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# Cervical Cancer Vaccines

## Facts and Information

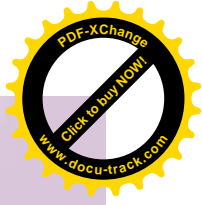
Updated July 2010



# Presentation Overview

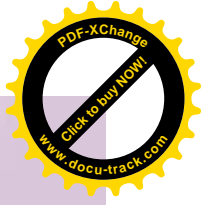
- These slides will discuss three topics:
  - Cervical cancer screening and Pap Tests
  - Information about Human Papillomavirus (HPV)
  - Information about cervical cancer vaccines





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# Cervical Cancer Screening and Pap Tests

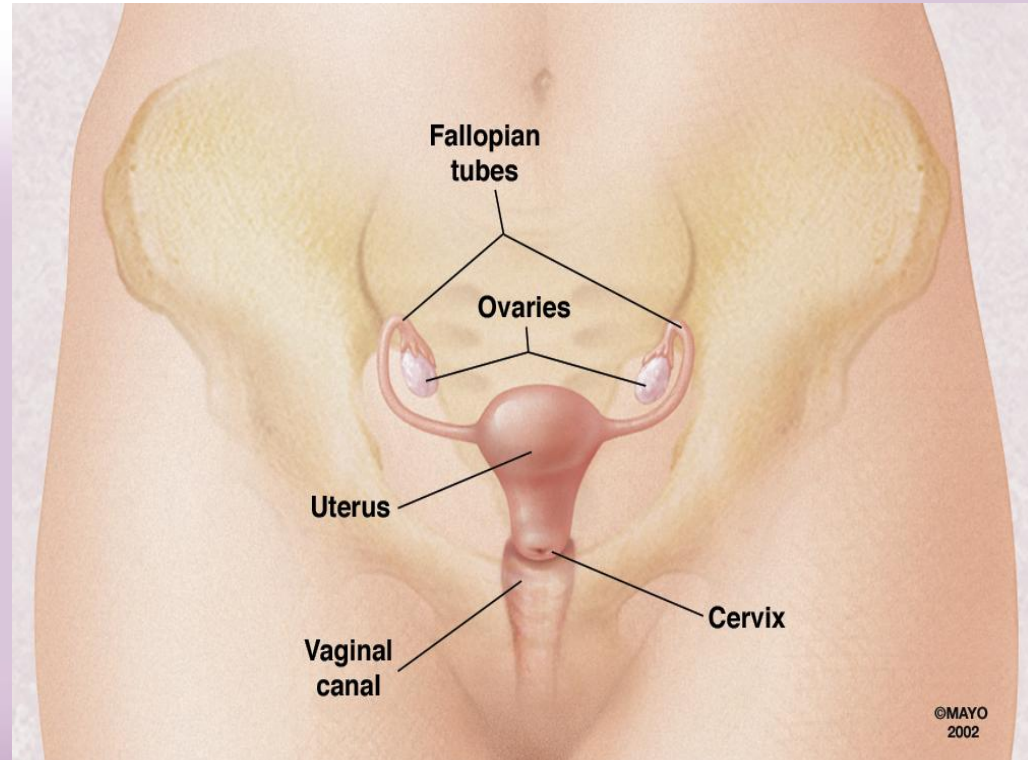


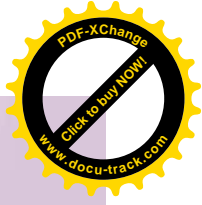
# What is Cervical Cancer?

- Worldwide, cervical cancer is the second most common cause of cancer deaths among women.
- The central cause of cervical cancer is the Human Papillomavirus - HPV.
- There is very good screening for cervical cancer which includes a Pap test and may include HPV testing if recommended by your health care provider.

# What is the Cervix?

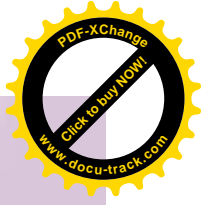
- It is the mouth of the uterus (womb)
- The cervix is responsible for keeping an unborn fetus inside the womb until the fetus is mature enough for delivery.





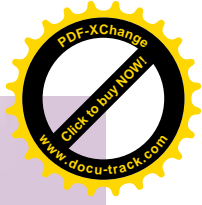
## The Pap Test

- The Pap test is an essential part of cervical cancer screening.
- The Pap test is a very simple and important test. The health care providers uses the Pap test to see if there are any changes (abnormal cells) in the cervix that occur before you get cancer.
- Pap tests are important because these cervix changes may occur without you knowing it.
- If you have pain or discharge, it is not due to these changes.



## What Happens during a Pap Test?

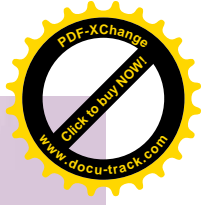
- Your health care provider uses a tool called a speculum to hold the vagina open to see the upper part of the vagina and the cervix.
- Then the health care provider uses a small brush to get some cells from the cervix and vagina.



