



Oral Lesions and HIV

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Objectives

- Describe the current demographic of HIV in the United States
- Understand the shift in Oral Lesions in the era of ART
- Evaluate common oral manifestations related to HIV
- Understand current therapies for oral conditions
- Evaluate current data for the relationship between COVID-19 and Oral Health

HIV:

1.2 million people in the US are living with HIV

1 in 7 are not aware of their status and have not been diagnosed

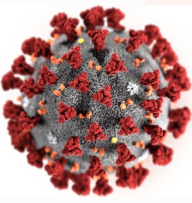


There are 40,00 new diagnoses of HIV per year

The latest estimates indicate that effective HIV prevention and treatment are not adequately reaching those who could most benefit from them, and certain groups such as men who have sex with men (MSM), transgender persons, African Americans, and Hispanic/Latinx individuals continue to be disproportionately affected. Additionally, the highest rates of new HIV infection continue to occur in the South.

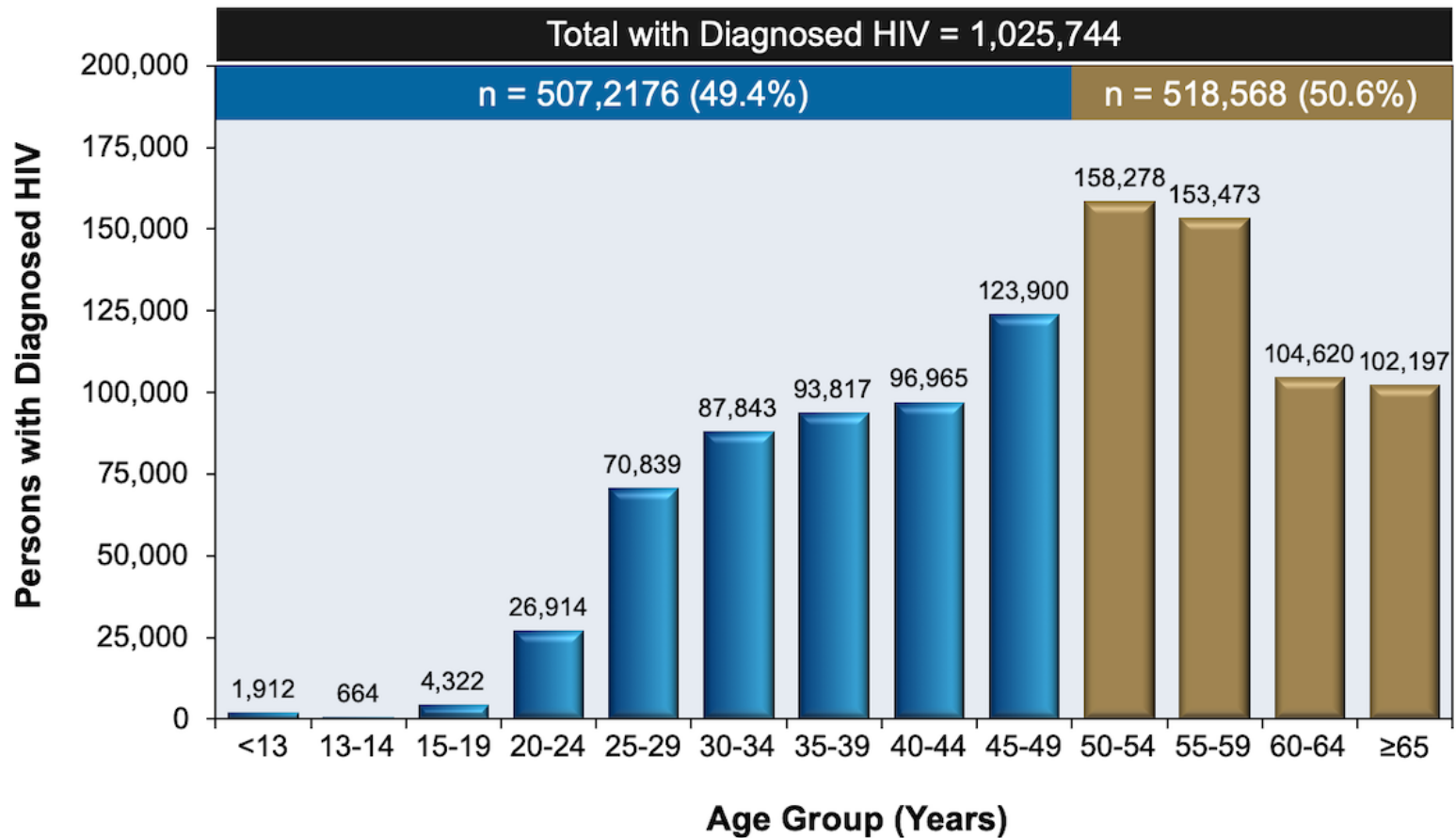
COVID-19:

