

HPV and Cervical Cancer

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What is HPV?

- 1) a virus that can be transmitted by skin to skin contact.
- 2) a neo-soul group from Minnesota
- 3) a hairy purple vine

The Mystery of the Jackalope



The true “Jackalope” A rabbit with Papilloma Virus



What is HPV?

- **Human**

- Only spreads to humans

- **Papilloma**

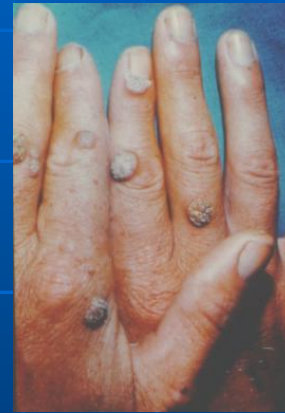
- Tumor or warty growth

- **Virus**

- A tiny microbe that needs a host to survive and reproduce

HPV

- More than 100 types of HPV
 - Various body parts affected by overgrowth of cells.
 - Specific HPV strains infect mouth, hands, feet **OR** genitals



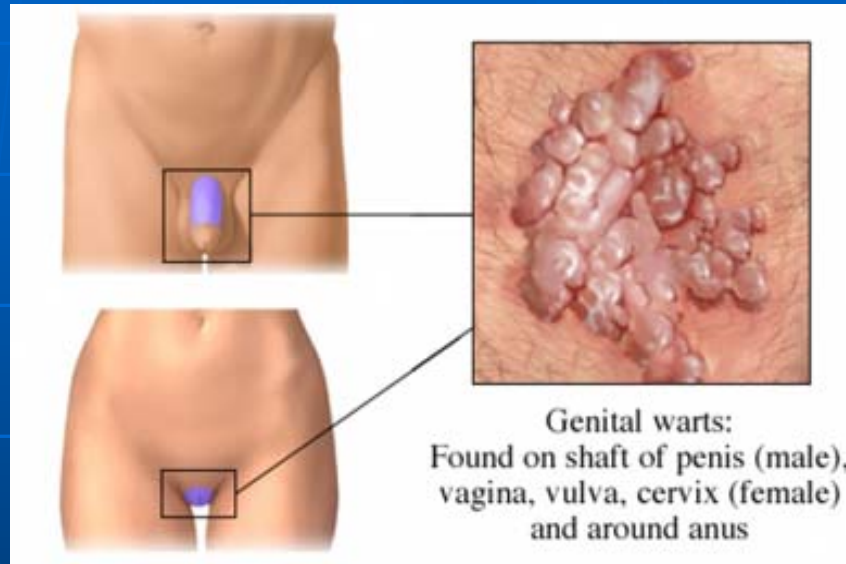
Genital HPV is very common.

- HPV Transmission
- Spread by skin to skin contact.
 - Non-infected skin with microscopic breaks comes into contact with infected skin
- Most common STI in USA
 - 8 out of 10 women get HPV by age 50.
 - 5 out of 10 adults will get HPV during their lifetime.

Genital HPV Symptoms

- Low risk types HPV 6, 11
 - Genital warts

Genital HPV & Warts



90 % of genital warts are caused
by HPV types 6 and 11.