## When Should I Get the Pap Test?

- Begin at the age of 21.
- Between 21 & 29 years of age, screen generally every 2 years.
- Between 30 & 65 or 70 years of age, women who are low risk for precancerous changes can be screened every 3 years.
  - Ask your health care provider if you are low risk
- Women of any age who are higher risk for precancerous cells may need screening more frequently.
- Talk with your health care provider about the schedule that is right for you.





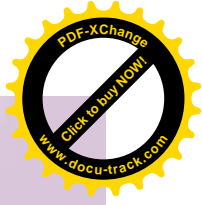
## Get an Exam Every Year

- Make sure you have an exam every year even though you don't need a Pap test that year.
- Even if you've had a Pap test, it is important to report any symptoms of abnormal vaginal bleeding, discharge or pain to your health care provider.
- Discuss with your health care provider additional preventive steps to protect your health and ensure that you stay well.



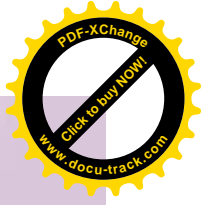
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# HPV Information



## What is HPV?

- HPV stands for Human Papillomavirus.
- HPV is a sexually transmitted infection that can lead to cervical cancer.
- While most women will be exposed to HPV, very few will develop any cervical disease. Far fewer will ever develop cervical cancer.
- HPV also causes a variety of problems like common warts, genital warts and plantar warts.

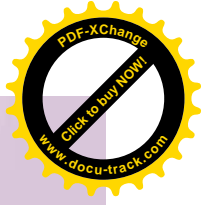


## How is HPV Transmitted?

- HPV is transmitted to both men and women through sexual intercourse and sexual contact
- Abstinence is the only way to prevent infection
- Regular condom use can also help decrease the spread of HPV as well as other sexually transmitted infections.

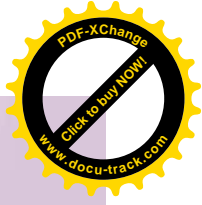
(References: Winer RL et al. Condom Use and the risk of genital human papilloma virus infection in young women. N Engl J Med. 2006 Jun 22;354(25) 2645-54. )





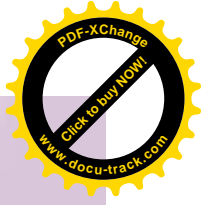
## What Does HPV Do to My Body?

- Once you get the virus, the HPV will infect cells in your cervix and start to change your healthy cervix.
  
- You will not notice any symptoms.
  
- The HPV infection may be cleared on its own by your immune system.
  - At that point, the HPV may lay dormant (or hide) in your body and not show up on Pap or HPV tests.
  - The HPV infection is unlikely to ever go away, but remains in a dormant, undetectable state.



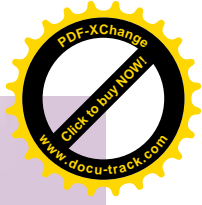
## If HPV Persists.

- If the HPV infection is not cleared and persists, it may continue to infect other cells.
- The continued infection of cells may cause changes that can lead to precancerous cells.
- Precancerous cells may need treatment.
- Sometimes, but not often, these precancerous cells can lead to cancer, if they are not treated.

