

# SOUTH FLORIDA SE AIDS EDUCATION & TRAINING CENTER

## Oral Lesions and HIV



Southeast AIDS  
Education &  
Training Center



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## **Mark Schweizer, DDS MPH**

Director of Development and Special Projects

Nova Southeastern University College of Dental Medicine

Dental Director South Florida Southeast AIDS Education and Training Center



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# Objectives

- Evaluate common oral manifestations related to HIV
- Understand current therapies for oral conditions

# Oral Health and HIV

- 90% of PLWHA have a chronic oral condition
- 32-46 percent of PLWHA will have at least one major HIV-related oral health problem.
- 58-68 percent PLWHA do not receive regular health care.
- Barriers PLWHA face in receiving oral health care include lack of insurance, limited incomes, lack of providers, stigma, and limited awareness.
- Poor oral health can impede food intake and nutrition, leading to poor absorption of HIV medications and leaving PLWHA susceptible to progression of their disease.<sup>4</sup>
- HIV medications have side effects such as dry mouth, which predisposes PLWHA to dental decay, periodontal disease, and fungal infections.



## **The most frequent oral lesions detected are:**

- **Oral pseudomembranous candidiasis (80.0%)**
- **Periodontal disease (40.0%),**
- **Herpetic lesions (16.0%)**
- **Hairy leukoplakia (16.0%),**
- **Gingivitis (20.0%)**
- **Oral ulceration (12.0%)**
- **Kaposi's sarcoma (8.0%),**



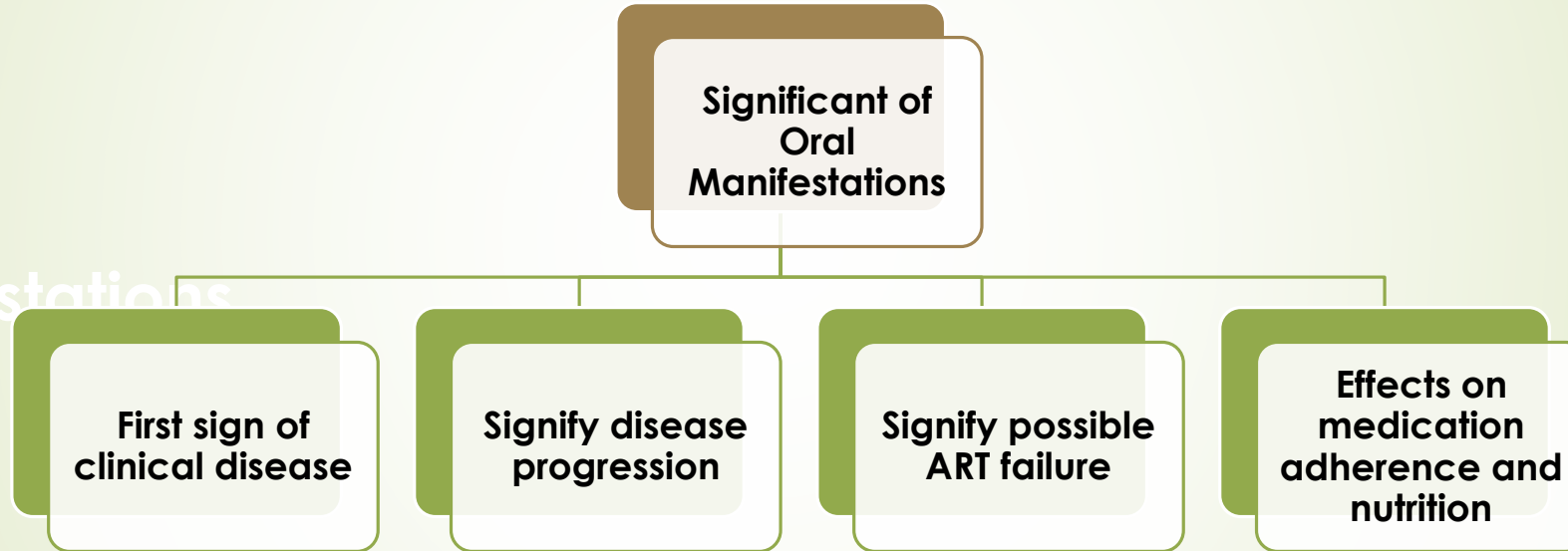
# Oral Health and HIV

- Bacterial infections (i.e., dental decay and periodontal disease) that begin in the mouth can escalate to systemic infections and harm the heart and other organs if not treated, particularly in PLWHA with severely compromised immune systems.
- A history of chronic periodontal disease can disrupt diabetic control and lead to a significant increase in the risk of delivering preterm low-birthweight babies.
- Poor oral health can adversely affect quality of life and limit career opportunities and social contact as result of facial appearance and odor.

