

HPV and Cervix Cancer- The Facts

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Objectives

- HPV basics
- Cervical cancer basics
- Screening for cervical cancer
- HPV and cervical cancer prevention

What is HPV?



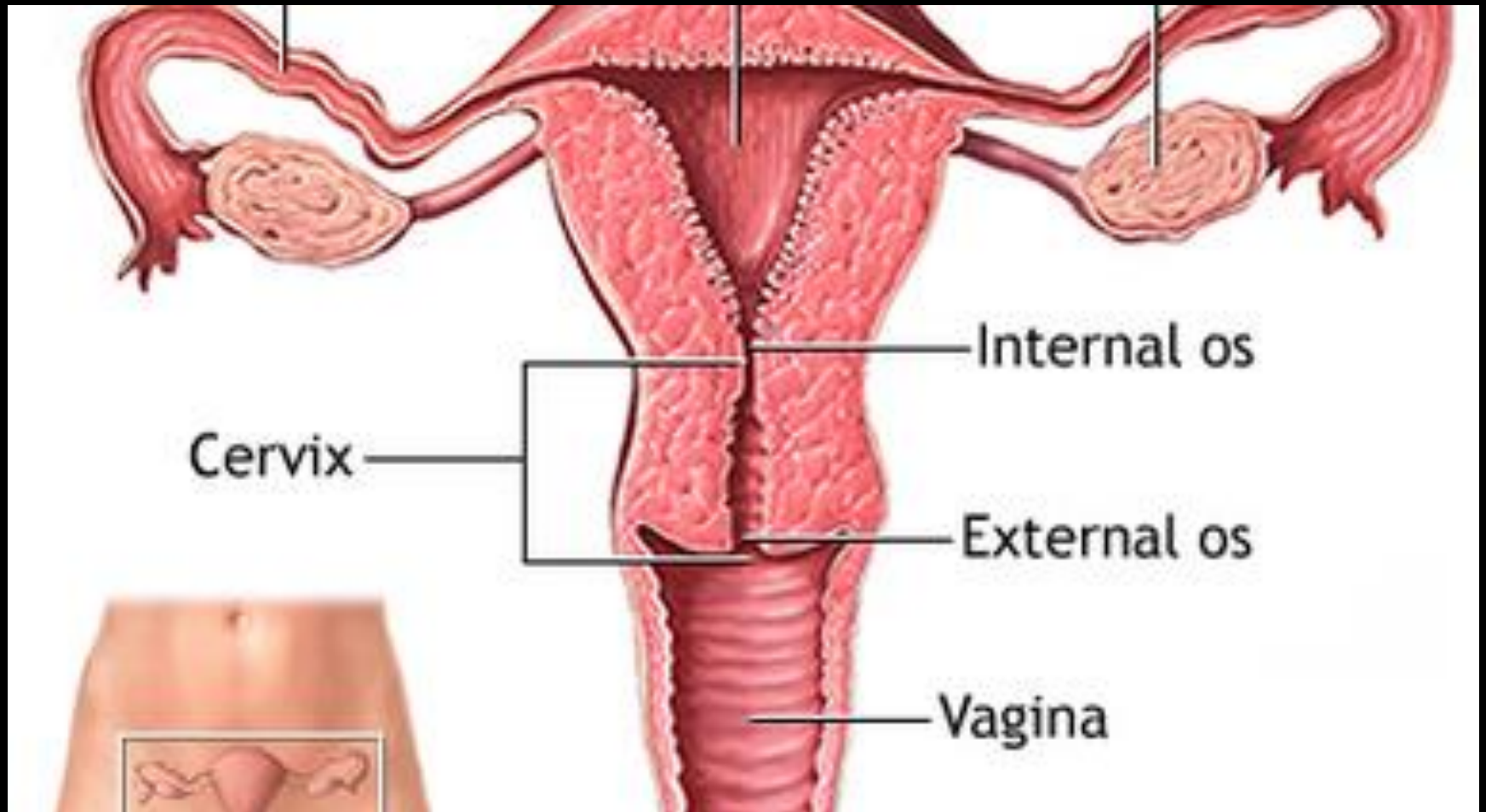
Why is HPV Infection Dangerous?

- **Genital warts**
- **Cervical cancer**
- Vulvar cancer
- Vagina cancer
- Penile cancer
- Anal Cancer
- Oral cancer (throat, base of tongue, and tonsils)

HPV and Cancer

Cervical Cancer	Almost ALL related to HPV
Vulvar Cancer	69% linked to HPV
Vaginal Cancer	75% linked to HPV
Penile Cancer	63% linked to HPV
Anal Cancer	91% linked to HPV
Oral Cancer	72% linked to HPV

What is the cervix?



What Is HPV?

- Human Papillomavirus
 - More than 120 different types
 - The majority of these viruses cause warts on skin
 - More than 40 different types affect oral and genital tract
 - Mucosal surfaces are found in the mouth and the genital tract

What Is HPV?