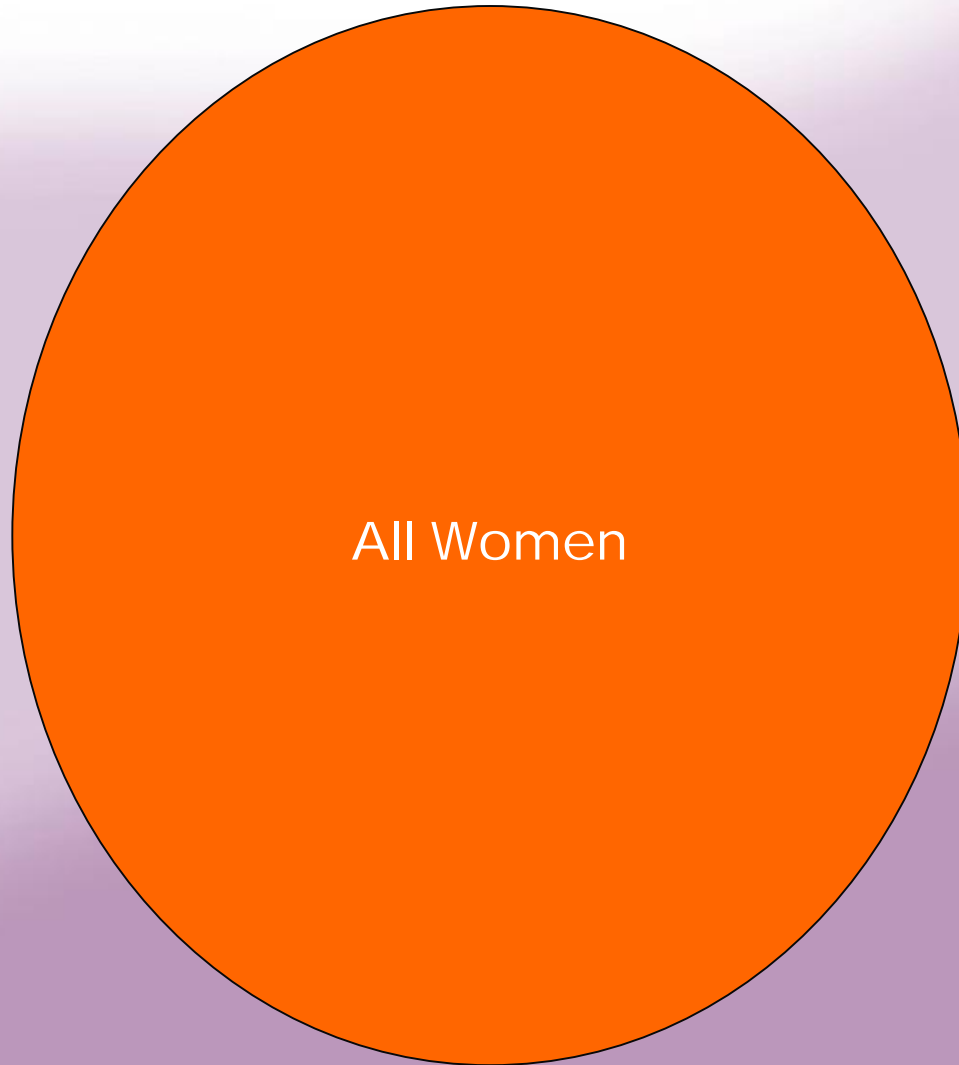


## How Common Is HPV?

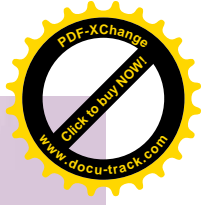
- Most men and women who have had sex have been exposed to HPV.
  - Up to 80% of all sexually active women and men have been exposed to HPV by the age of 50.
  - About 20% of sexually active women below the age of 23 have an active HPV infection.
    - However, most of these active HPV infections do nothing



# HPV and Cervical Cancer







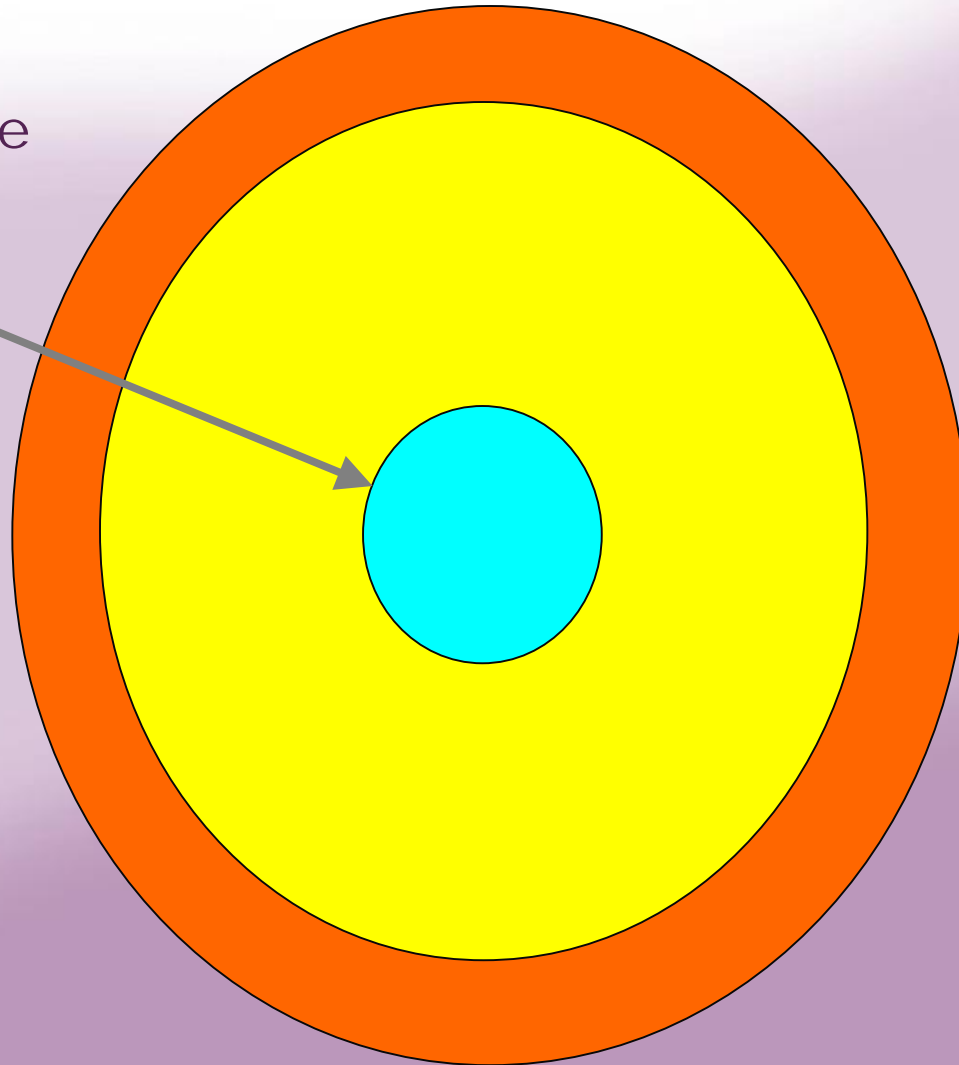
# HPV and Cervical Cancer

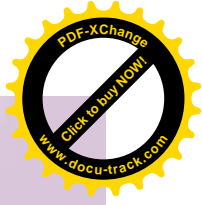
About 80% of Women  
will be infected with  
HPV in their lifetime