Genital HPV Symptoms

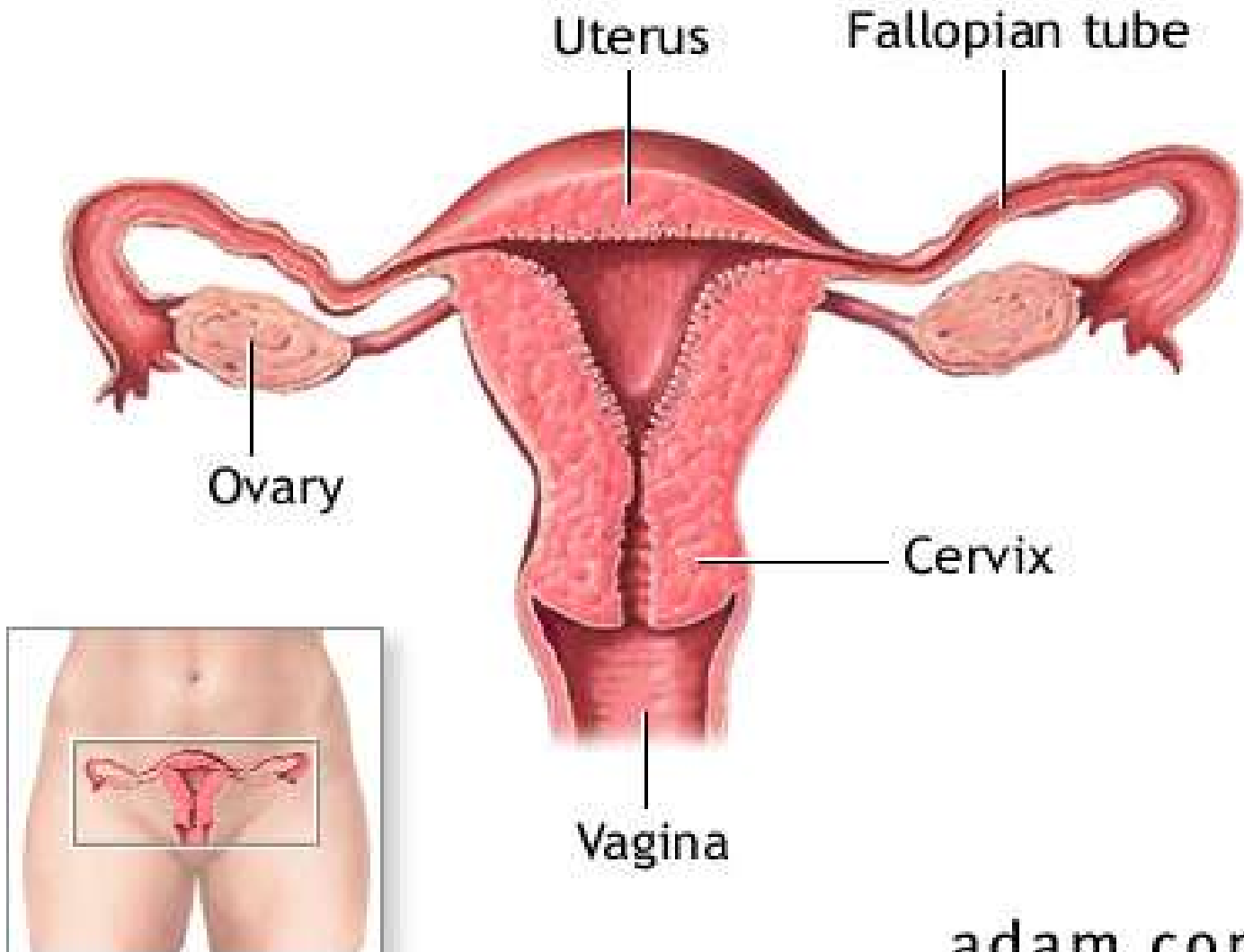
- Cervical cancers and pre-cancers

High risk types 16, 18, 31, 45 ...

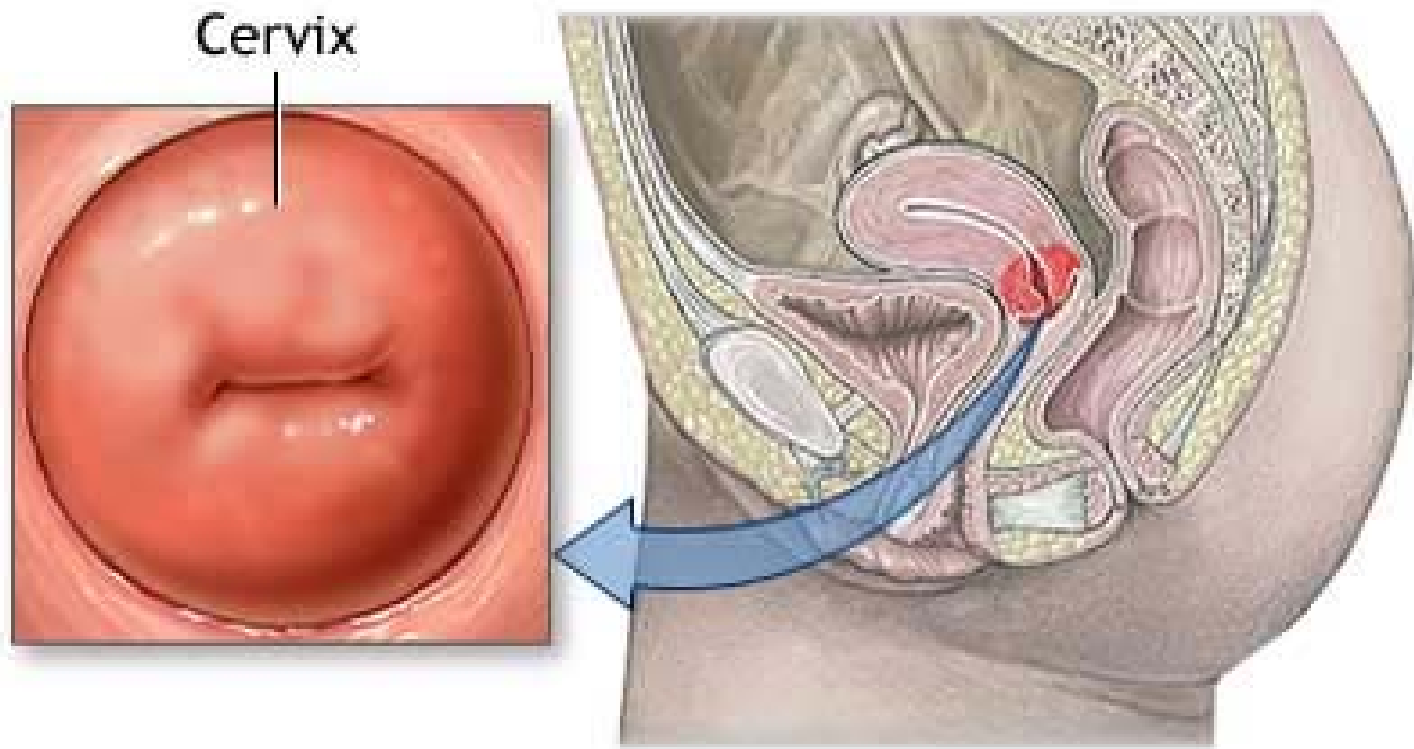
HPV and Cervical Cancer

- High risk HPV is a cancer causing agent (carcinogen) that helps
 - cells in the cervix to become abnormal
 - abnormal cells to overgrow
- HPV and other risk factors increase a woman's risk for cancer.