HPV

>40 HPV Types that can infect genital areas

Types **16** and **18**

Types **6** and **11**

cause 70% of
cervical cancer cases

cause 90% of
genital warts cases

Who is at Risk for HPV

- Women
 - Greater number of male sex partners
 - Earlier age of initiating sexual activity
 - Previous sexual behavior of male partner
 - Immune system health
- Men
 - Greater number of lifetime partners
 - Number of current sexual partners
 - Same sex sexual partners

HPV Facts

- Human Papillomavirus
 - 79 million Americans have HPV infection
 - 14 million new infections every year
 - Most sexually active people will be infected with some type of HPV during their life

HPV Facts

- Is it really that common?
 - Most common sexually transmitted infection
 - Over 50% of sexually active people will have acquired HPV over their lifetime

HPV Transmission

- Human Papillomavirus
 - Spread by having vaginal, anal and oral sex
 - “INTIMATE CONTACT”
 - Any genital or oral skin-to-skin contact with an infected person

HPV Transmission

- Why is HPV infection so common?
 - Transmission doesn't require symptoms
 - Can be spread by a partner with no symptoms
 - Symptoms can develop years after exposure

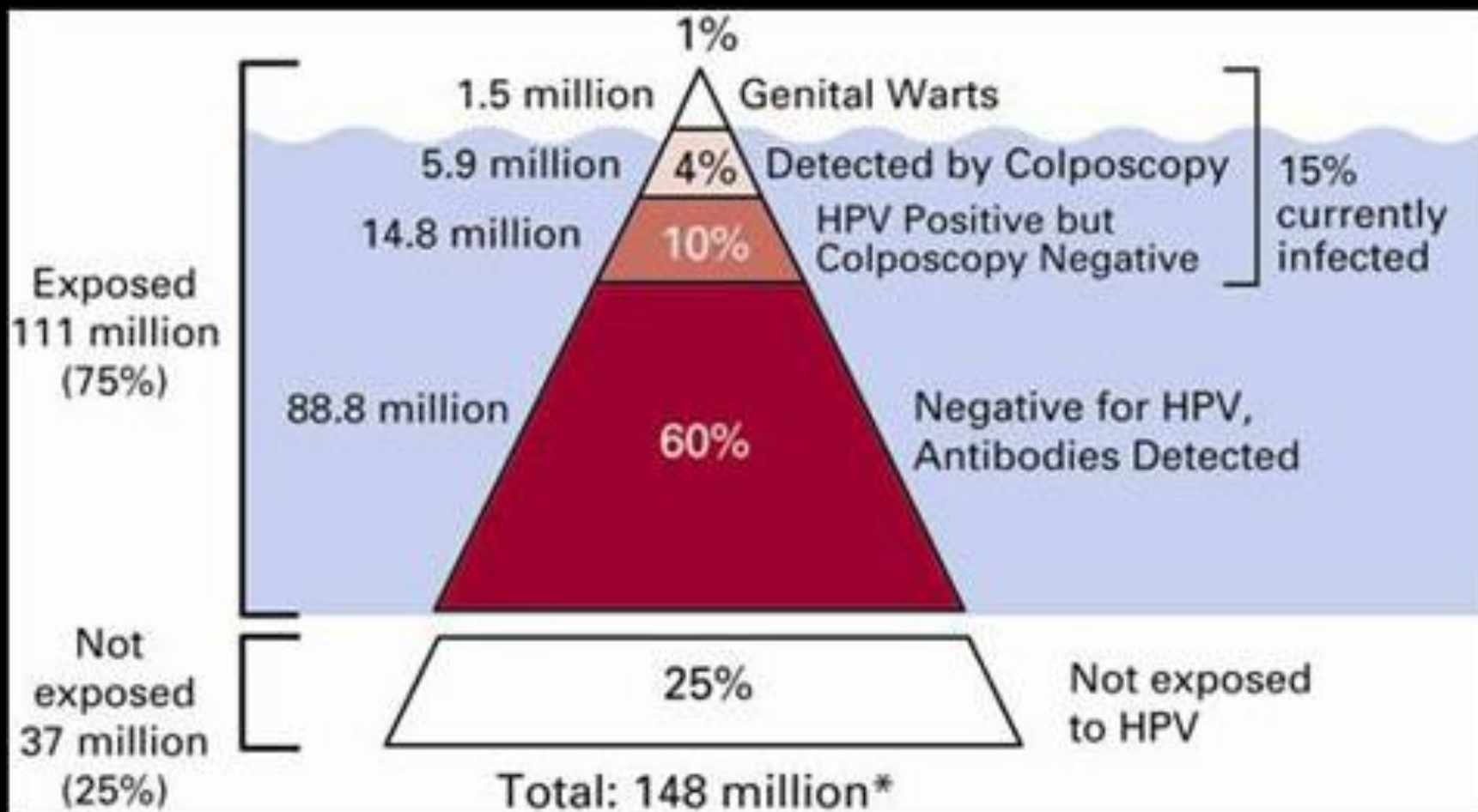
What Happens After HPV Exposure?