# HPV and Cervical Cancer

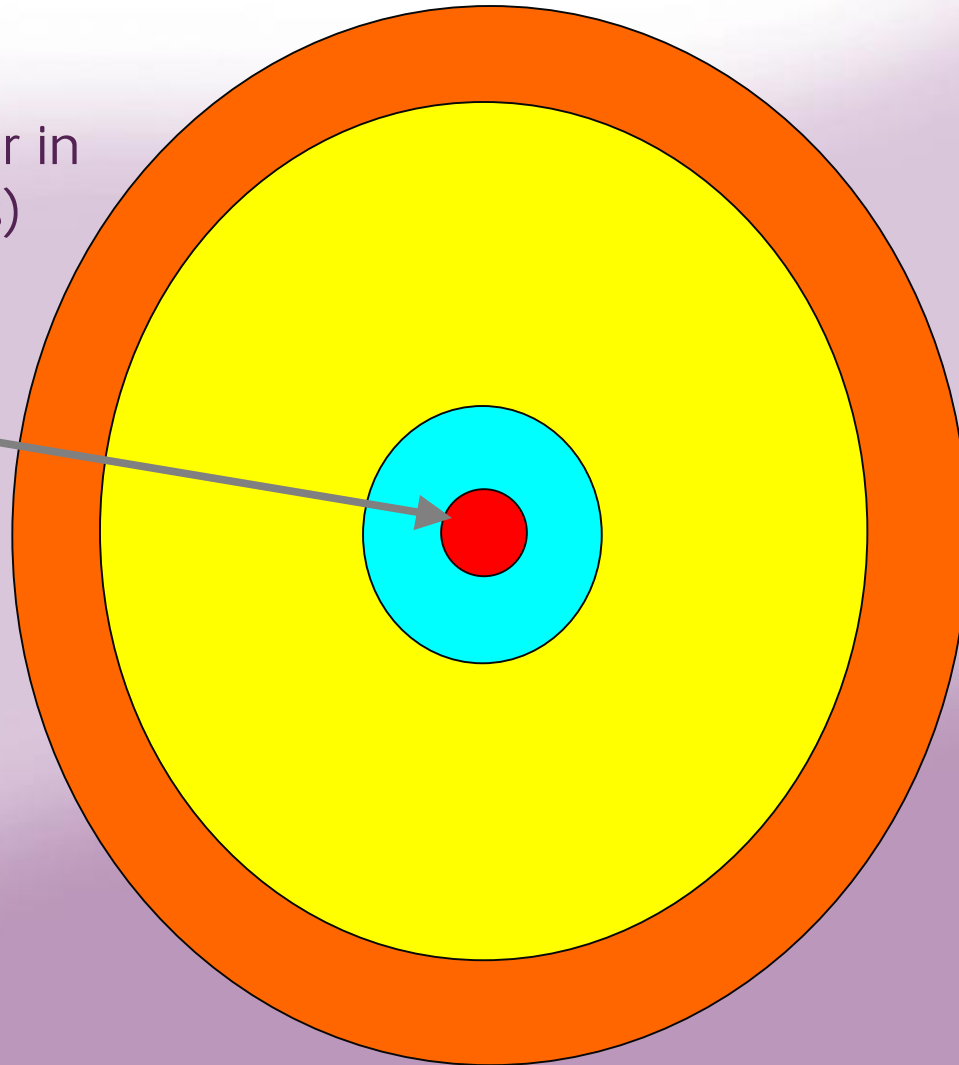
About 7% of Women will have an abnormal Pap test