Where is my Cervix?



Where is my Cervix?

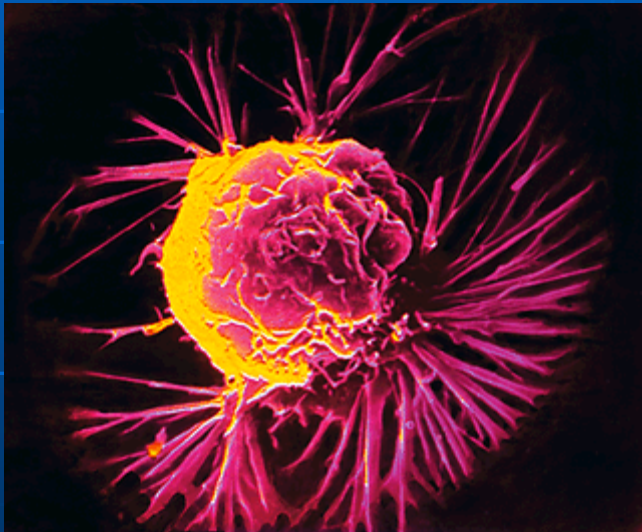




**High Risk Human
Papillomavirus is the cause
of virtually all
cervical cancers.**

- ♦ HPV is a **very common** virus.
- ♦ 70 % of all cervical cancers are caused by HPV 16 and 18.

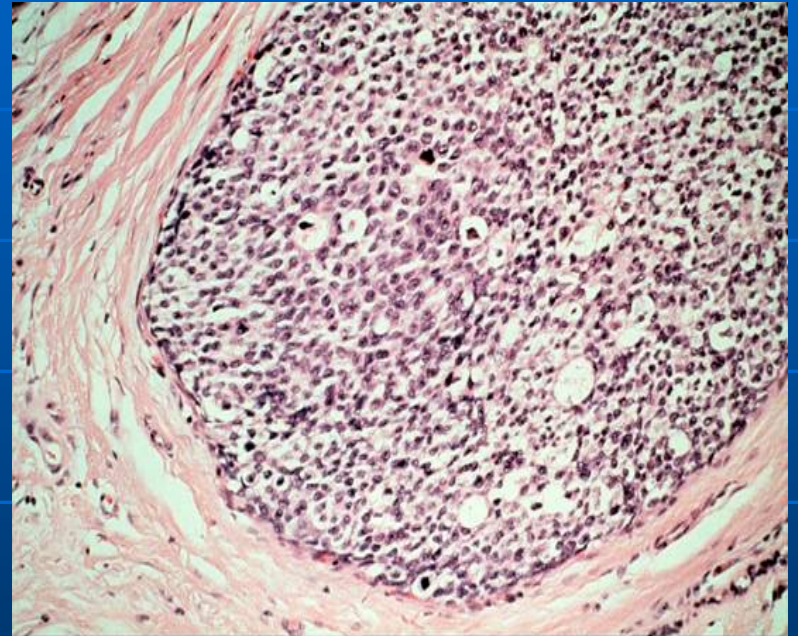
What is cancer?



- Cancer is a disease of the cell
- Cells contain certain genes that control cell growth and reproduction
 - Oncogenes
 - Tumor suppressor genes

What is Cancer?