[http://hab.hrsa.gov/about/hab/files/oral\\_health\\_fact\\_sheet.pdf](http://hab.hrsa.gov/about/hab/files/oral_health_fact_sheet.pdf)  
Accessed March 28,2016

# Oral Manifestations of HIV

Oral  
Manifestations  
of HIV





# Oral Manifestations of HIV

**Dental expertise is necessary for proper management of oral complications in HIV infection and AIDS.**

**The manifestation of oral lesions during the course of HIV infection holds distinct connotations at different stages of the disease.**

**For individuals with unknown HIV status, oral manifestations may suggest possible HIV infection, although these are not diagnostic of infection.**

**For persons living with HIV disease who are not yet on therapy, the presence of certain oral manifestations may signal the progression of HIV disease**

**For patients on antiretroviral therapy, the presence of certain oral manifestations may signal an increase in the plasma HIV 1 RNA level.**

# Oral Manifestations of HIV

## In the Era of ART

### Decreasing:

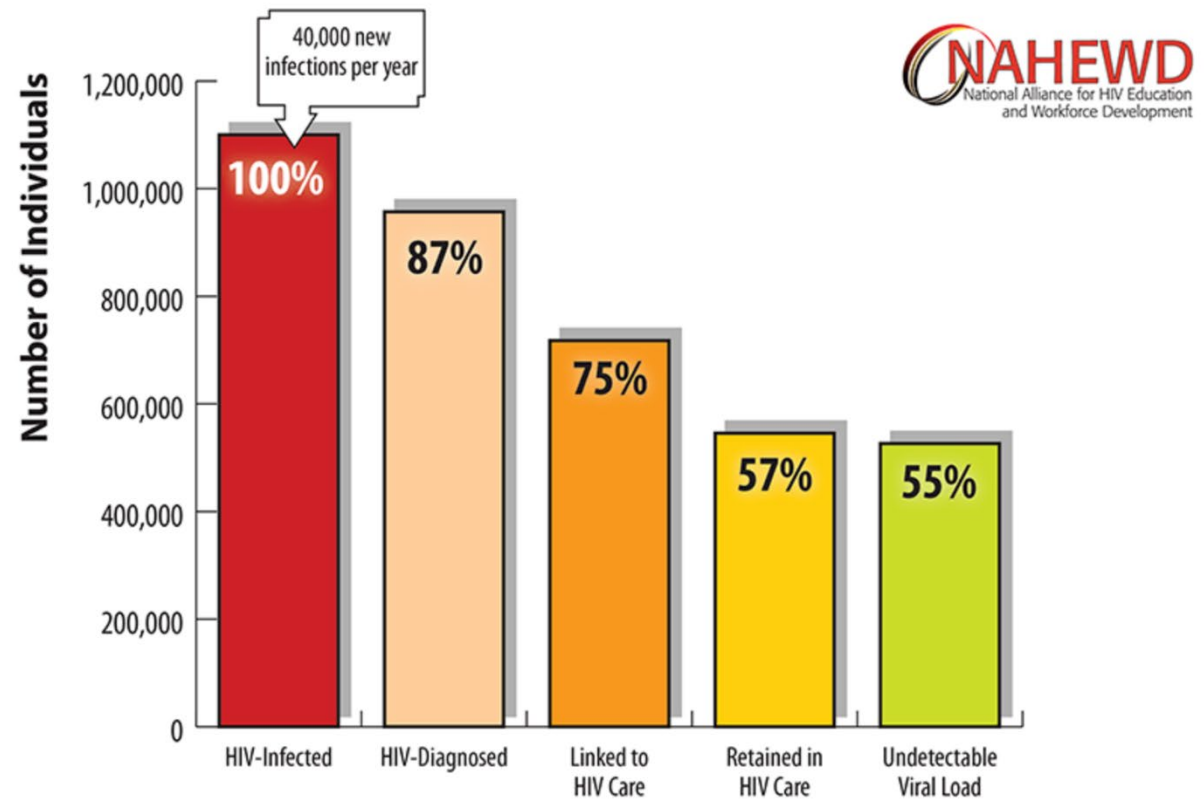
- Candidiasis
- Necrotizing Gingivitis
- Kaposi's Sarcoma
- Oral Hairy Leukoplakia