- In most cases, HPV types affecting the genital tract will go away on its own
 - Typically takes 1-2 years to clear the infection
 - 9/10 people with HPV infection will clear it!

What Happens After HPV Exposure

- Gynecologic health problems are associated with lasting HPV infections:
 - Genital Warts
 - Cervix Cancer

HPV: Symptoms and Clearance



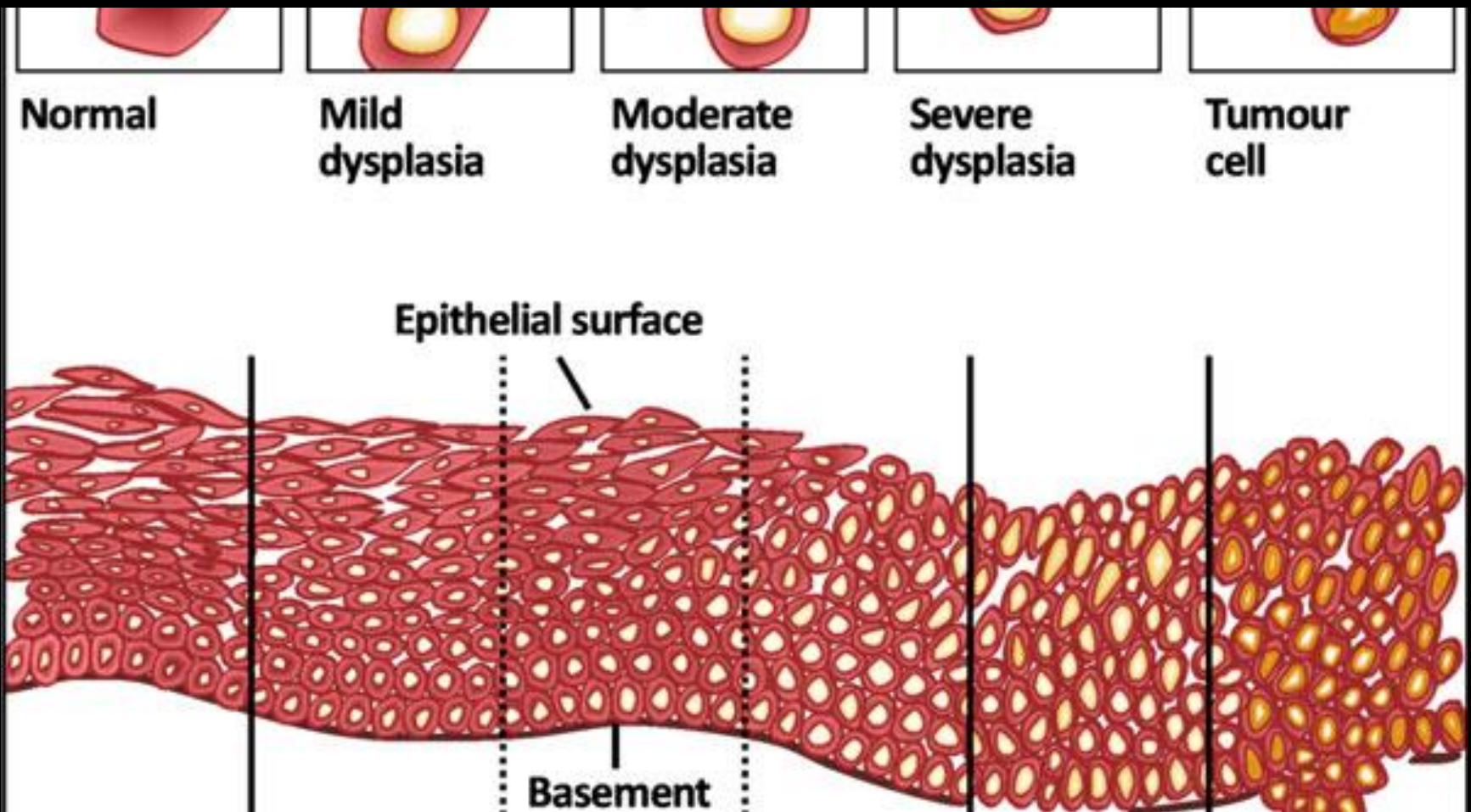
HPV: Symptoms and Clearance

- Is this true for the HPV types that cause cervical cancer?