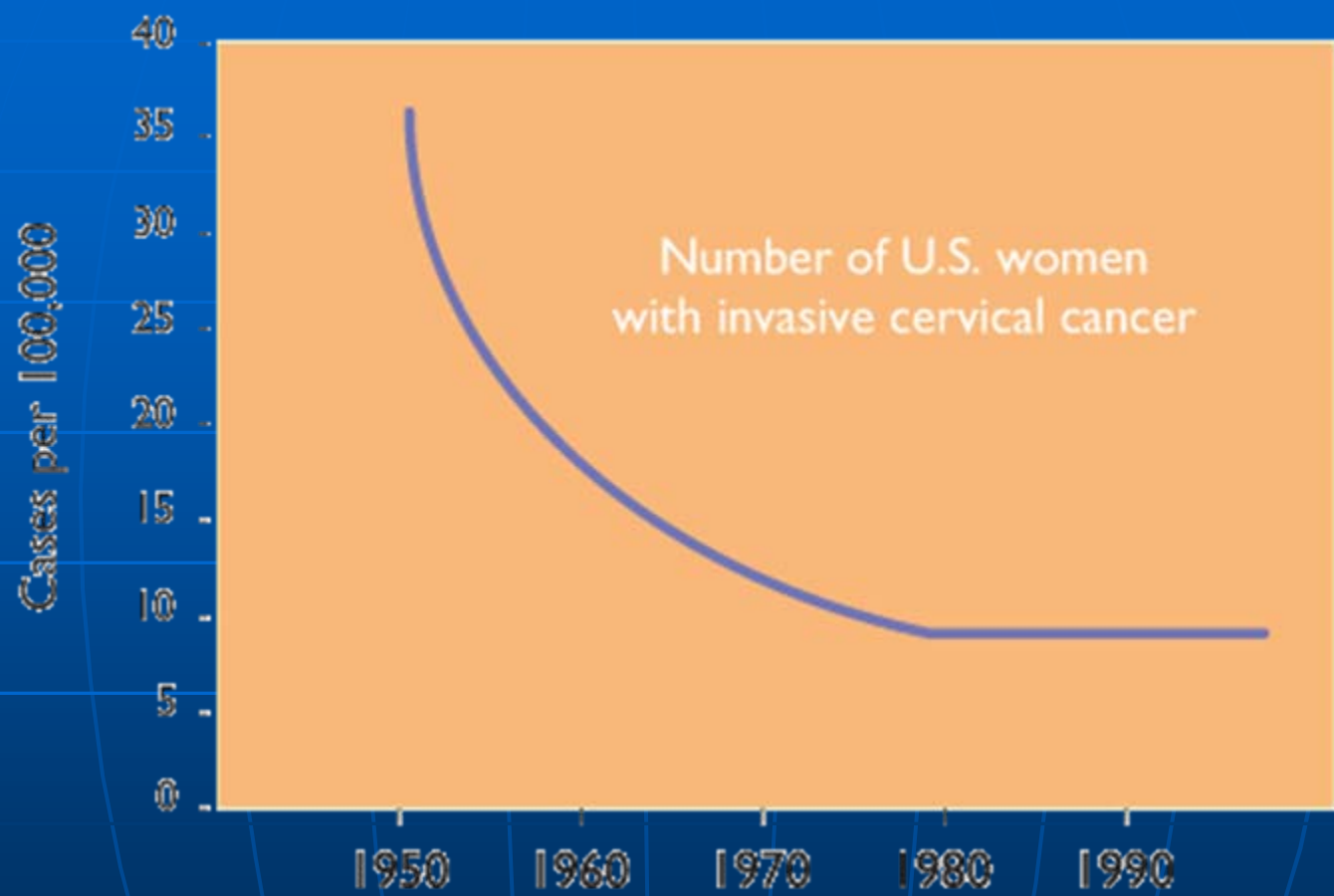
- Cancer happens when these genes become damaged and multiply without control.
- These cells then invade and destroy healthy tissue and endanger life.



Cervical Cancer: Risk Factors

- Lack of regular screening
- Smoking
- Increasing Age
- Suppressed Immune Systems
 - Kidney Transplant
 - HIV





What is a Pap test?

During a pelvic exam, your healthcare provider will take a small sample of cells from your cervix.

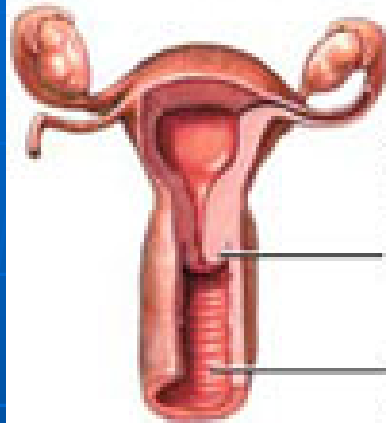


Pap smear:
cells are scraped from the cervix
and examined under a microscope
to check for
disease or other
problems