### Increasing:

- Dental Decay/Periodontal Disease
- Oral HPV



# The U.S. HIV Care Continuum<sup>1</sup>



# Oral Manifestations of HIV

Oral candidiasis and oral hairy leukoplakia appear to be the first and the second most common oral opportunistic infections associated with HIV.

# Oropharyngeal Candidiasis (OPC)

The most common HIV related oral lesion is Candidiasis, predominantly due to infection by *Candida albicans*.

Non albicans species such as *C. glabrata*, *C. tropicalis*, *C. krusei* and *C. kefyr* have been reported in 1% to 20% of HIV infected patients.

It is often the initial manifestation of symptomatic infection with HIV, and may simply imply concurrent esophageal candidiasis, which is an AIDS indicator lesion, or also be a predictor of the likelihood of other opportunistic infections.

Baccaglini L, Atkinson JC, Patton LL, Glick M, Ficarra G, Peterson DE. Management of oral lesions in HIV positive patients. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2007;103(suppl1):s50.e1



# Oropharyngeal Candidiasis (OPC)

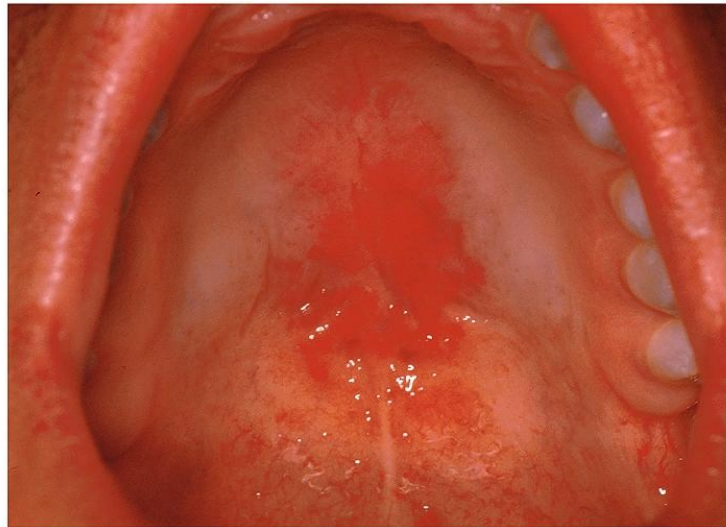
**Pseudomembranous candidiasis:** Acknowledged as the most common variant, it presents as creamy, white, curd like plaques on the oral mucosa or tongue which can be wiped away, leaving a red erythematous surface. Patients may complain of soreness or burning in the mouth





# Oropharyngeal Candidiasis (OPC)

**Erythematous candidiasis:** It presents as a red, flat, subtle lesion on the dorsum of tongue. A kissing lesion occurs when the lesion present on the tongue has a matching counterpart on the hard or soft palate where it comes in contact. The lesion is often symptomatic, with burning mouth sensations.



<https://images.search.yahoo.com/yhs/search?p=erthematgous+candidiasis&fr=yhs-mozilla-003&hspart=mozilla&hsimp=yhs->

# Oropharyngeal Candidiasis (OPC)

**Hypertrophic Candidiasis:** Thick white plaques that cannot be readily removed may indicate the presence of hyperplastic candidiasis. This may occur concurrently with oral hairy leukoplakia.

**Angular Cheilitis:** It presents as cracking, fissuring, ulceration or erythema of the corners of the mouth, and may occur with or without the presence of erythematous or pseudomembranous candidiasis. It tends to persist for long periods of time without treatment.