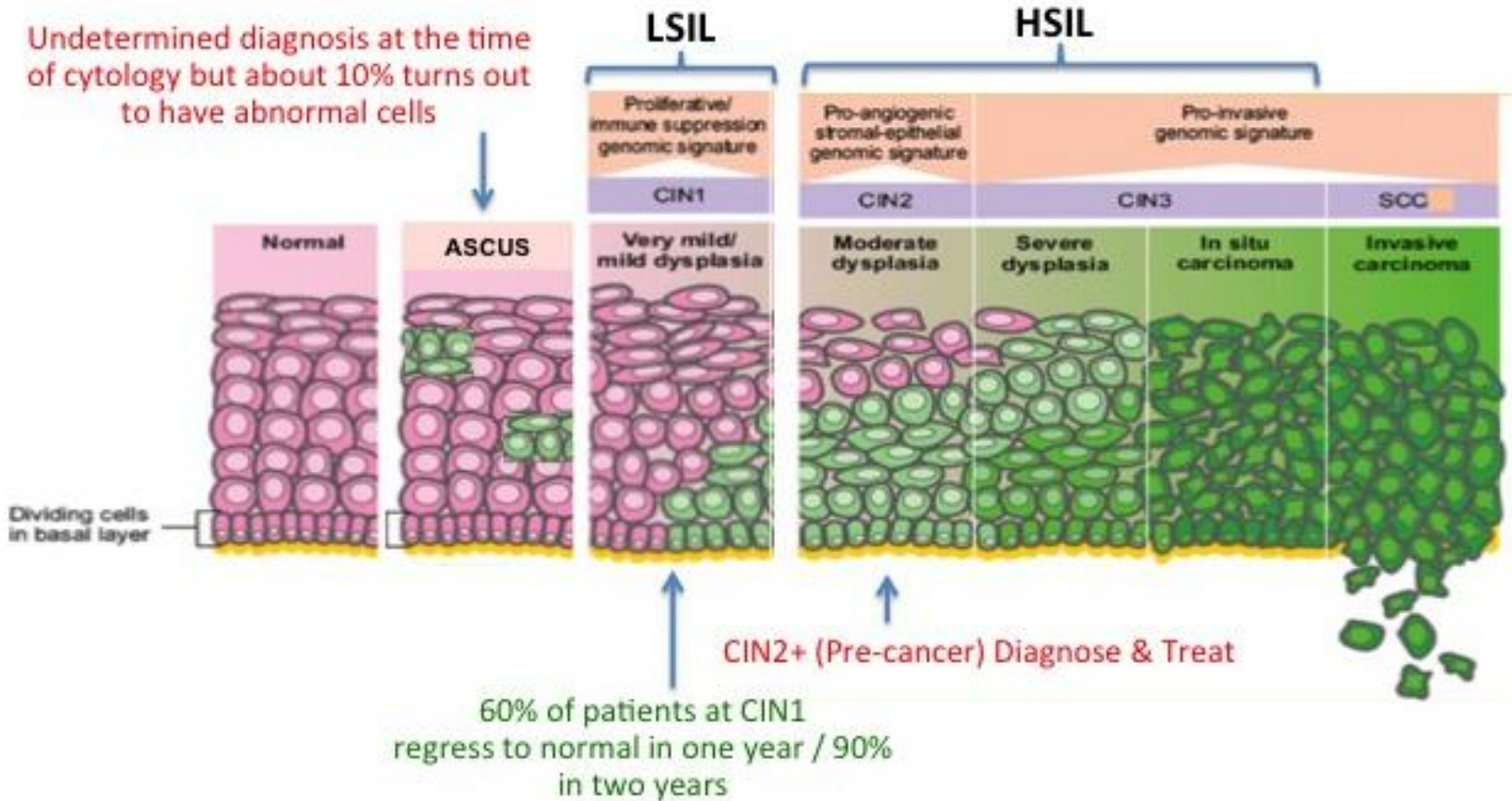
HPV and Cervical Cancer

- The time between HPV exposure and cervical cancer can be 20-30 years!
 - HPV infection in our 20s can be responsible for cervical cancer in our 50s

HPV Progression to Cervical Cancer



HPV: Symptoms and Clearance



What Happens After HPV Infection

- We can't predict which person will have a lasting HPV infection but those with a weaker immune system are more at risk of having a lasting infection
 - Tobacco
 - HIV
 - Medications that weaken the immune system
 - Steroids

Cervix Cancer- Fast Facts

- 12,820 new cases of cervix cancer are estimated to be diagnosed in the U.S. (2017)
- 4,210 women will die of cervix cancer in the U.S. (2017)

Cervical Cancer- Fast Facts

- Cervical cancer is the 4th most common gynecologic cancer worldwide
 - 527,624 new cases every year worldwide
 - 265,672 deaths/year worldwide

Cervical Cancer-Fast Facts

- Eighty four percent of cervical cancer cases occur in women living in low income countries
 - Africa, Latin America, and Carribean highest
 - Lowest in North America

Cervical Cancer- Fast Facts

- Cervical cancer death rates in the U.S. were significantly higher in the 1940s
 - Between 1975 and 2012, the U.S. cervical cancer rates fell by over 50%

Cervical Cancer- Fast Facts

- Why have cervical cancer rates fallen?
- Why is there a disparity in cervical cancer rates between high and low income countries?
 - SCREENING TEST