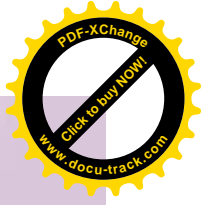




# HPV and Cervical Cancer

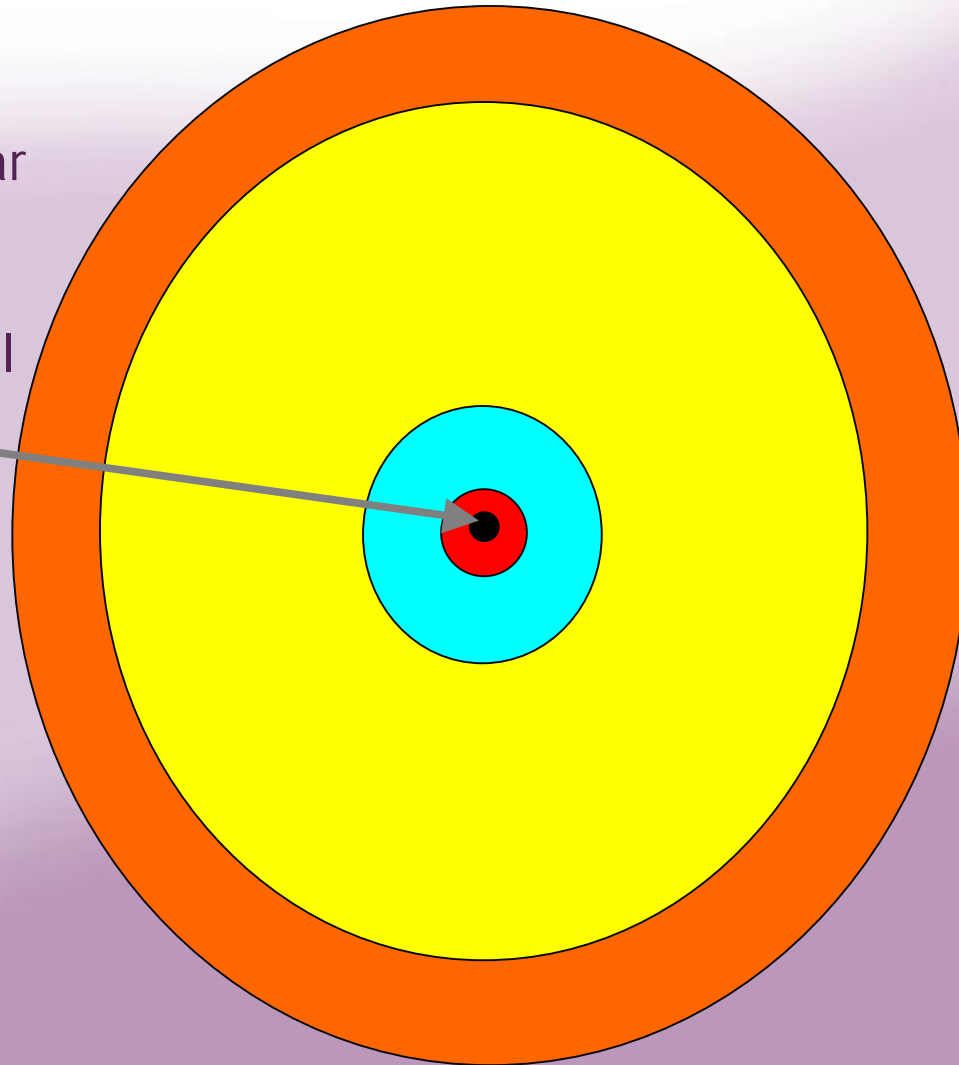
About 300,000 women (per year in the United States) will have a high grade precancerous lesion

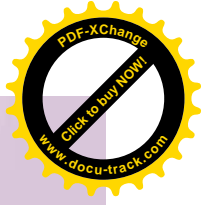




# HPV and Cervical Cancer

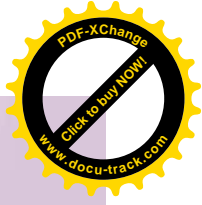
About 11,000 Women (per year in the United States) will develop cervical cancer





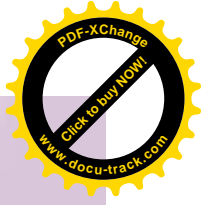
## Who Is at Risk for HPV?

- Women who have ever had sexual contact.
- Women who have had more than one partner.
- Women whose partner(s) has had more than one sexual partner.
- Women who have been diagnosed with a sexually transmitted disease.



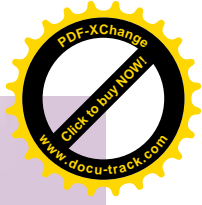
# Who Is at Risk for Persistent HPV Infection and Potentially Cervical Cancer?

- Women who do not have Pap tests.
  
- Women with immune problems:
  - Steroid medications
  - Transplanted organs
  - Chemotherapy
  - HIV
  
- Women who smoke.



## How Do I Lower My Risk of HPV Infection?

- Get your Cervical Cancer Vaccination between the ages of 9–26.
- Delay onset of sexual activity.
- Have sex with only one partner who has sex only with you
- Know your sexual partner.
- Practice safer sex – use a condom every time
- Do not smoke.
- Maintain a healthy diet and lifestyle.



# HPV Types

- There are many HPV types that can infect the genital tract.
- They are divided into 'High Risk' and 'Low Risk' types.

## 'High Risk' Types

- Can cause pre-cancer or cancer of the cervix
- May not have any symptoms

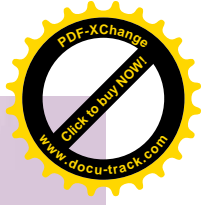
## 'Low Risk' Types

- Can cause warts
- May not have any symptoms

HPV detected today could have been acquired years ago.

**All types may go away on their own, but there is no way to predict if the types you may have will go away.**





## High Risk HPV Types

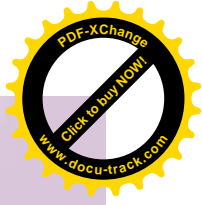
If you have a HPV infection

- In certain instances, your health care provider may want to do a test to see what type of HPV you have
  - This is not done routinely
  
- This may be done to determine if you need further testing
  - Further testing often includes colposcopy



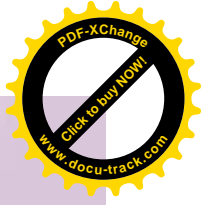
# HPV Symptoms

- While most women will be exposed to HPV, there are generally no symptoms for the HPV types that cause cancer.
- If you have some symptoms related to your gynecological organs (examples: pain, irregular bleeding or discharge) it is unlikely that it is due to HPV. But it is very important for you to discuss these symptoms with your health care provider.