# Oropharyngeal Candidiasis (OPC) Treatment

**Early treatment of oral candidiasis is warranted not only because of the discomfort caused by the lesions, but also because the foci may act as reservoirs of organisms for local spread of disease.**

**It takes longer to eradicate candidiasis in HIV infected population, and relapse rates are high.**

**High fungal counts and smoking appear to increase the tendency for poor response.**

**Use of topical agents for treatment of OPC is recommended as initial therapy, more so owing to concerns of drug interactions between systemic antifungals and antiretroviral therapy.**

# Oropharyngeal Candidiasis (OPC) Treatment

Topical antifungal agents include nystatin, clotrimazole, amphotericin B which can be delivered as oral suspensions, troches or tablets. Systemic therapy with ketoconazole, fluconazole, or Itraconazole is indicated in recurrent cases.

Two treatment options:

**1. Clotrimazole Troche 10mg Disp 70**

Dissolve 1 troche in mouth 5 times per day until gone, leave any prosthesis out during treatment and soak in nystatin liquid suspension overnight.

**2. Nystatin Tablets Disp 30**

Dissolve 1 tablet in mouth until gone, 4 times per day or Nystatin

Oral Suspension Disp 300ml

Use 1 teaspoonful for 2 minutes 4 times per day and expectorate

All of these have a high amount of sucrose so may present a high risk of caries with continued use.



# Periodontal Disease

Over the last 30 years, severe PD has been associated with HIV infection. Although antiretroviral therapy (ART) preserves and restores immune function and prevents the development of opportunistic infections, individuals with sustained virologic suppression continue to experience an increased incidence of age-related comorbidities (including PD) with synergistic effects on survival and quality of life. The determinants, course, and impact on other comorbid conditions of severe PD in the setting of ART remain a matter of controversy.

PD and HIV infection were associated with significant microbiome changes within anatomic sampling sites.

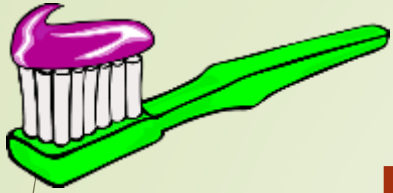
**Links between Periodontal Disease and other disease states/Diabetes/Heart Disease/Stroke**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5371436/>



Necrotizing ulcerative gingivitis





## Periodontal Disease in the Era of ART

Shift of prevalence towards periodontal diseases.

Lack of oral hygiene determined by plaque formation and reduced CD4-counts with pronounced periodontal inflammation can be seen as risk factors for periodontal disease. There is an increase in periodontal inflammation markers in patients with HIV.

Increased Prevalence of oral lesions and periodontal diseases in HIV-infected patients on antiretroviral therapy.

Overall high prevalence of manifestations underlines the importance of oral examination for the general practitioner and visits by oral specialists should become a routine procedure in HIV-patients care.

[Kroidl A<sup>1</sup>](#), [Schaeben A](#), [Oette M](#), [Wettstein M](#), [Herfordt A](#), [Häussinger D](#). [Eur J Med Res](#). 2005 Oct 18;10(10):448-53. Accessed December 12, 2015.

# What can we do?

## Periodontal Disease

- **Amoxicillin 250mg 3 x/day with Metronidazole 250mg 3X/day x 5-7days**
- **Antimicrobial rinses (0.12% Chlorhexidine) 15cc 2xday x 14days**
- **Concurrent Antifungal maybe necessary**
- **Stress oral home care for clients and routine dental care**

# Herpes simplex virus 1 and 2 (HSV-1; HSV-2)

## Herpes Simplex 1 and 2

- Vesicular lesions which rupture becoming painful, irregular ulcerations;
- HSV-1 (oral; perioral) and HSV-2 (genital) infection clinically identical
- most oral lesions are caused by HSV-1; an HSV-2 etiology usually secondary to oral-genital contact
- Must be sub-typed in lab



# Herpes simplex virus 1 and 2 (HSV-1; HSV-2)

## Herpes Simplex 1 and 2

- Intraorally, usually found on tissue bound to bone, e.g. hard palate
- Herpetic lesion lasting longer than 30 days is an AIDS defining lesion





