone, copper irritant, can place within 5 days of sex
- LNG (soon) – lower progesterone dose



Emergency Contraception

- Ella (Ulipristol Acetate)
 - More effective. Equally effective at 24hrs as at 5 days. Delays egg release for 5 days.
 - No quick start OCP's. Need to wait 5 days.
 - Prescription only.
- Paraguard

CDC Contraception App

- Has WHO guidelines built into it.
- Great for patient with risk factors



Infections

- Chlamydia/Gonorrhea
- Vaginitis
 - Bacterial Vaginosis
 - Trichomonas
 - Yeast vaginitis
 - Mycoplasma Genitalium
- HPV

Chlamydia/Gonorrhea

- Prefer Vaginal Swab over Urine
 - Vaginal – 96% cvx, 97% vaginal
 - Urine – 88-92%
- Self obtained specimen is as accurate as provider collected
- Ideal urine is at least 1hr after previous void, no cleaning, keep first 5-10 ml (rest in toilet)
- Screen all sexually active teens at least yearly.

Vaginitis

- Bacterial Vaginitis
 - OSOM BV Blue – 10min test, sens and spec
- Trichomonas
 - OSOM – 10min test
- Affirm – tests for BV, Trich, Yeast
 - Limited sensitivity for trich
 - 45min test
 - For labs with moderate complexity certification.

Vaginitis

- Mycoplasma Genitalium
 - Non-gonococcal urethritis and cervicitis
 - 10% of cases, think chlam/gon first
 - No practical testing presently
 - Treat: Zmax 1gm.

CDC STD Tx Guide 2015

- Gives all the various treatments for all the various scenarios.



HPV and the vaccine: Recent research in Maine and nationwide

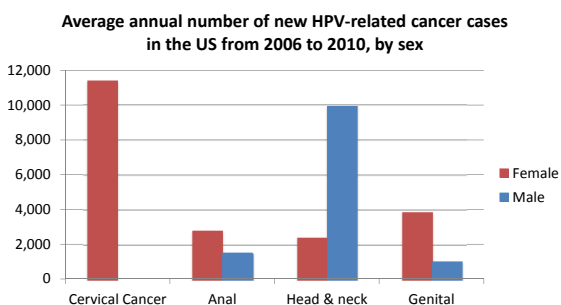
- Latest data on vaccine effectiveness, safety and uptake rates from the CDC
- Latest findings on how to effectively recommend the HPV vaccine
 - Study of 80+ audio recordings of patient visits at 4 Southern Maine offices
 - MAAP role play intervention with standardized patients, presentation, and review of office vaccination rates in 8 offices across Maine
 - Partners: Maine Health, Maine Quality Counts

HPV Infection

- 80% of people will be infected with at least one type of HPV at some point in their lives
 - 14 million new infections/year in the US
 - HPV infection is most common in people in their teens and early 20s
- Most people never know that they are infected
- Can cause warts and cervical, genital, anal, head and neck cancers
- Can be transmitted through any physically intimate contact even if condoms are used
- Routine screenings like pap smears reduce risk of cervical cancer, but we are unable to screen for other HPV-related cancers

Jemal et al. J Natl Cancer Inst. 2013; 105:175-201; Perkins. Dana Farber Presentation. Nov 2014;

How prevalent are cancers caused by HPV?



Data from Markowitz et al. Recommendations of the ACIP. 2014.

How effective is the HPV vaccine?

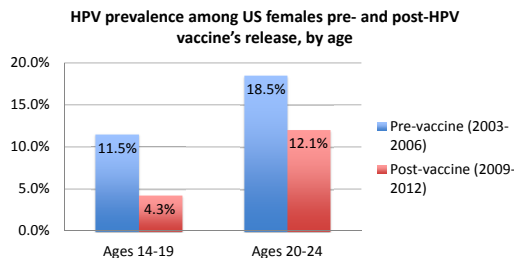
- We have seen reductions in early and mid outcomes:
 - Early outcomes (years)
 - Genital warts: Australia, New Zealand, Denmark, Sweden, Germany, Quebec, US
 - HPV prevalence: Australia, Norway, Denmark, Sweden, UK, US
 - Mid outcomes (years to decades)
 - Cervical lesions: Australia, British Columbia, Denmark, Sweden, US
 - Life outcomes (decades)
 - HPV-related cancers: Too early to tell

CDC. "You are the key to cancer prevention." June 25, 2015.

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How effective is the HPV vaccine?

- HPV vaccine was licensed only 10 years ago, but virus rates have already decreased



Markowitz et al. Pediatrics. 2016.