29.7 million cases

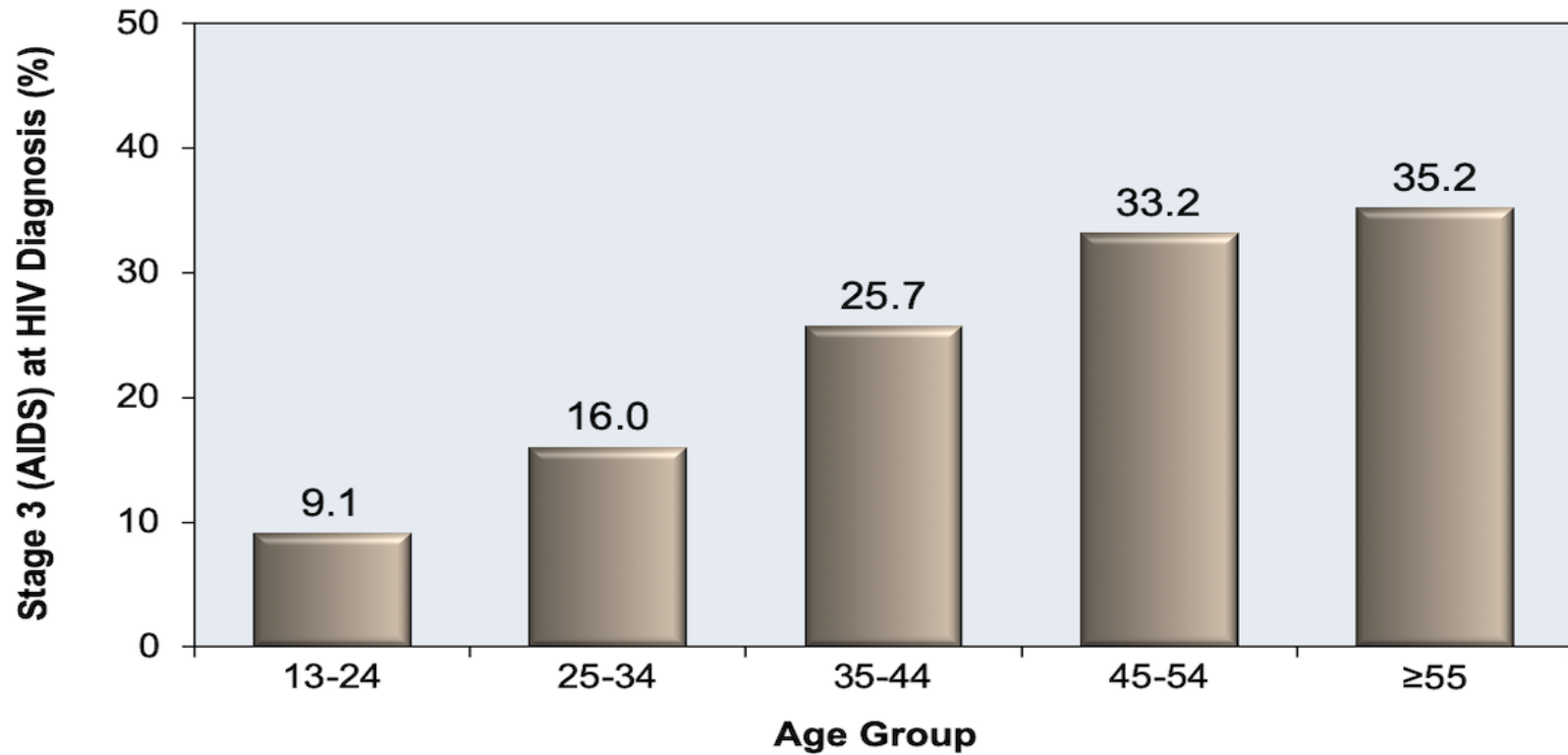


550,000 deaths

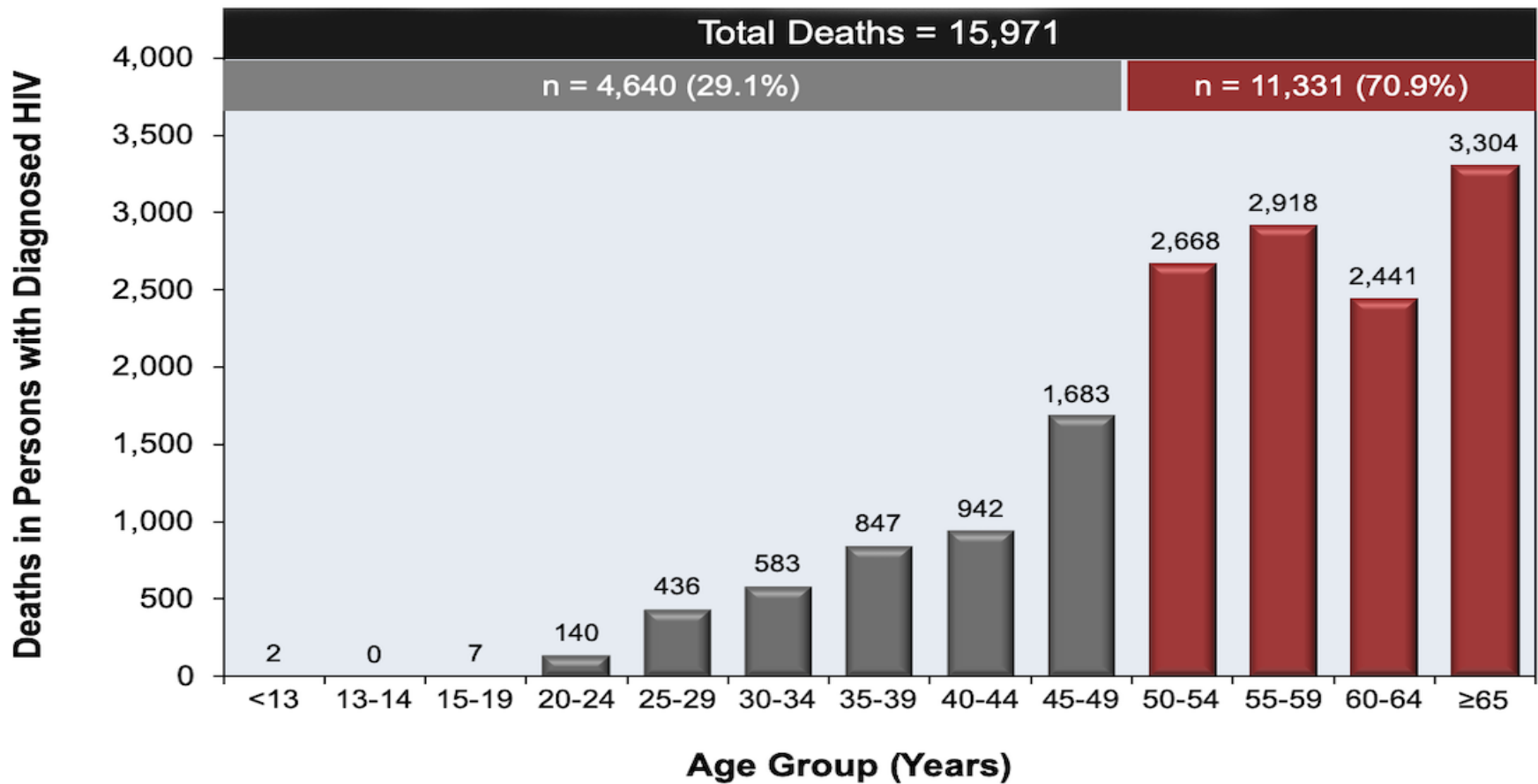
Changes in the HIV Landscape



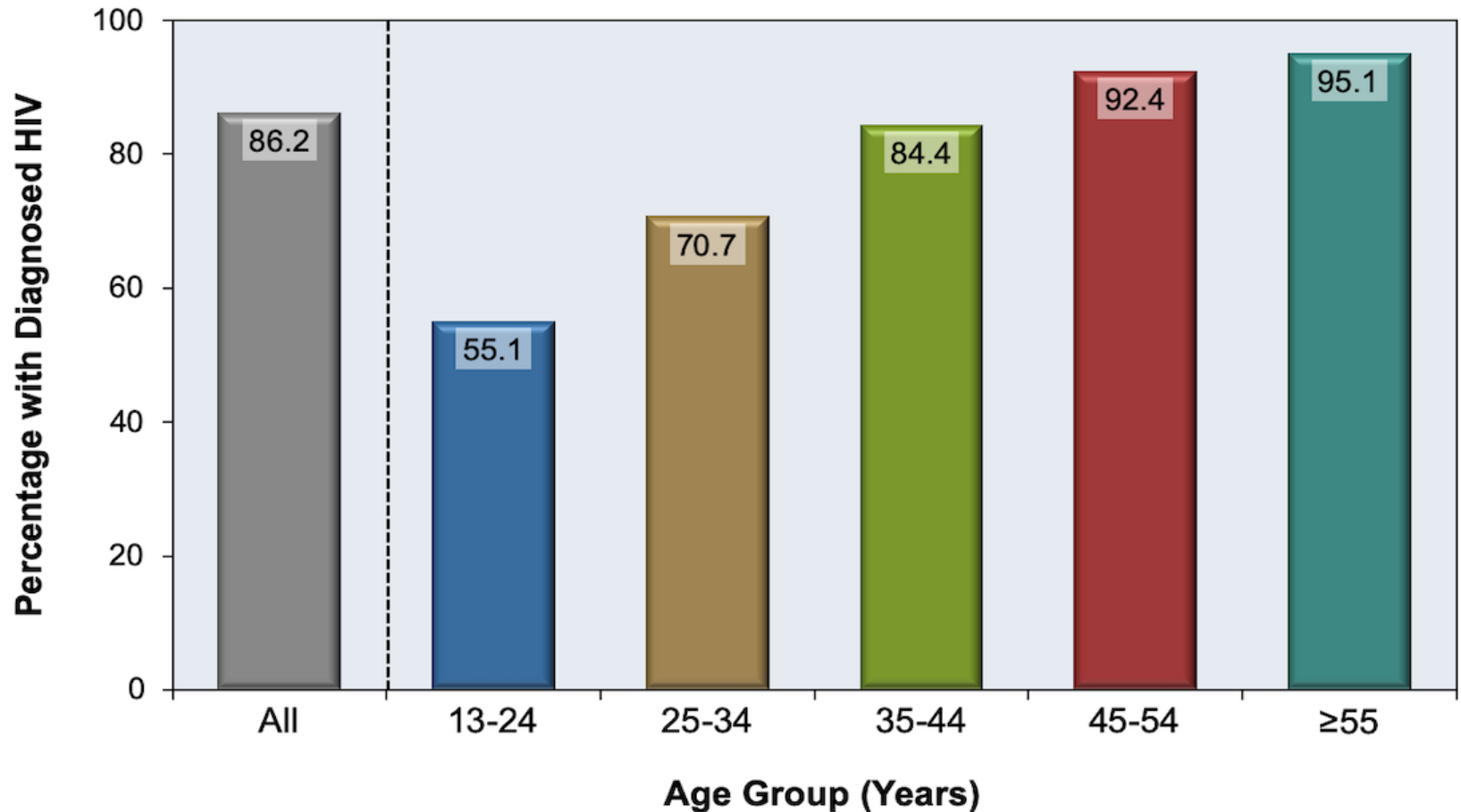
HIV Diagnosis



Death Rates



The importance of Testing and Education





HIV and Oral Health

- People with human immunodeficiency virus (HIV), the virus that causes acquired immunodeficiency syndrome (AIDS), are at special risk for oral health problems.
- People with HIV/AIDS have an increased risk for oral health problems because HIV/AIDS weakens the immune system and makes it harder to fight off infection.
- The relationship between oral health and overall health is well established.