# Herpes simplex virus 1 and 2 (HSV-1; HSV-2)

## TREATMENT

- **Acyclovir: 400mg tablet TID for 10 days**
- **Famciclovir: 500mg tablet TID for 10 days**
- **Valacyclovir: 1g tablet BID for 10 days**
- **Topical Penciclovir 1%**
- **50/50 mixture Liquid Benadryl & Maalox: swish and expectorate (palliative)**
- **Campho-Phenique®; Herpecin® (OTC)**

# Oral Hairy Leukoplakia



Hairy leukoplakia (also known as oral hairy leukoplakia, or HIV-associated hairy leukoplakia), is a white patch on the side of the tongue with a corrugated or hairy appearance. It is caused by Epstein-Barr virus (EBV) and occurs usually in persons who are immunocompromised especially those with HIV/AIDS). This white lesion cannot be scraped off. The lesion itself is benign and does not require any treatment, although its appearance may have diagnostic and prognostic implications for the underlying condition.

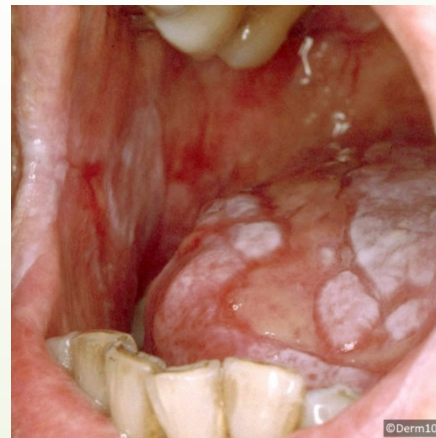


<http://diseasespictures.com/oral-hairy-leukoplakia>

Walling DM 2003 (PMID 12964120) Moura MD 2010 (PMID 20813564)



Treatment is not necessary since the lesion is benign, however the person may have esthetic concerns about the appearance. The condition often resolves rapidly with high dose acyclovir or desiclovir but recurs once this therapy is stopped, or as the underlying immunocompromised condition worsens. Topical use of podophyllum resin or retinoid as also been reported to produce temporary remission. Antiretroviral drugs such as zidovudine may be effective in producing a significant regression of OHL. Recurrence of the lesion may also signify that ART is becoming ineffective.



# Oral Manifestations of HIV

## Human Papilloma Virus

- About 7% of Americans have oral HPV. That's far fewer than the number who have the genital version, which is the most common sexually transmitted disease in the U.S.
- Every day in the US, about 12,000 people ages 15 to 24 are infected with HPV. Approximately 26 million Americans on any given day have an oral HPV infection. Of those approximately 2600 are HPV16 the strain that can lead to oral cancer.
- The vast majority of individuals will clear the virus naturally through their own immune response, and never know that they were exposed or had it.