VAERS: HPV Vaccine Safety Monitoring

- 80M+ doses given in the US
- As of March 2014, ~25,000 adverse events were reported. Ongoing safety monitoring has shown 92% of reports are non-serious
- Among the 8% coded “serious,” most frequently cited are headache, nausea, vomiting, and fever
- Syncope (fainting) continues to be reported following all three adolescent vaccines
 - 15 minute observation period after vaccination is encouraged

MMWR. 2014;63(RR05):1-30. CDC HPV Safety FAQ, March 7, 2016.

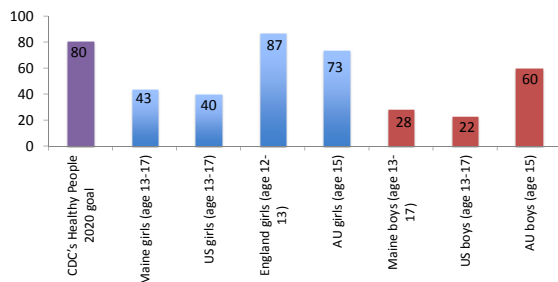
How long does the HPV vaccine provide immunity?

- Studies suggest that vaccine protection is long-lasting; no evidence of waning immunity
 - Available evidence indicates protection for at least 8-10 years
 - Multiple cohort studies are in progress to monitor the duration of immunity

CDC. “You are the key to cancer prevention.” June 25, 2015.

Despite benefits, U.S. uptake has been slow compared to other countries...

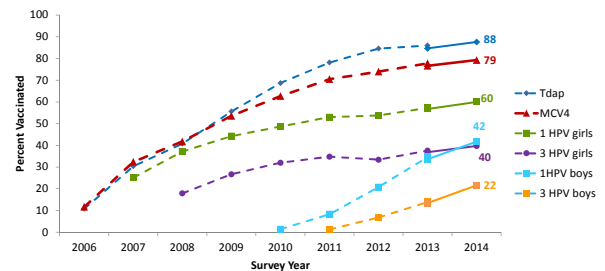
Percentage of teens who have received all three HPV vaccine doses in 2014, by select countries, ages and sex



Data from Stokley et al. MMWR. 2014; 63; Public Health England. 2014; Australia National HPV Vacc Register. 2015.

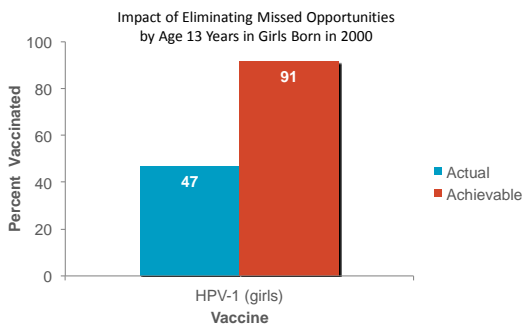
...And compared to other adolescent vaccines

Adolescent Vaccination Coverage United States, 2006-2014



CDC. “You are the key to cancer prevention.” June 25, 2015.

HPV vaccination rates could be much higher



Missed opportunity: Healthcare encounter when some, but not all ACIP-recommended vaccines are given. HPV-1: Receipt of at least one dose of HPV. MMWR. 63(29):620-624.

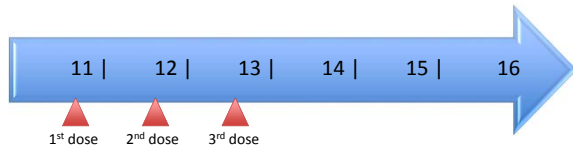
Missed opportunities are problematic since vaccination opportunities decline as teens age

- Parents are more likely to delay than refuse the HPV vaccine, but delay increases the odds that teens contract HPV before they are vaccinated

Hughes et al. *BMC Pediatrics*. 2011; Rand et al. *Arch Pediatr Adolesc Med*. 2007.

Doing the math: Why delay can lead to vaccinating after infection

RISK OF CONTRACTING HPV BEFORE FINAL DOSE: 0.3%

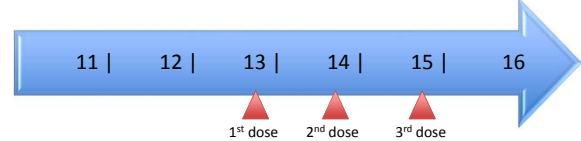


Sally receives her first dose at age 11 and her second and third doses at her subsequent annual physicals – longer than the recommended 0, 2, 6 months schedule suggested.