Oral Health and HIV

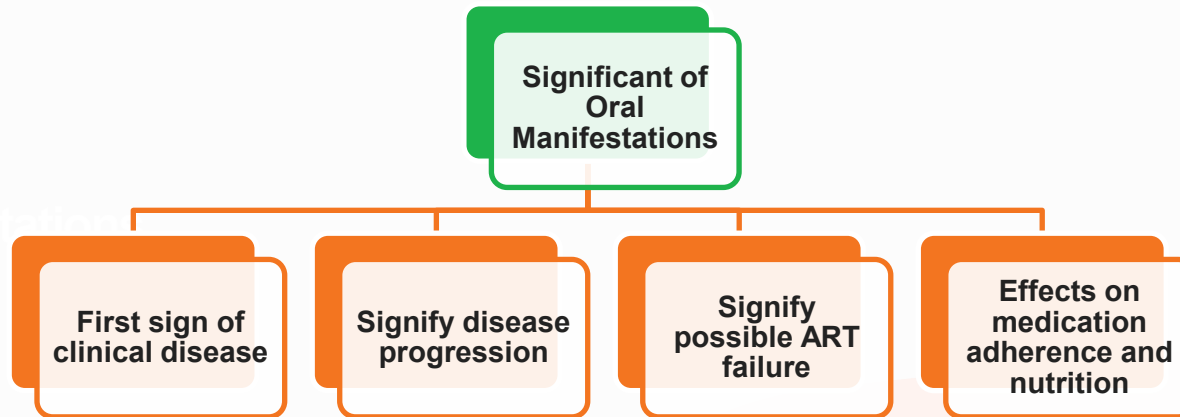
- **90% of PLWHA have a chronic oral condition**
- **32-46 percent of PLWHA will have at least one major HIV-related oral health problem.**
- **58-68 percent PLWHA do not receive regular health care.**
- **Barriers PLWHA face in receiving oral health care include lack of insurance, limited incomes, lack 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.⁴**
- **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 Manifestations of HIV

Oral
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of HIV



Oral Manifestations of HIV

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



Oral manifestations	HAART group in %	Non-HAART group in %
Oral manifestations	32	56
Hyper pigmentations	14	10
Apthous stomatitis	8	9
Nonspecific ulcer	4	7
Pseudomembranous candidiasis	2	8
Erythematous candidiasis	00	4
Periodontitis	2	14
Angular cheilitis	00	4
Xerostomia	2	00

Periodontal Disease

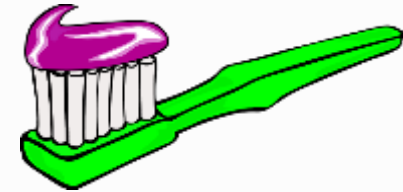
Over the last 30 years, severe PD has been associated with HIV infection. Although antiretroviral therapy (ART) preserves and restores immune function and prevents the development of opportunistic infections, individuals with sustained virologic suppression continue to experience an increased incidence 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/>

Periodontal Disease



Shift of prevalence towards periodontal diseases.

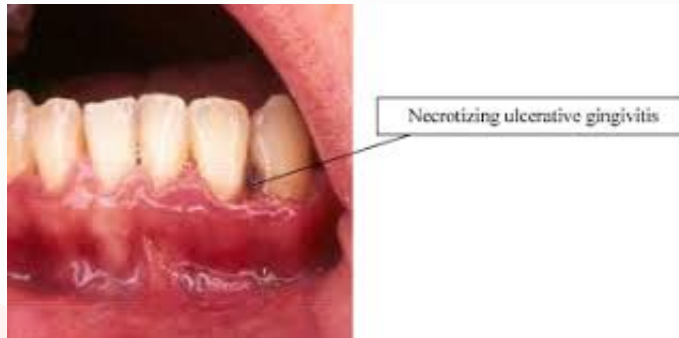
Lack of oral hygiene determined by plaque formation and reduced CD4-counts with pronounced periodontal is seen as risk factors for periodontal disease.