<http://oralcancerfoundation.org/hpv/hpv-oral-cancer-facts.php>

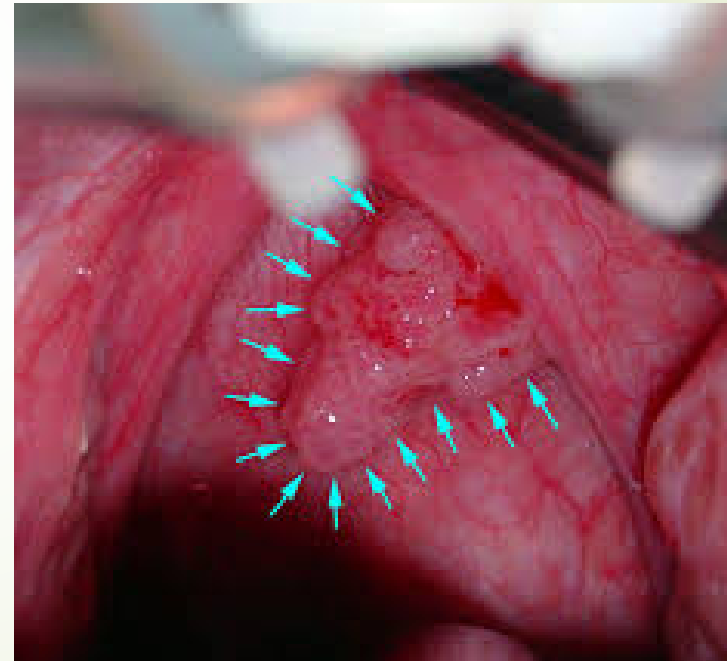
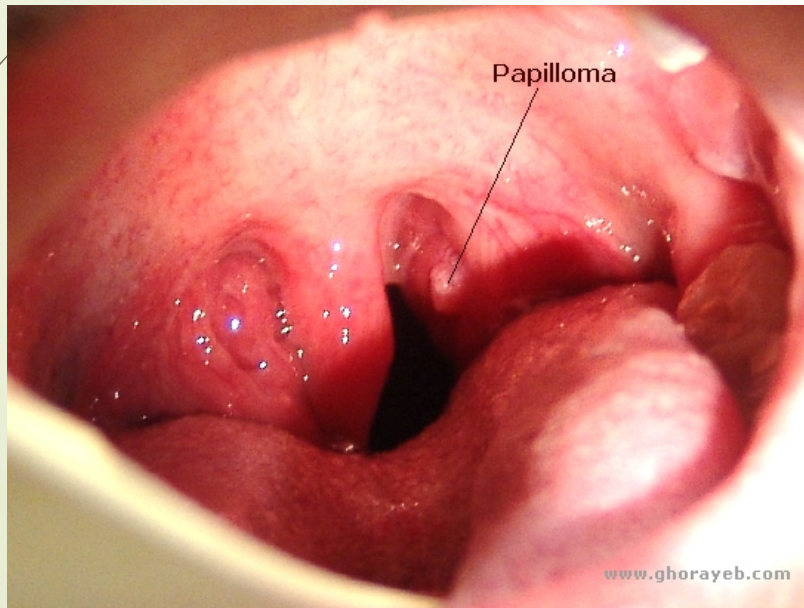
# Human Papilloma Virus

- About one in nine American men is infected with the oral form of human papillomavirus (HPV), according to a [new study](#) published in the journal *Annals of Internal Medicine*. Nationwide, rates for oral HPV infections are 11.5% of men and 3.2% of women: 11 million men, compared with 3.2 million women, the researchers estimated.
- Annually, an average of 38,793 cases of HPV-related cancer -- 59% of them in men and 41% in women -- were diagnosed in the United States
- Oropharyngeal squamous cell carcinoma was far more likely to strike men: 12,638 cases diagnosed in men each year, compared with just 3,100 cases in women.
- It is the most common of all the HPV-related cancers, and its incidence among men (7.8 per 100,000) now surpasses incidence rates of cervical cancer among women (7.4 per 100,000). Cervical cancer is known to be caused by HPV.



# Human Papilloma Virus

- Men who have had multiple sex partners, men who reported having sex with men, and men with genital HPV infections were found to have the highest rates of oral HPV



# Human Papilloma Virus



- Possible spread through Oral Sex and French Kissing



**Men** are at increased risk for oral human papillomavirus (HPV) infection if their **female** sex partners have oral and/or genital HPV infections

# Human Papilloma Virus





# Human Papilloma Virus

## Initial signs

- trouble with swallowing.
- coughing up blood
- a lump on the neck or in the cheek, or
- hoarseness that doesn't go away

Unfortunately, these are late signs of the disease.

## Other potential signs and symptoms of oral cancers are

- sore throat
- a white or red patch on the tonsils
- jaw pain or swelling, and
- numbness of the tongue, among others

These signs don't necessarily mean that you have cancer, but if any signs are present for longer than 2 weeks, you should see your doctor.

# Human Papilloma Virus

Tonsillar HPV infection can cause oropharyngeal cancer.

An increase in the incidence of oropharyngeal cancer has paralleled the increased prevalence of tonsillar HPV infection. However,

The vast majority of people with tonsillar HPV infections do not develop cancer because the subtypes of HPV with which they are infected are not linked to development of cancer. Although millions of Americans have tonsillar HPV, fewer than 15,000 get HPV-positive oropharyngeal cancers annually.