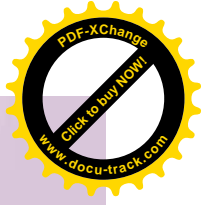
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# Cervical Cancer Vaccines



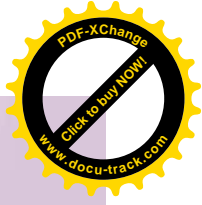
# Cervical Cancer Vaccines

- Cervical cancer vaccines (also called the Human Papillomavirus Vaccines or HPV vaccines) protect you from getting infected with the 'High Risk' HPV types that cause 70% of cervical cancer.
- There are 2 vaccines that are FDA approved for use in girls and women. They are known as Gardasil<sup>®</sup> and Cervarix<sup>®</sup>.
- Both vaccines also appear to protect against other related HPV types, but to a lesser degree than the ones they are approved to protect against.



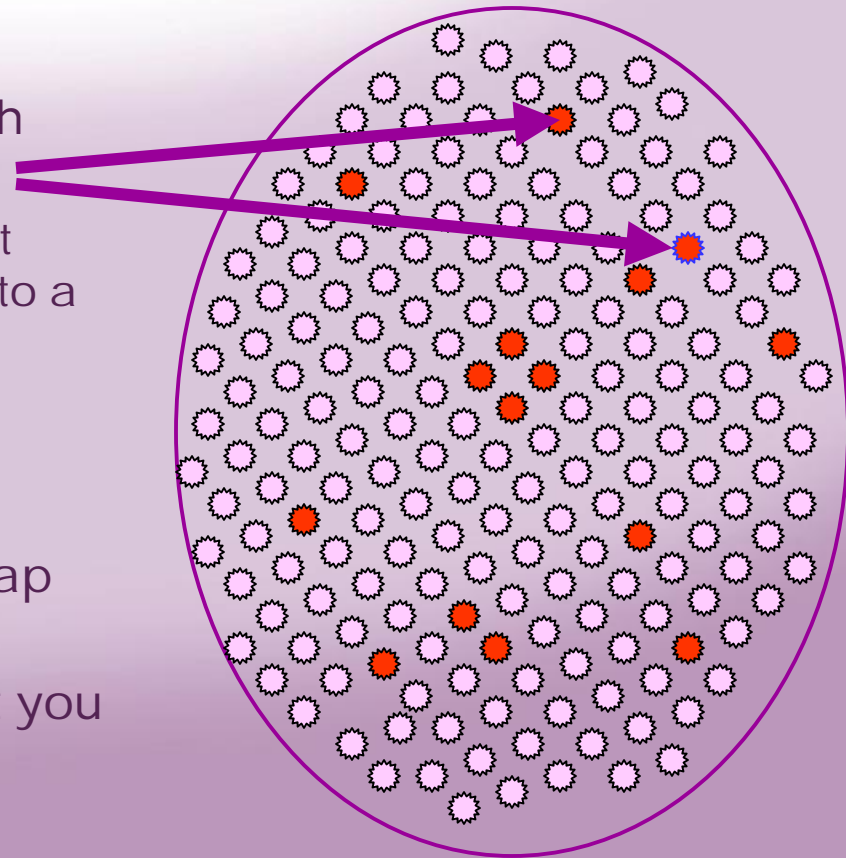
## The Two Vaccines

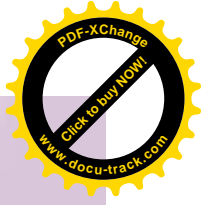
- Both vaccines protect against HPV types 16 and 18, which together cause about 70% of cervical cancer cases.
- One of the approved vaccines also provides protection against HPV types 6 and 11 that cause 90% of cervical warts.
- Speak to your health care provider to learn which vaccine is best for you.



# The Vaccines Protect against the 'High Risk' HPV Types

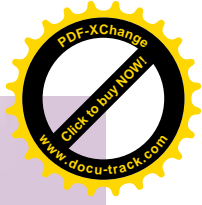
- There are over 100 types of HPV that infect humans.
- Both vaccines protect against 2 'High Risk' types of HPV.
  - Both vaccines also appear to protect against other related HPV types, but to a lesser degree than the ones they are designed to protect against.
- One of the vaccines also protects against 2 HPV types that can cause genital warts and some low grade Pap abnormalities.
- Although these vaccines will protect you from the HPV types that cause the majority of cervical cancer, it is important to understand the vaccines will not protect you against all HPV types. This is the major reason why the vaccines will not replace a Pap test.





## Vaccine Benefits

- While it is very exciting to have vaccines that prevent cervical cancer, not everyone will have the same benefits or results.
  - Both vaccines also appear to protect against other related HPV types, but to a lesser degree than the ones they are designed to protect against.
- The benefits from vaccination depend on your prior HPV exposure.
- The more HPV exposure you have had, the less likely a vaccine will work for you.
- The risk of HPV exposure increases with sexual activity.