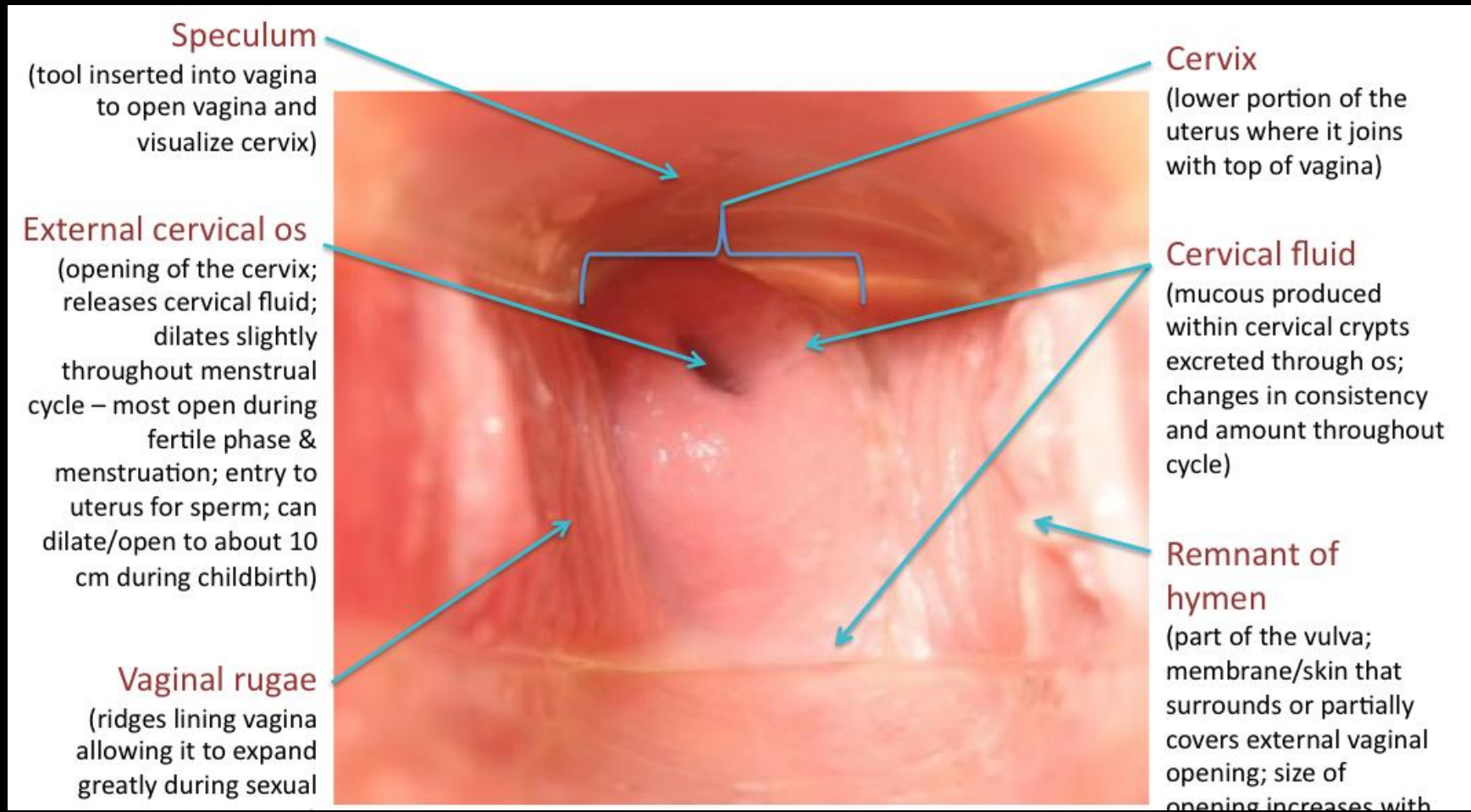
Cancer Screening in Women

Cervix Cancer	Pap test
Breast Cancer	Mammogram
Colon Cancer	Colonoscopy

Pap Test Basics

- PAP test is not the same thing as a speculum examination

Pap Test Basics



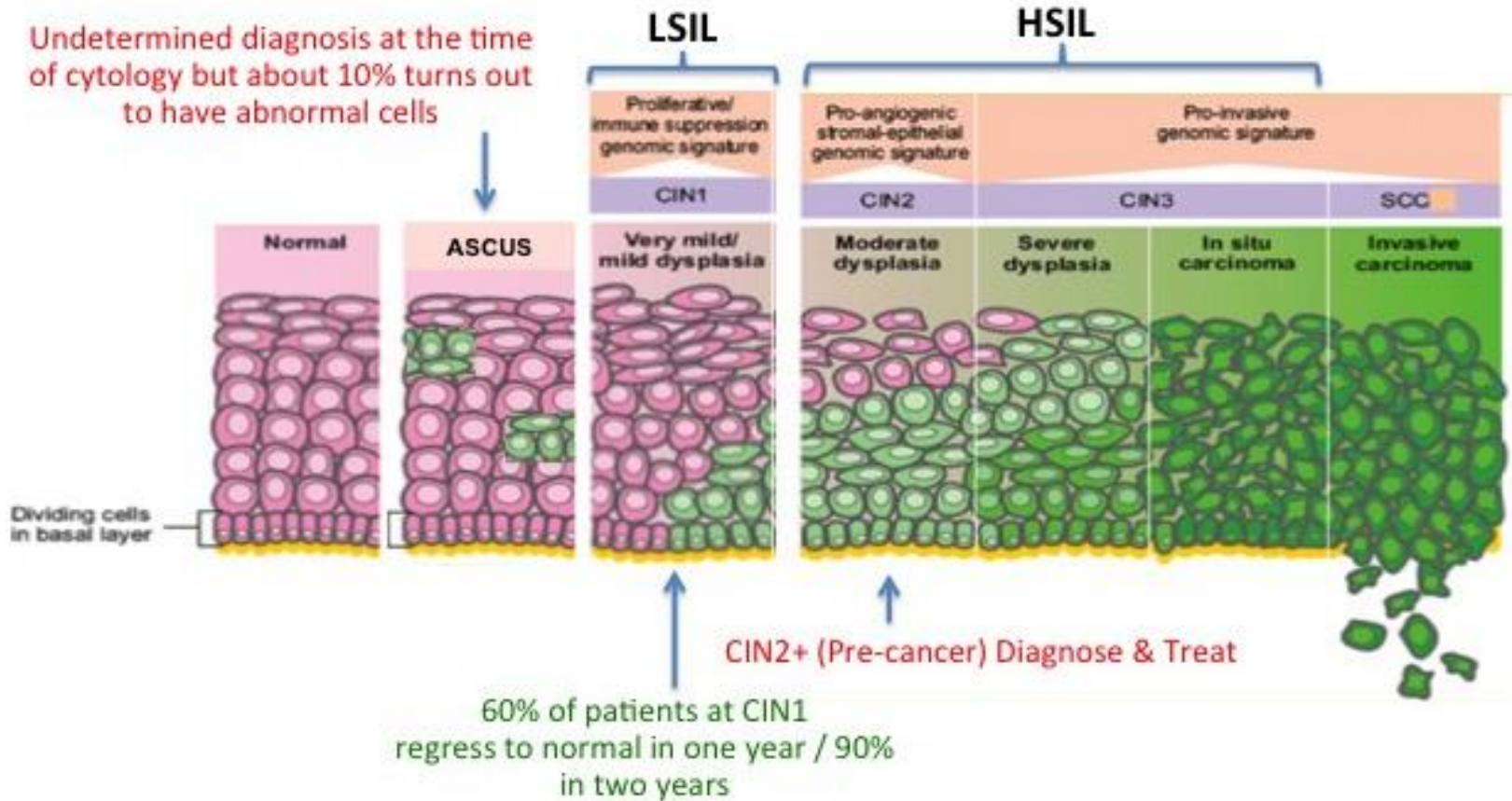
Pap Test Basics



Screening for Cervical Cancer

- Good news!
 - The Pap test can detect cervix cancer and pre-cancer!

Screening for Cervical Cancer



Cervical Cancer Screening

- Colposcopy
 - If the pap test does detect the abnormal cells, the cervix is examined using a magnifying lens
 - Biopsies are taken to confirm pre-cancerous cells on the cervix
 - Simple office procedure
 - Takes 10 min

Cervix Cancer Prevention

- Pre cancerous cells
 - Some precancerous cells are mild and will become normal on their own over time
 - Some precancerous cells are severe and have a higher change of becoming cancer.
 - In these cases, another office procedure is done to remove the abnormal cells to prevent cervix cancer

Cervical Cancer Screening

- It is never “too late” to start pap testing!
 - It takes several years for an HPV infection to become cervical cancer

Cervical Cancer Screening

- A screening test is done regardless of symptoms
- Symptoms only appear when the cancer is advanced
 - Foul smelling discharge
 - Abnormal bleeding

Cervix Cancer Screening

- HPV testing can be used with the pap test to improve the detection of abnormal cells

Cervix Cancer Screening Recommendations

- Pap testing is recommended to start at age 21
 - Done every 3 years if the results are normal
- Adding the HPV test to the pap test routinely is recommended at age 30
 - Pap test and HPV testing is done every 5 years intervals if both are normal
- If pap test or HPV test is abnormal
 - Colposcopy may be recommended
 - Pap testing is done at closer intervals

Cervical Cancer Screening- Where?

- Pap testing is done in a medical clinic
 - OBGYN
 - Primary care physicians (family doctor, internist)
 - Nurse practitioner or physicians assistants can perform this
- Pap testing is NEVER done in the emergency department or urgent care!