CDC YRBS Survey 2013; Winer et al. *Am J Epidemiol*. 2003.

Doing the math: Why delay can lead to vaccinating after infection

RISK OF CONTRACTING HPV BEFORE FINAL DOSE: 5.4-14.3%

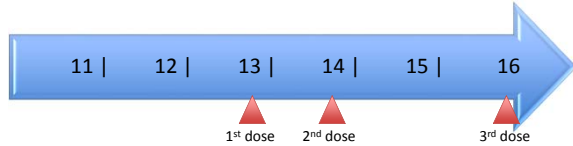


Sally receives her first dose at age 13, when most providers begin to recommend the vaccine, and her second and third doses at her next annual physicals when she's 14 and 15.

CDC YRBS Survey 2013; Winer et al. *Am J Epidemiol*. 2003.

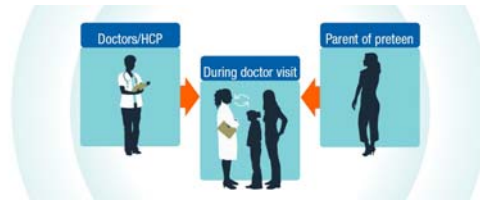
Doing the math: Why delay can lead to vaccinating after infection

RISK OF CONTRACTING HPV BEFORE FINAL DOSE: 8.1-21.5%



Sally receives her first dose at age 13 and her second dose at her next annual physicals when she's 14. She's scheduled to receive her final dose at her next physical at 15, but she's now aged into the risk group where she sees her PCP less often and doesn't return until she's 16 for her third dose.

CDC YRBS Survey 2013; Winer et al. *Am J Epidemiol.* 2003.

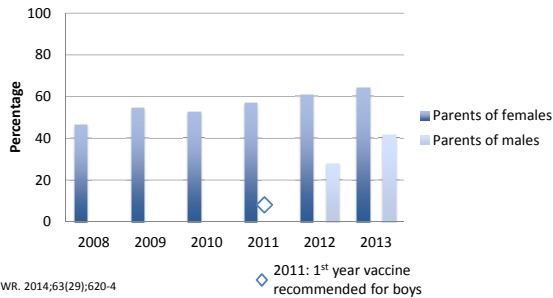


Talking about the HPV vaccine

NEW FINDINGS ON RAISING HPV VACCINATION RATES

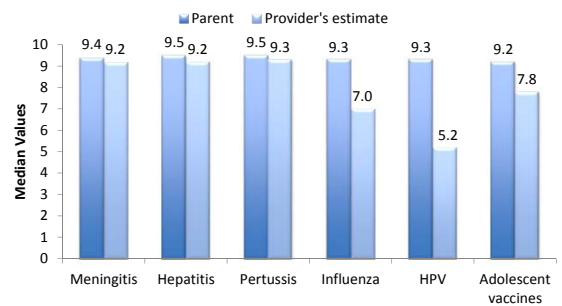
Providers still do not consistently recommend the HPV vaccine

Percentage of parents of teens age 13-17 who received a provider recommendation for the HPV vaccine 2008-2013



MMWR. 2014;63(29):620-4

Providers Underestimate the Value Parents Place on HPV Vaccine



Adapted from Healy et al. *Vaccine.* 2014; 32:579-584.

Parents report not receiving a provider recommendation as a primary reason for not vaccinating

Top 5 reasons parents cite for not vaccinating their child against HPV

Reason	%
Not needed or necessary	21.2
Not recommended	20.8
Lack of knowledge	16.1
Not sexually active	9.6
Safety concerns / side effects	8.4

Fenton calculations of 2012 NIS-Teen data.

But a recommendation is not always enough

- Why aren't provider recommendations more effective?
- Parents are much more likely to say yes to other adolescent vaccines than to the HPV vaccine after a provider recommends a vaccine
- Remember, this is not a 'no,' it's simply delay

Darden et al. *Pediatrics*. 2013.; McRee et al. *J. of Pediatric Hlth. Care*. 2014.

Studies suggest providers talk about the HPV vaccine differently than other vaccines

- Providers often do not recommend the HPV vaccine as strongly as other vaccines
 - 70% of providers do not push the HPV vaccine as strongly as other vaccines at least some of the time
- Providers only *actually* recommend the HPV vaccine in 38% of visits
 - Providers either present the HPV vaccine as optional or they describe it in great detail but never actually recommend it
- Providers often wait to strongly recommend the HPV vaccine until at least age 13
 - Sometimes providers use the HPV vaccine as a bargaining chip

Fenton. Ongoing study; Hughes et al. *BMC Pediatrics*. 2011; Daley et al. *Pediatrics*. 2010.; McRee et al. *J. Ped. Hlth. Care*. 2014.; Perkins et al. *Pediatrics*. 2014; Gilkey et al. *Preventative Medicine*. 2015.