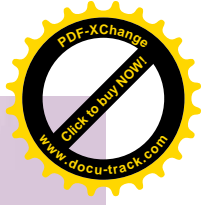
# Vaccine Effectiveness Declines with Number of Sexual Partners

Least effective if given after regular sexual exposure

Effective if given after limited sexual exposures

**Most effective if given before any sexual exposures**





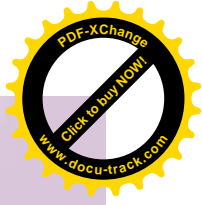
## Previous HPV Exposure

- If you are already chronically infected with the 'High Risk' HPV types that vaccines specifically target, then they may have minimal or no effect on you.
- These vaccines do not eliminate or cure current chronic HPV infections, they only prevent you from getting specific types of HPV infection in the future.



## Should I Get an HPV Test before the Vaccine?

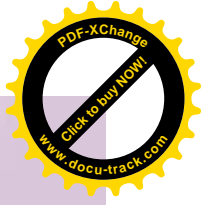
- NO!
- Currently, there is no FDA approved test to see if you have the HPV types that the vaccines target.
- You should not get the HPV test before vaccination because it will not help decide whether or not you should get vaccinated.



# Who Recommends Getting Routine Vaccination?

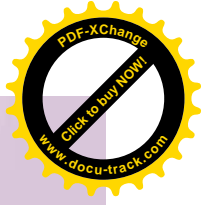
Many medical and professional organizations recommend getting vaccinated to protect against HPV infection and cervical cancer. These include:

- The U.S. Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices (ACIP). This is the group that looks at all the studies and then makes recommendations on what vaccines will be paid for by the "Vaccines for Children Program (VFC).
- The American Cancer Society
- The American College of Obstetricians and Gynecologists
- The American Academy of Pediatrics
- The American Academy of Family Physicians
- The Society of Gynecologic Oncologists



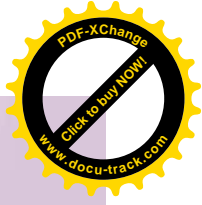
# Who Recommends Getting Routine Vaccination - Continued?

- American College of Nurse-Midwives
- American Medical Women's Association
- American Social Health Association
- American Society for Cytotechnology
- Association of Reproductive Health Professionals
- Association of Women's Health, Obstetric and Neonatal Nurses
- Coalition of Labor Union Women
- National Alliance for Hispanic Health
- National Asian Women's Health Organization
- National Black Nurses Association
- National Cervical Cancer Coalition
- National Cancer Institute



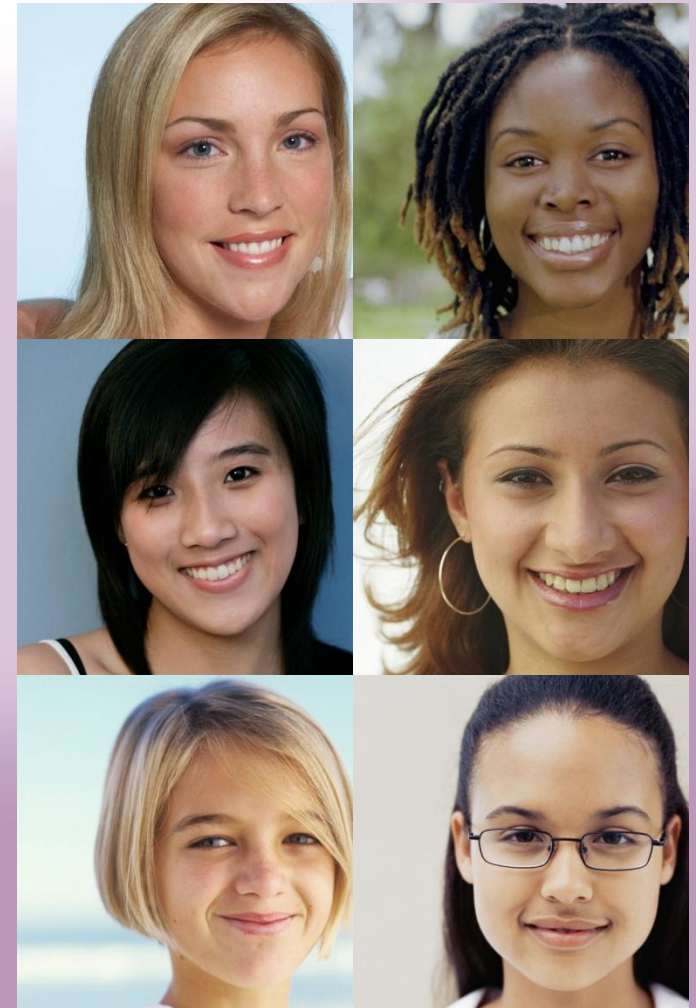
# Who Recommends Getting Routine Vaccination - Continued?