Cervix viewed
through speculum
with patient in
lithotomy position

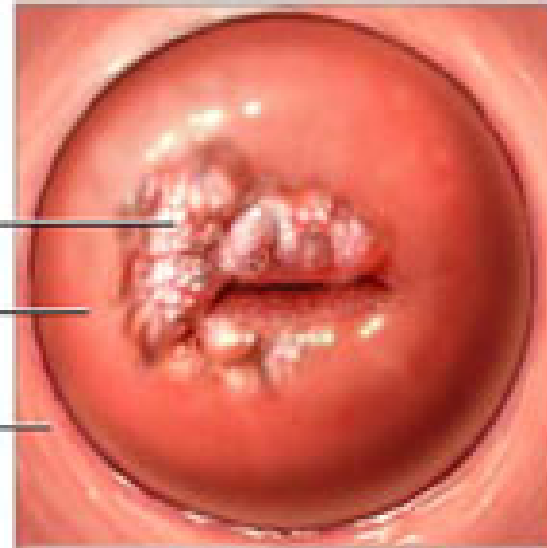
Anterior view



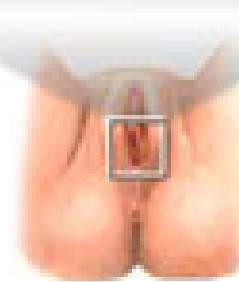
Cancer tissue

Cervix

Vaginal wall



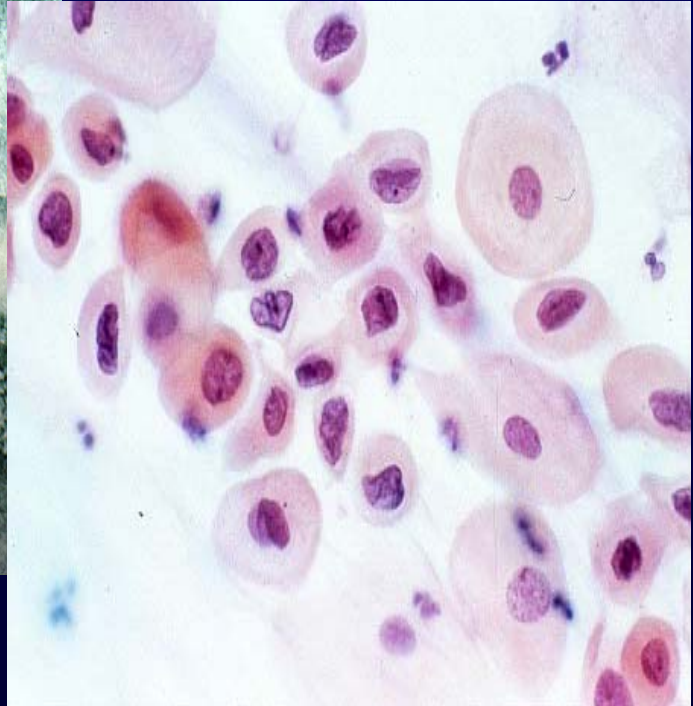
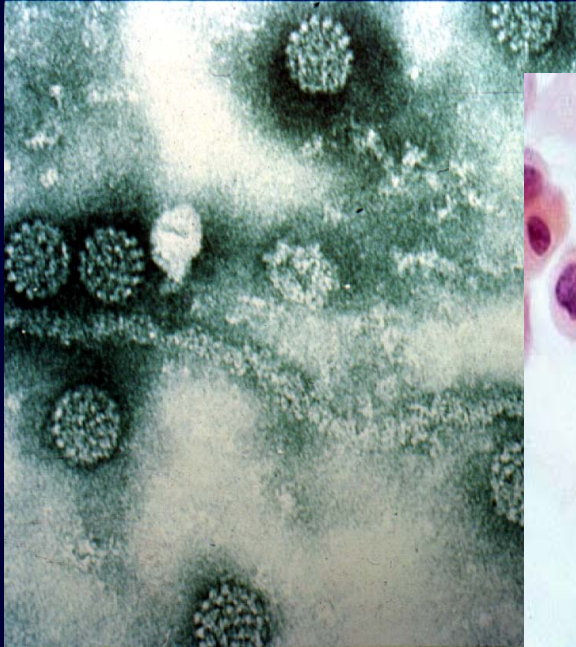
Cervix viewed through speculum with patient in lithotomy position



Cervical Cancer Screening

- Multiple studies have proven the pap test less sensitive than optimal
- Conventional paps are only about 60% accurate
- Liquid based Paps are about 85%





Preparing for your Pap and HPV tests

DON'T

- Have the test(s) during your period.
- Have sex for 48 hours before the test(s).
- Use vaginal creams for 48 hours before the test(s).