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.

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



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**
- **Monitor Viral Load and CD4**

Human Papilloma Virus

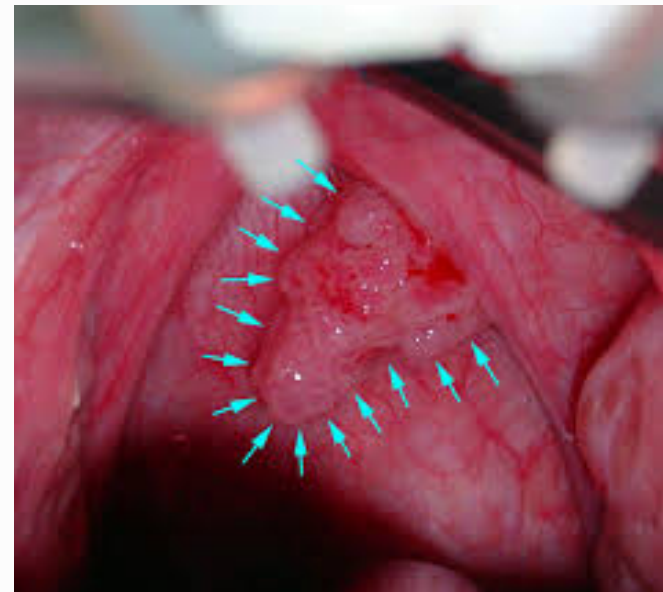
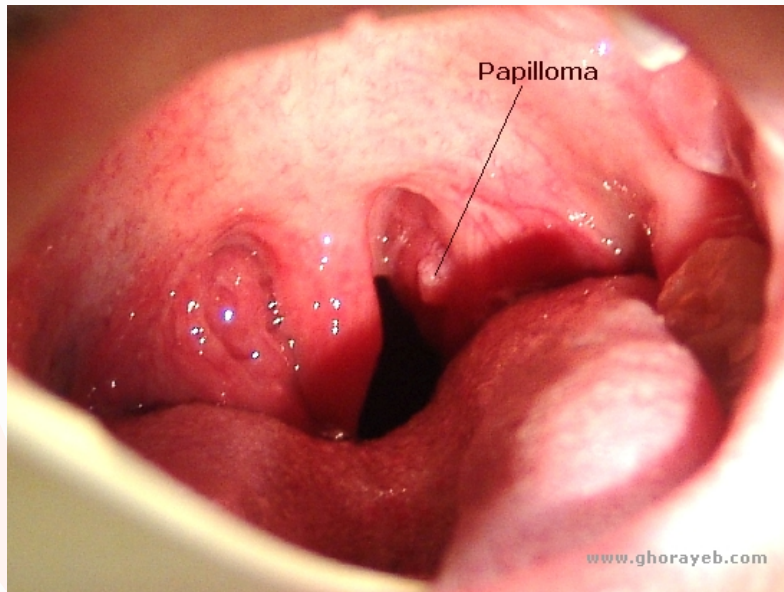
- About 7% of Americans have oral HPV. That's far fewer than the number who have the genital version, which is the most common sexually transmitted disease in the U.S.
- Every day in the US, about 12,000 people ages 15 to 24 are infected with HPV. Approximately 26 million Americans on any given day have 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>

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- **About one in nine American men is infected with the oral form of human papillomavirus (HPV), according to 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.**