Other HPV Cancers

- Cervix cancer is the only HPV cancer that has a screening test
- Similar to cervix cancer, the symptoms only come after advanced disease
- No screening test for anal, penile, and oral HPV related cancer
 - But office examination can detect abnormality

Cervical Cancer Prevention

- Is the pap test our only prevention method against cervical cancer?
 - There is a vaccine!

HPV vaccine- Females

- HPV vaccine has been recommended in females since 2006
 - Vaccination is recommended between 11-12
 - Ok to start as early as age 9
 - Effective to given until age 26

HPV Vaccine- Males

- HPV vaccine is recommended in males aged 13-21
- Recommended in males up to age 26 in certain circumstances
 - Men who have sex with men
 - Transgender people
 - Immunocompromised person

HPV Vaccine Safety

- All vaccines are approved by the Food and Drug Administration (FDA)
 - The testing takes longer than 10 years
 - Even after approval, there is a reporting system to monitor safety

HPV Vaccine Safety

- 9-valent HPV vaccine
 - Studied in >15,000 males and females
- Quadrivalent HPV vaccine
 - Studied in > 29,000 males and females
- Bivalent HPV vaccine
 - Studies in > 30,000 females
- * Each HPV vaccine has been found to be safe and effective

HPV Vaccine Safety

- HPV Vaccine side effects are mild
 - Pain, redness, swelling in the arm where the shot was given
 - Fever
 - Headache, feeling tired
 - Nausea
 - Muscle or joint pain
- General side effects
 - Fainting
 - Allergic reaction

HPV Vaccine

- Three HPV vaccines
- Cervarix (HPV 16, HPV 18)
- Gardasil (HPV 6, HPV 11, HPV 16, HPV 18,
- Gardasil 9 (HPV 6, HPV 11, HPV 16, HPV 18, HPV 31, HPV 33, HPV 45, HPV 52, HPV 58)

HPV Vaccine Efficacy

HPV

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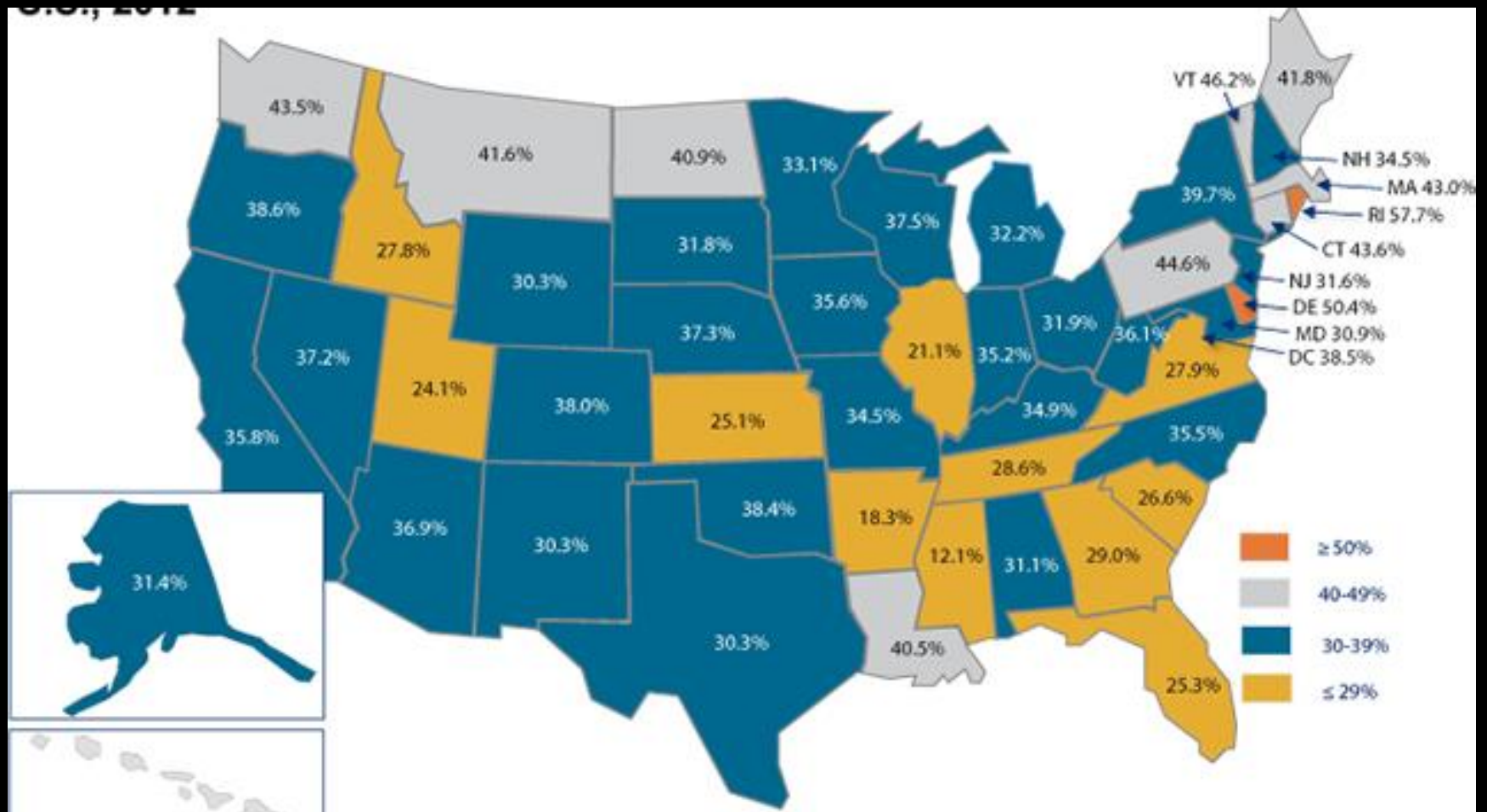
HPV Vaccine Efficacy