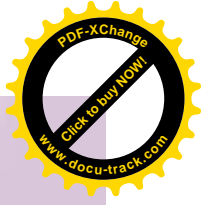
- National Coalition for Cancer Survivorship
- National Council of La Raza
- National Education Association Health Information Network
- National Family Planning and Reproductive Health Association
- Native WEB
- Office on Women's Health, U.S. Department of Health and Human Services
- Planned Parenthood Federation of America
- Prevent Cancer Foundation
- Society of Gynecologic Nurse Oncologists
- Society for Women's Health Research
- Women In Government



# Who Should Get Vaccinated?

- The ACIP has recommended the following groups of women get vaccinated:
  - Girls 11–12: are recommended to receive the vaccine. Girls as young as age 9 can get vaccinated.
  - Women 13–26: are recommended to get vaccinated if they didn't get it when they were younger. The benefit of the vaccine may be lower depending on prior HPV exposure.
  - You can discuss your exposure risk with your health care provider or nurse.





# Vaccination Schedule

- The cervical cancer vaccination is given over 3 visits.
  - 1) Today
  - 2) then in about 1-2 months
  - 3) then in about 4 months after the second visit.
- It is not known at this time whether booster shots will be needed.
- Please make the additional vaccination appointments before you leave your health care provider's office.

Today – Month 0

Vaccination 1

Month 1- 2

Vaccination 2

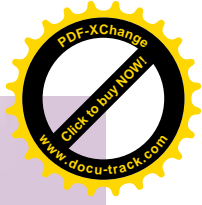
Month 6

Vaccination 3

Vaccination Complete

Follow-up Pap tests

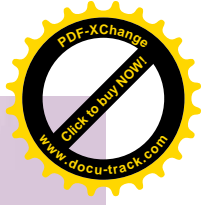




## Vaccine Interchangeability

- The 3-dose series should be completed with the same HPV vaccine (Gardasil® or Cervarix®) whenever possible.
  - However, if you do not know or don't have available the HPV vaccine used earlier, then either HPV vaccine can be used to continue or complete the series to protect against HPV 16 and 18.
- There are no studies that tell us what happens when the 3-dose series is completed with different vaccine products.
  - It is possible that effectiveness in protection against HPV 16 or 18 related cervical cancers and pre-cancers of a 3-dose series that includes both vaccine products might be reduced compared with a 3-vaccine series that is completed with only one product.





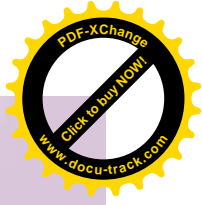
# Vaccine Interruption

- The vaccines are given in 3 doses.
  - Ideally, these are given within 6 months of the first with the first dose at month 0, the second dose at month 1-2 and the third dose at month 6.
- If you miss the recommended time for the second or third dose, get the next dose as soon as convenient.
  - You will likely still get all or most of the same protection that you would have gotten had you followed the recommended schedule.
- For protection against HPV 6 or 11 related genital warts, a vaccination series with less than three doses of Gardasil® the vaccine protects against genital warts might provide less protection than a complete three dose series.



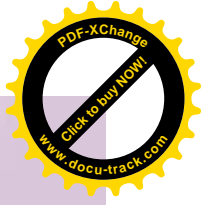
## Abnormal Pap Tests & the Vaccines

- If you have ever had an abnormal Pap result, you have likely been exposed to HPV and may be chronically infected with HPV.
- While you can still receive an HPV vaccine, it is not likely to be as effective.



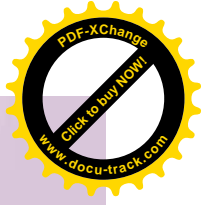
## Older than 26

- Cervical cancer vaccines are not FDA approved for women over the age of 26.
- Since the benefit to HPV vaccination for women over 26 has not been proven, your insurance carrier may not pay for the vaccine.
- Regular Pap tests and gynecology visits will still effectively reduce your risk for cervical cancer.



# Side Effects of Vaccines

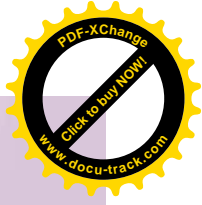
- The risks of receiving a cervical cancer vaccine are minimal and similar to other vaccines.
  
- The most common reported side effects are:
  - Redness and soreness where the shot is given.
  - Headaches (like when you have a cold or fever).
  - Fever.



## Severe Side Effects

- Please seek emergency medical care if the following symptoms occur:
  - Difficulty Breathing
  - Severe Allergic Reaction (e.g. Severe Rash, High Fever)

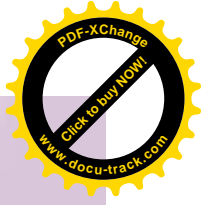




## Who Should NOT Receive the Vaccines

- You should not receive the vaccine today if you are:
  - Very Sick
  - Allergic to Yeast
  - Pregnant
  - Trying to become pregnant

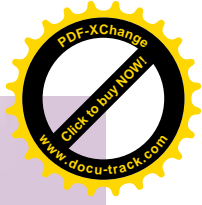




## Follow-up after Vaccination



- You must continue to get regular Pap test follow-up.
- Even though you have been vaccinated, you should still practice safe sex (condom use) or abstinence to protect yourself from HPV infection and other infections that are transmitted through sex.



## Questions?

- If you need help setting up a follow-up appointment or need to find a health care provider, we can help.
- If you have any questions or do not understand any points in this presentation, please ask the health educator or health care provider.