- **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**

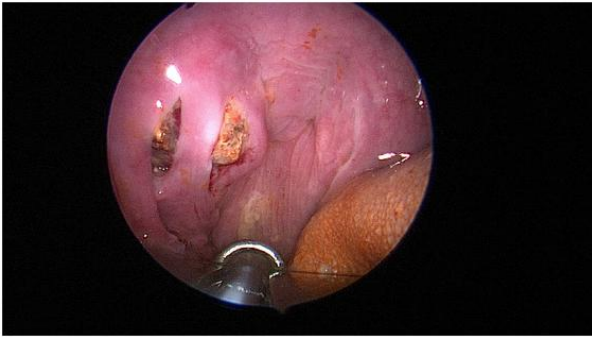


- Possible spread through
- Oral Sex and French Kissing

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



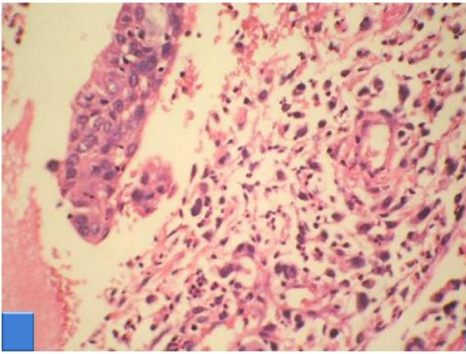


Tonsillar HPV infection can cause oropharyngeal cancer.

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.



- 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

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.

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.

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/ μ L).

Oral warts may be refractory to therapy.

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

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

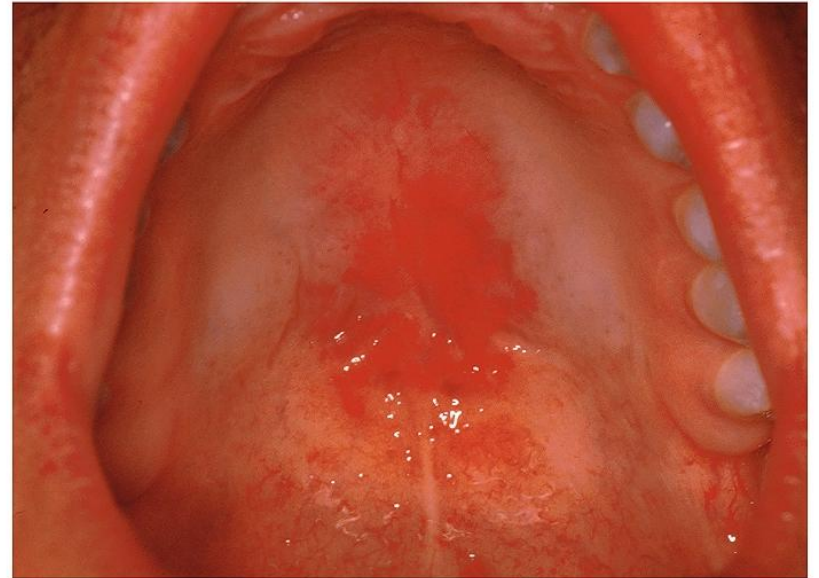
Oropharyngeal Candidiasis (OPC)

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.

Baccaglioni L, Atkinson JC, Patton LL, Glick M, Ficarra G, Perterson 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) 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.