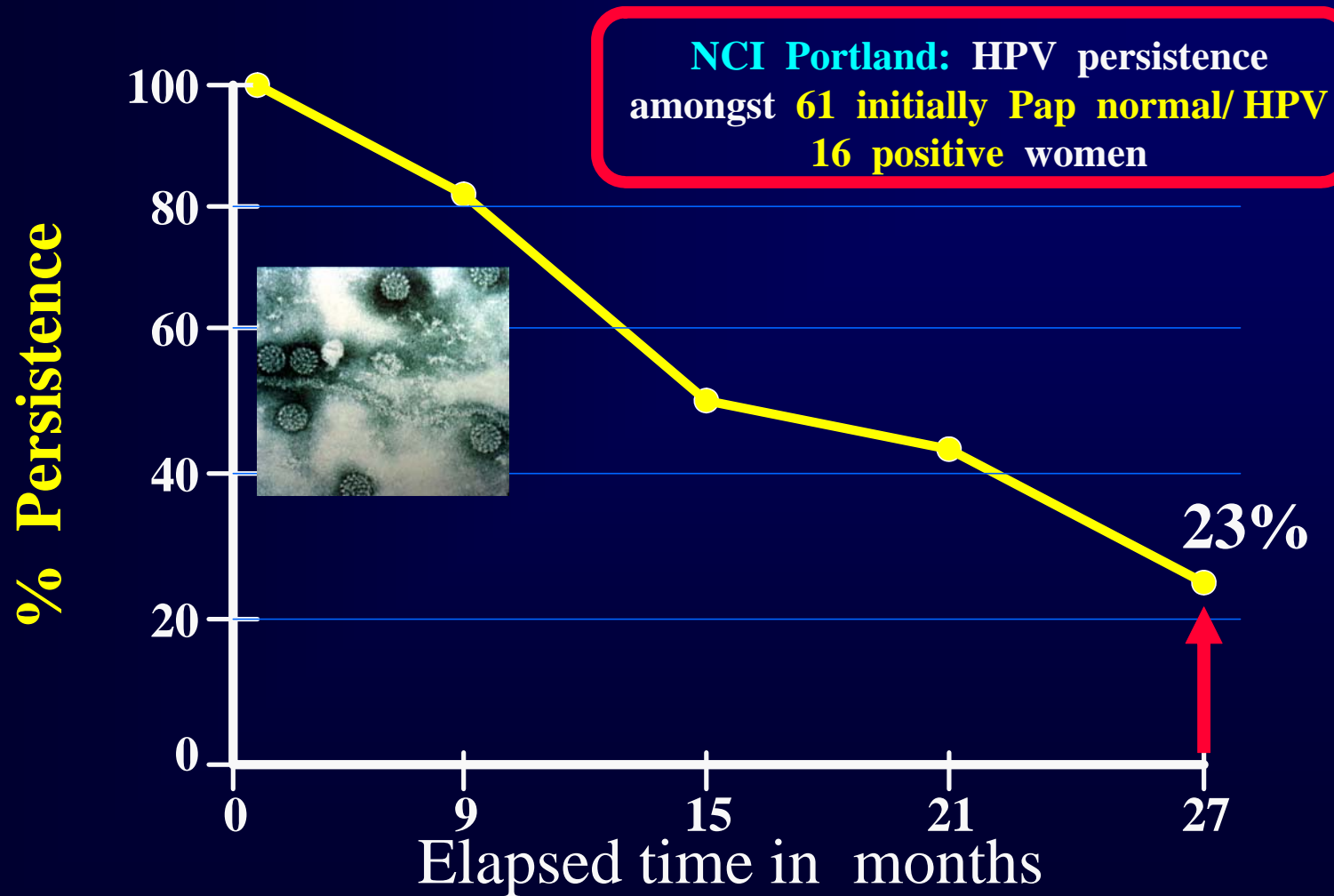


When should I be screened?

- **START GETTING PAP TEST:**
Not before age 21.
- **START GETTING PAP + HPV TEST:** at age 30
- **STOP GETTING PAP + HPV TEST:** Discuss with your doctor.



Most HPV infections are transient



Schiffman M ASCCP 2002 Biennial Orlando, Fl.

HPV

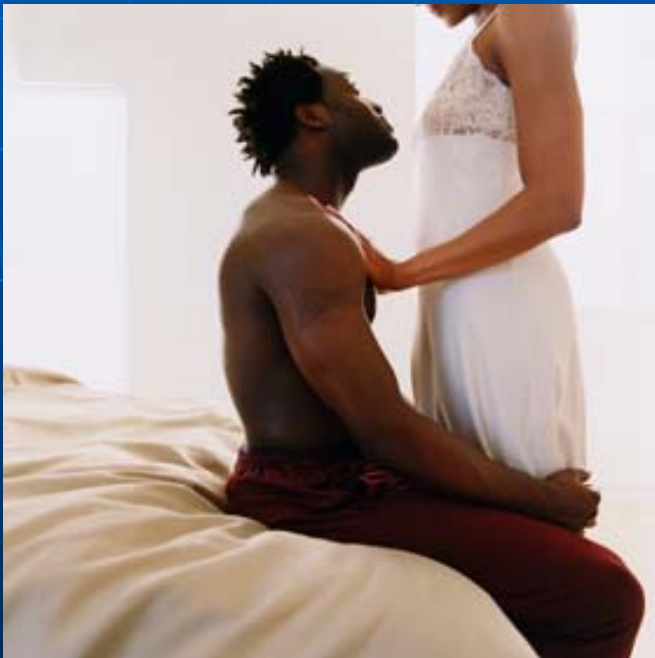
- HPV may be latent (silent) for years or decades
- ***Persistent infection***, most common in women over 30, is necessary for cervical cancers and precancers to develop.

True or False??

- You have to be promiscuous to get HPV

Did my partner cheat on me?

Having HPV does not mean anyone cheated.



- HPV can “hide-out” for years.
- You may have caught HPV when you were younger and your body has not fought it off.
- It is impossible to tell when you got HPV or how long you’ve had it.

What does this mean for my partner?

- Sexual partners can “share” the virus.
- Once you have been infected with one type of the virus, you cannot get the same type again.
- ◆ Men usually have no symptoms of HPV infection.
- ◆ HPV is linked to cancer of the penis and anus, but these cancers are **EXTREMELY** rare.



What can I do?

- Get regular pap tests
- If over 30, get a pap test with an HPV test
- Use condoms
- Avoid exposure to multiple partners
- Consider the vaccine (Gardasil/Cevirex)



What about the vaccine for HPV?

- There are 2 vaccines to prevent HPV infection and cervical cancer.
- Vaccines only cover 2 of the 13 types of HPV linked to cervical cancer.
 - Getting your Pap test and HPV test will still be needed to stay healthy.