Many oropharyngeal cancers are not related to HPV infection but rather with tobacco and alcohol use. People with HPV-positive oropharyngeal cancers tend to be younger and are less likely to be smokers and drinkers.

# Human Papilloma Virus

- There is no test that can find early signs of HPV infection of the throat. Some cancerous or precancerous tonsillar HPV lesions may be detected during screening or examination by a dentist or doctor, but most are found by testing in persons who already have signs or symptoms.
- To inspect hard-to-see areas of the throat, larynx (voice box), and the base of the tongue, doctors may use instruments called laryngoscopes or pharyngoscopes together with small mirrors
- Perform a **biopsy** of areas that look suspicious for cancer. A biopsy is a small sample of cells taken with a thin, hollow needle. The cells are then viewed under a microscope to look for signs of cancer. Biopsy samples from throat cancers may be tested for the presence of HPV DNA. The presence of HPV DNA signals a cancer that is more responsive to treatment than one that is HPV-negative

# Human Papilloma Virus

## How is an oral HPV-positive cancer treated?

The treatment of choice is either chemotherapy or radiation therapy up front, or surgery followed by radiation therapy with or without the addition of chemotherapy. Radiation therapy involves the delivery of high levels of radiation to kill cancer cells or to keep them from growing and dividing. Chemotherapy is a cancer treatment used most often to describe drugs that kill cancer cells directly.

After surgery to remove an oropharyngeal cancer, further surgery may be needed to reconstruct parts of the oral cavity that were removed as part of the treatment.

## What is the prognosis?

Fortunately, HPV-positive oropharyngeal cancers have better outcomes and fewer relapses after treatment than HPV-negative cancers. In patients with oropharyngeal cancer treated with radiation and chemotherapy, survival was longer among those with HPV-positive tumors vs. HPV-negative tumors.



# Human Papilloma Virus

The only surefire way to prevent it is to abstain from sex. Although vaccines have been developed that reduce the risk of infection with subtypes of HPV that are known to cause cervical cancer, their effect in preventing oropharyngeal cancers linked to the same HPV subtypes is unknown.

These vaccines are prophylactic vaccines in that they may prevent HPV infection (they do not treat an existing infection), and thus are recommended before a person is sexually active.

# Human Papilloma Virus in patients with HIV

Oral warts are caused by human papillomavirus (HPV) and may appear anywhere within the oral cavity or on the lips. They occur more frequently and more extensively in people with HIV infection than in those with normal immune function, especially in patients with advancing immune suppression (CD4 counts of  $<200-300$  cells/ $\mu\text{L}$ ).

Oral warts may be refractory to therapy.

The frequency of oral warts may increase, at least temporarily, in patients treated with antiretroviral therapy.





HPV vaccine is recommended for routine vaccination at age 11 to 12 years

Recommends vaccination for females aged 13 through 26 and males aged 13 through 21 years not vaccinated previously

Vaccination is also recommended through age 26 years for men who have sex with men and for immunocompromised persons (including those with HIV infection) if not vaccinated.

**NEW RECOMMENDATION: The vaccine that prevents the human papillomavirus, HPV, has been approved by the Food and Drug Administration for men and women 27 to 45 years old.**

# Kaposi's Sarcoma

- HHV-8 is a recently discovered herpesvirus that been found to be a co-factor in AIDS related as well as non-AIDS related KS
- This reactive lesion is a malignant neoplasm of blood vessels; usually red to purple or bluish-red in appearance



# Kaposi's Sarcoma

- First clinical appearance may be firm purple to brown macules or papules. Lesion becomes more exophytic (and red to bluish-red) in appearance as it progresses
- Notice flat, purple lesion intraorally becoming more exophytic as it progresses extraorally from labial mucosa to vermillion border



# Kaposi's Sarcoma

Differential diagnosis includes: hemangioma; melanoma; bacillary angiomatosis; pyogenic granuloma

Treatment: Intralesional sclerosis agents like Vinblastine; Cryotherapy; Radiation therapy; Laser or Surgical removal

**It has been found that potent antiretroviral drug combinations that suppress HIV replication reduce the frequency of KS in HIV-infected individuals**







We are available for clinical consultations and trainings