- Vaccine Benefits:
 - HPV vaccine has reduced the number of pre-cancers of the cervix and genital warts (Australia)

HPV Vaccine Efficacy

- Vaccine Benefits
 - 40% reduction in HPV types protected by the vaccine in the United States in women (2007 vs 2013)
 - HPV-9 vaccine had demonstrated a 96% efficacy against moderate dysplasia

HPV VACCINE COMPLETION Rates



HPV Vaccine Completion Rates

- One dose of HPV vaccine (2015)
 - 49.8 % males
 - 62% females
- One dose of tetanus/pertussis
 - 86.4%
- One dose of meningococcal vaccine
 - 81.3%

HPV Completion Rates

- Completion of the vaccine
 - 28.1% males
 - 41.9% females

HPV Vaccine Barriers

- Top reasons for parents not vaccinating their children
 - Not enough information
 - Not receiving a formal recommendation from medical provider!

HPV Vaccine Barriers

- National sample of pediatricians
 - 39% recommended starting the vaccine after the 13th birthday
 - 59% reported only recommended the vaccine if there is a “risk” of HPV infection

HPV Vaccine Barriers

- YOUNG AGE
 - Parents are uncomfortable bringing up sexuality with young children/teens
 - Physicians are uncomfortable bringing up sexuality with young children/teens
 - Especially during well child visits!

HPV Vaccine- Why So Young?

- The goal is to give vaccine before exposure to HPV (before sexual activity)
 - Adolescents and young adults who are sexually active should receive the vaccine

HPV Vaccine- Why So Young?

- HPV prevalence was found to be 33% in 14-19 year old females prior to the introduction of the HPV vaccine
- HPV prevalence was found to be 23% in males aged 15-19 years old

HPV Vaccine- Why So Young?

- Younger teens are also able to produce a better response to the vaccine than older teens and adults

HPV Vaccine- Why so Young?

- HPV vaccine administration
 - 3 doses given over 6 months
 - Only need 2 doses if 14 yrs of age or younger!

HPV Vaccine Contraindication

- Anaphylactic allergy to latex
- Hypersensitivity to yeast
- New illness
 - Ok if have a cold, or diarrhea
- Pregnancy

HPV Vaccine

- Doesn't cause cancer!
- Doesn't cause problems with fertility!
- Doesn't cause learning problems/autism!

Conclusion- HPV Talking Points

- HPV is a very common virus, passed from one person to another during vaginal, oral, and anal sex.
- Most people get HPV, but it usually goes away on its own.
- Most women with HPV do not get cancer.
- If HPV doesn't go away, it can cause precancers that can be treated, or cancers, if the precancers are not caught in time.
- To lower your chances of getting HPV—
 - Use latex condoms the right way every time you have sex, but be aware that condoms may not protect fully against HPV.
 - Be in a mutually monogamous relationship (have sex only with someone who only has sex with you).

Conclusion-Pap Test Talking Point

- Pap test is a screening test for cervical cancer
- It has reduced cervical cancer by over 50%
- This is done in a medical office. It is never done in an emergency room or urgent care
- It takes 3-5 min to complete
- Pap testing should start at age 21 for most women. Women should wait to have symptoms to start pap testing
- An HPV test may be added to a pap test for some women

Conclusion- HPV Vaccine Talking Points

- The vaccine can prevent HPV infection
- While the HPV vaccine offers protection against cervical cancer, about 19% of cervical cancers are not covered by the new 9-valent vaccine. Therefore, it is important to continue getting screened for cervical cancer, even if you have had the HPV vaccine.
- The HPV vaccine is safe. It does not cause HPV.
- Few serious side effects have been reported with the HPV vaccine. Most are minor (injection site pain, low-grade fever, nausea, dizziness, or fainting).
- None of the HPV vaccines contain thimerosal (mercury) or any other preservative.
- There is no evidence that the HPV vaccine encourages sexual activity.

Conclusion- What to ask the Provider

- What tests did you do today?
- How often should pap testing be done?
- Should an HPV test be done?
- Is the HPV vaccine appropriate for me/my child?