Cervical Cancer Vaccine

- Prevents cervical cancer and pre-cancers caused by HPV 16 and 18
 - 70% (Gardasil)
- Prevents genital warts caused by HPV 6 and 11
 - 90% (Gardasil and Cevirex)

HPV Vaccine

- How does it work?

The Immune System

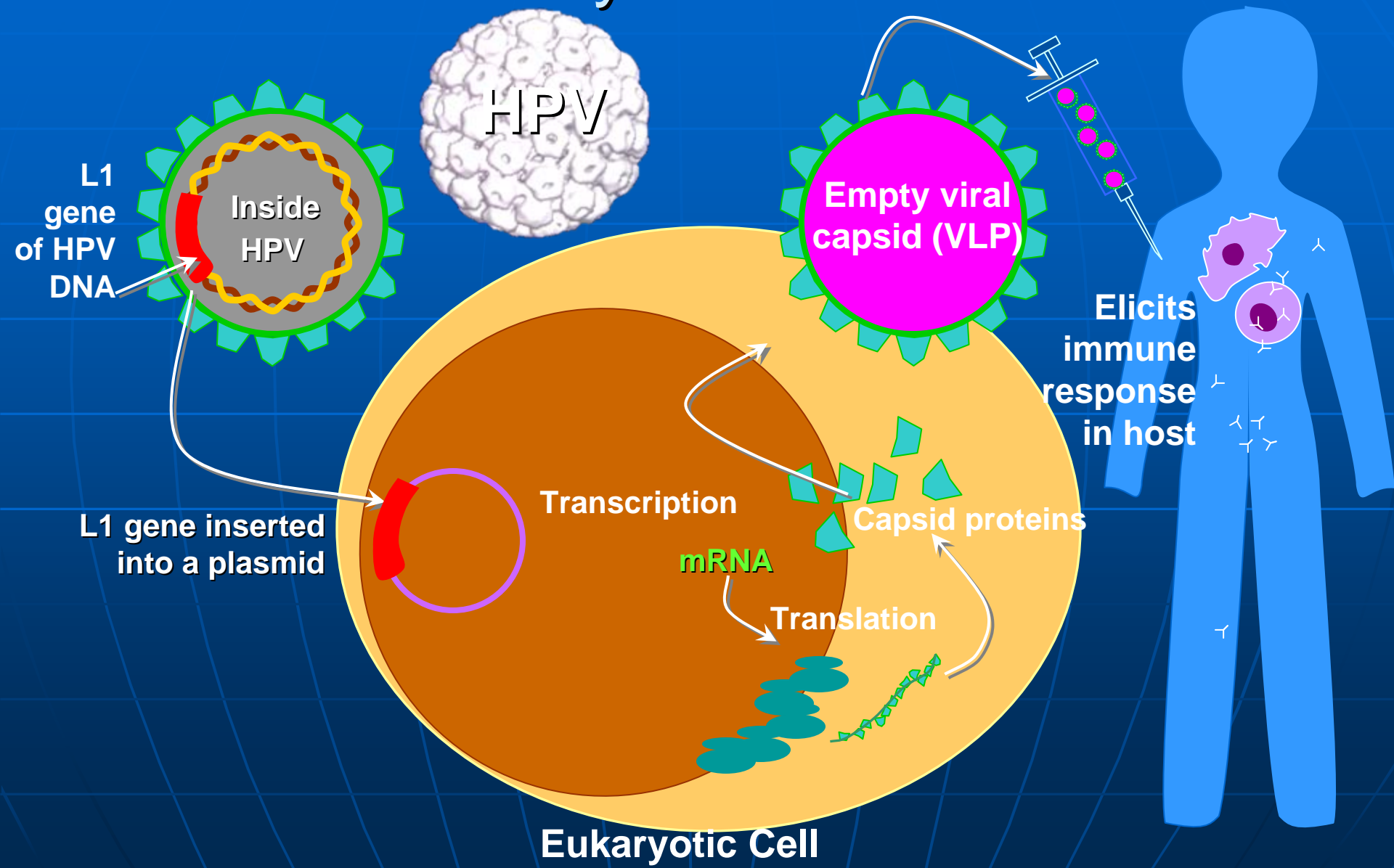
- Bacteria, viruses and other germs threaten your body every day.
- Your immune system mounts a defense when an infection causing microorganism enters your body
- The goal of your immune system is to prevent illness by destroying the foreign invader or rendering it harmless.

Understanding Immunity

Your body can become immune to virus or bacteria

- By getting an infection (natural immunity)
 - By getting a vaccine (vaccine induced immunity)
-
- Once you have immunity from an infection causing organism you are better protected from becoming ill.

HPV L1 Virus-Like-Particle (VLP) Vaccine Synthesis





Who is the vaccine for?

- Girls aged 11-12 years old (as young as age 9)
- Girls from 13 to 26 years old
- Cervarix may be indicated for older women

How much does it cost?

- The vaccine is given in 3 doses within a 6 month period (at 0, 1, 6 months).
- Vaccine costs: $3 \times \$ 120 = \360
- Vaccine cost should be covered by:
 - Federal programs that gives free vaccines to low income children under age 18.
 - private insurance.