Ways to raise the HPV vaccination rate

1. Recommend the HPV vaccine (easy)
2. Recommend the HPV vaccine like you would any other vaccine (easy)

What does an effective recommendation look like?

- Use closed, presumptive statements
- Bundle all 3 vaccines together
- Recommend all 3 vaccines the same way

Recommendation styles	
<i>Assumed</i>	We are going to do the Meningococcal, HPV, and Tdap vaccines today.
<i>Due for</i>	[Child's name] is due for three vaccines today.
<i>Strong recommendation</i>	I strongly recommend that [child's name] receive the Meningococcal, HPV, and Tdap vaccines today.

But what if a strong recommendation isn't enough?

- What are the typical reasons you hear from parents who don't want to vaccinate?

But what if a strong recommendation isn't enough?

- What are the typical reasons you hear from parents who don't want to vaccinate?
- Studies indicate that parents want more information about the HPV vaccine

Top 4 reasons parents cite for not vaccinating their child against HPV after their child's provider recommends it*	
Reason	%
Safety concern/Side effects	20.1
Not needed or necessary	19.5
Lack of knowledge	13.8
Not sexually active	11.3

Darden et al. Pediatrics. 2013; Dorell et al. Pediatrics. 2011; Dorell et al. Clinical Ped. 2011. O'Donnel et al. J of Adol Hth. 2008; Yang et al. J of Adol Hth. 2006; Trim et al. Obstetrics & Gynclgy Intl. 2011.
*Calculations of 2012 NIS-Teen data

How can we effectively address parents' concerns about the HPV vaccine?

- First, ask why parents' do not want to vaccinate to ensure you address the parents' actual concern
- Second, use one of these simple scripts as a model to address parents' concerns

Parent concern	Medical staff response
<i>My child is not sexually active</i>	Most people will get HPV at some point because it's easily transmittable. It can be passed through any intimate contact or through sex with a condom. So, even if your child waits until they're 40 to have sex, their partner may have it.
<i>My child is too young</i>	The vaccine produces a more robust immune response in preteens than in older teens, which is why I recommend starting the HPV vaccine today.
<i>Vaccine is too new / unsafe</i>	I gave it to my child (grandchild, etc.) because I think preventing cancer is very important.
<i>I am worried about side effects</i>	Vaccines, like any medication, can cause side effects. With the HPV vaccine, most effects are mild like pain or redness in the arm. This should go away quickly. The vaccine has not been linked with any serious or long-term side effects.

Is it just up to providers?

- Office staff can let parents know their child will be due for a vaccine at appointment reminders
 - About half of parents who say they are unlikely to vaccinate against HPV before their visit, report that they are more likely to vaccinate after medical staff simply mention the HPV vaccine
- RNs and MAs should recommend vaccines at intake
 - Nearly half of parents who decided to vaccinate against HPV made this decision with a RN or MA before seeing the doctor

Fenton. Ongoing study.; Dorell et al. *Pediatrics*. 2009.

Ways to raise the HPV vaccination rate

1. Recommend the HPV vaccine (easy)
2. Recommend the HPV vaccine like you would any other vaccine (easy)
3. Ask hesitant parents what their concerns are and address them confidently (easy)
4. Make sure RNs and MAs recommend the HPV vaccine at intake (easy)
5. Ask office staff to remind parents what vaccines they are due for at appointment reminder phone calls (medium difficulty)

Maine AAP Intervention Adolescent Vaccines

1. MONTHLY WEBINARS WITH NIPN – 6 states
 - Vaccine topics (with HPV focus)
2. MONTHLY CHART AUDITS WITH PERFORMANCE IMPROVEMENT.
3. Maine AAP VISITED OFFICES WITH A STANDARDIZED PATIENT (focus on all adolescent vaccines)



Maine AAP Intervention

- VISITED OFFICES WITH STANDARDIZED PATIENT
 - 70-80% correctly recalled at least one best ways to discuss vaccines.
 - 40% correctly recalled multiple ways to discuss vaccines.
 - 75% correctly identified all four HPV-related cancers
 - **70% believed the experience improved how they talk with patients about vaccines**
 - **80% reported that they recommend vaccines more often then pre-intervention**



Thank you!