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

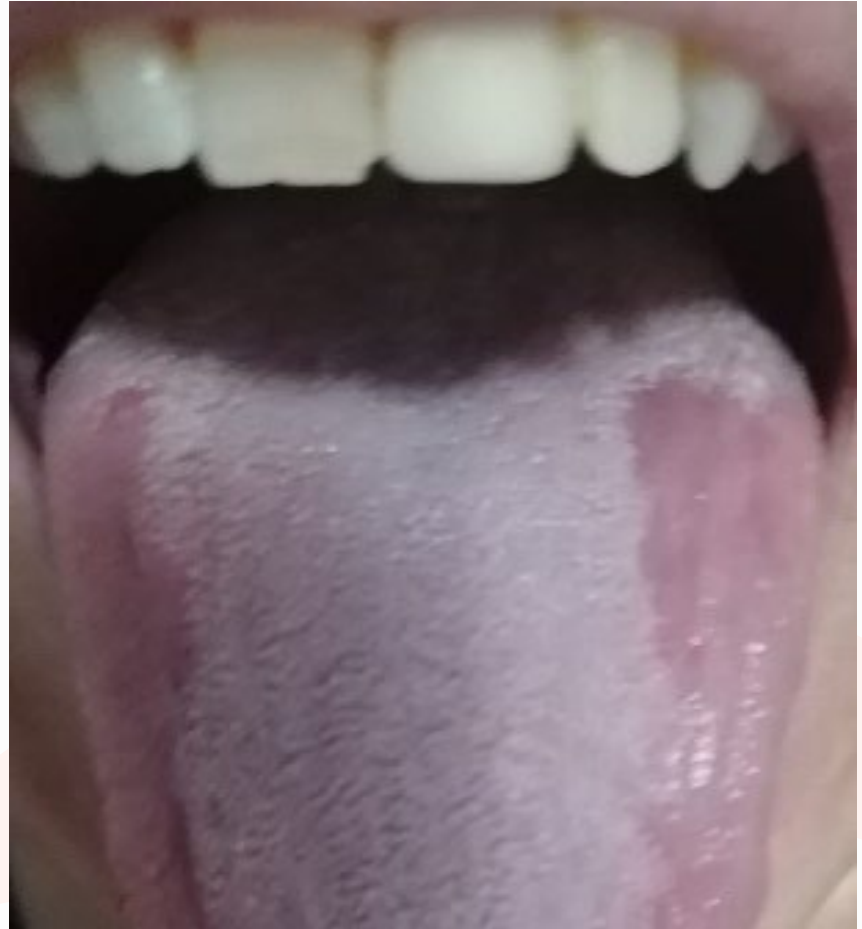
All of these have a high amount of sucrose so may present a high risk of caries with continued use.

COVID-19 and HIV

- **Researchers are still learning about COVID-19 and how it affects people with HIV. Based on [limited data](#), scientists believe people with HIV who are on effective HIV treatment have the same risk for COVID-19 as people who do not have HIV.**
- **Older adults and people of any age who have serious underlying medical conditions might be at [increased risk](#) for severe illness. This includes people who have weakened immune systems. The risk for people with HIV getting very sick is greatest in people with a low CD4 cell count and people not on effective HIV treatment (antiretroviral therapy or ART).**
- **Read CDC's FAQs about [COVID-19 vaccines and people with HIV](#) and [steps people with HIV can take to prevent getting COVID-19 and transmitting it to others](#)**

COVID-19 and Oral Lesions

- Many articles have been published regarding the spread of the virus and the role that saliva plays in its transmission and diagnosis
- During this period, despite the implications of saliva for virus transmission and the possibility of salivary glands as a reservoir, few oral manifestations have been reported



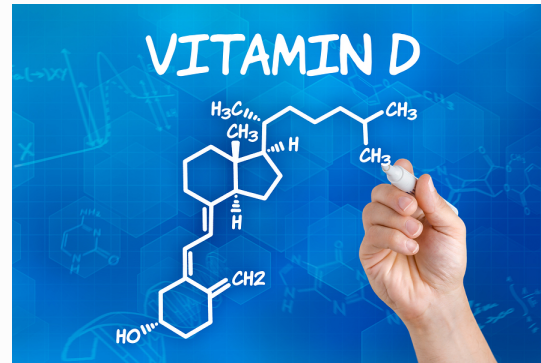
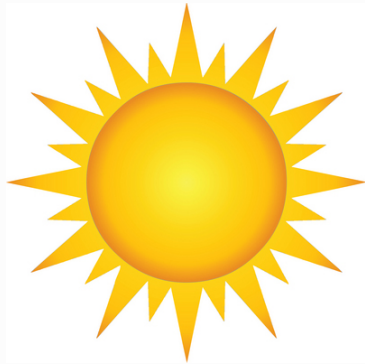
COVID-19 and Oral Lesions



- Salivary Glands
- Xerostomia



COVID-19 and Oral Health Concerns



Oral Health and Covid-19 Disease



Coronavirus patients who have been hospitalized are far more likely to die of respiratory failure if they suffered from periodontitis before contracting COVID-19, according to an international team of dental researchers.

According to the researchers, COVID-19 patients who suffer respiratory failure face grim odds for recovery, with almost 80% of those placed on ventilators in the United States since the beginning of the pandemic dying.

The researchers further note that their findings underscore the need for people who believe they may have gingivitis or more serious gum disease to get their teeth and gums checked and cleaned as soon as possible.



thank you!