Vaccine Safety

- The vaccine is not a live virus
 - there is no chance that you could get an infection from the vaccine.
- There is no evidence that vaccine affects fertility or the reproductive tract.

Side effects

- Localized pain
- Swelling
- Headache
- Fever
- ??? New onset auto-immune disease
- ???new onset chronic disease

True or False?

- Now that we have the vaccine, we don't ever have to see the gyn

True or False?

- Now that we have the vaccine, we don't ever have to see the gyn

FALSE!

The Vaccine

- Only protects against 70% of cervical cancers
- We must continue to get Pap smears to screen for the other 30%

Vaccine can also prevent:

- Anogenital cancers and pre-cancers
- Anogenital warts
- Recurrent Respiratory Papillomatosis
- 20% Head and Neck Cancers

Vaccine Questions

- Boosters?
- Use in older women
 - Younger girls
 - Boys?
- Effect on non-vaccine type HPVs
- Effectiveness in women who are possibly already exposed

Things we do know

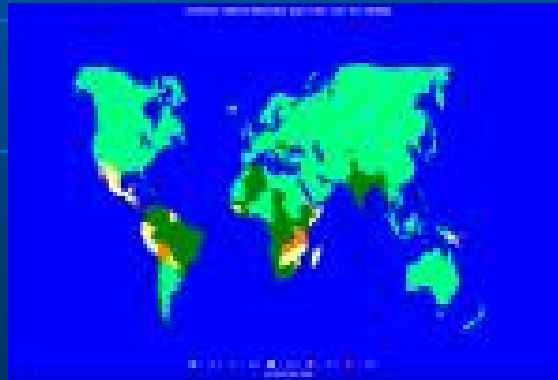
- HPV is the cause of cervical cancer
- All women (people) are at risk
- The virus is sneaky and can hide out for years
- We can absolutely prevent this disease

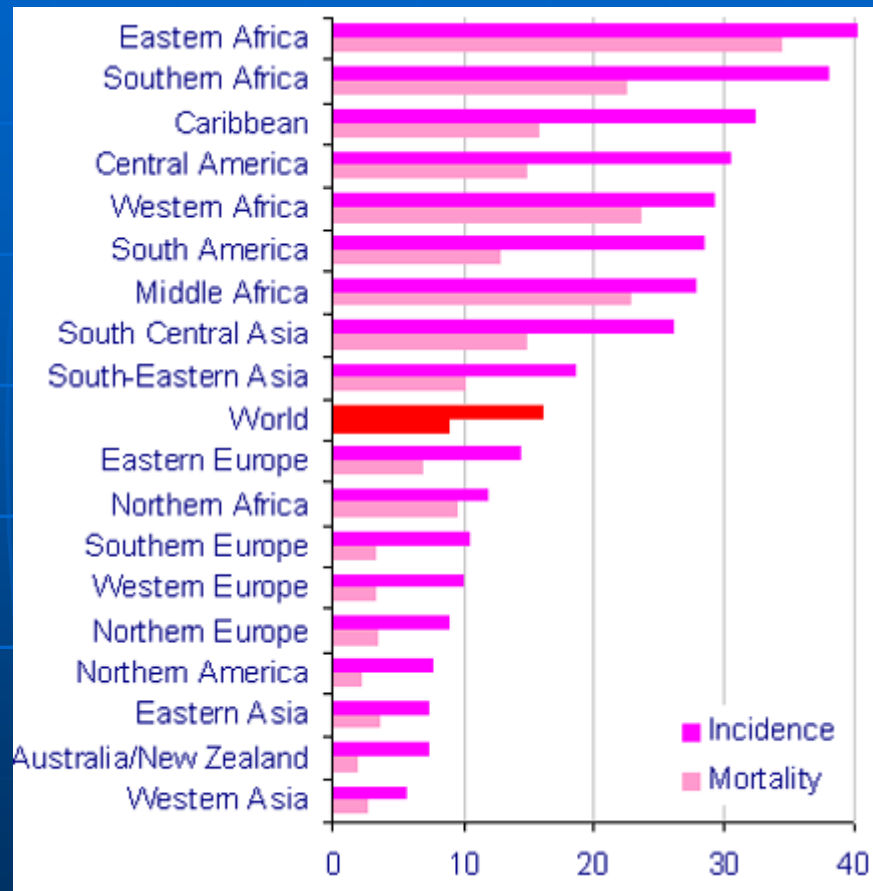
Key Points

- We can prevent the effects of HPV (warts and Cervical cancer)
By: 1) becoming aware of the cause
2) catching changes before they become cancer. (Pap+ HPV)
3) prevent infection thru safe sexual practices(?) and vaccination

Prevalence of Cervical Cancer

- Worldwide about 500,000 women will be affected by cervical cancer in 2011
- 250,000, will die this year







TELL EVERYONE

Cervical Cancer is 100%
Preventable!!!

To learn more about HPV and Cervical Cancer,
please visit our website:

www.theisisproject.org