Oral health and common oral conditions in HIV

Taking care of your mouth and teeth is a very important, yet often overlooked, part of maintaining your general health. Good oral health can help you prevent or catch infections early. It can also give you clues as to the state of your overall health and the health of your immune system.

It’s estimated that 9 in 10 people with HIV will develop at least one oral condition related to HIV disease. This may be the first sign of immune suppression and in many people are the first signals that lead doctors to suggest HIV testing. At least 40 conditions are known, so it’s important to pay attention to changes in your oral health.

General guidelines for good oral health suggest that you: (1) thoroughly brush your teeth, at least once a day; (2) use toothpastes or rinses that contain fluoride; (3) floss once a day; (4) regularly use a mouthwash; and (5) regularly visit your dentist. Most of these are basic things to do, but many people don’t often follow them.

**BRUSHING**
A good brushing should take at least 2 minutes. Brush with a gentle, circular motion, keeping bristles at a 45° angle to the gum line. Pay special attention to areas people tend to neglect, like the back of your front bottom teeth and around wisdom teeth. You should also brush your tongue to remove bacteria there. Avoid scrubbing, which may cause small cuts or scrapes.

**TOOTHPASTE & TOOTHPASTE**
Dentists recommend toothbrushes with soft bristles because hard ones can cause the gums to bleed and recede, leaving areas prone to infection. Toothbrushes should be replaced every month or two. Electric toothbrushes can sometimes be more effective. The most important concern about toothpaste is whether or not it has fluoride.

**DENTAL FLOSS**
To floss, use a long length of floss and wrap the ends around your index fingers. Gently push it between your teeth and all the way to the gums. If you rarely or never floss, you may find some slight bleeding, which should stop once your gums get used to it. Check with your dentist to see if you’re flossing properly.

Try to avoid swallowing while cleaning your teeth as any bacteria from your mouth can get spread to other parts of your body.

**MOUTHWASH**
Using a mouthwash at least twice a day can add fluoride to your teeth, kill bacteria often responsible for bad breath, reduce plaque that can cause cavities, and prevent gum disease. Some mouthwashes contain up to 25% alcohol, which may not be suitable for some people to use.

**DENTAL VISITS**
Regular visits involve going to the dentist about every 6 months. The visits allow your dentist to find infections and conditions early and treat them before they become a problem. Studies show that cavities in people with HIV can act as fungal reservoirs.

**DISCLOSING YOUR HIV STATUS**
For proper care, it’s helpful for a dentist to know that you have HIV because there are conditions that they will want to pay extra attention to. Finding a dentist who you trust, who’s supportive, and experienced in HIV and who can help you make informed treatment decisions is desirable.
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Abnormal cell growth

KAPOSÍ’S SARCOMA (KS)
KS is the most common AIDS-related cancer, reported in about 1 in 7 people with AIDS. It’s normally a disease of the skin, although over half the people with it also report oral lesions. Sometimes oral lesions, that appear as patches or swellings, are the first obvious signs of KS. Their color can be red or purple and either raised or flat. The roof of the mouth is the most common site, but they also occur on the gums, tongue and at the back of the mouth, near the throat.

Oral KS usually is not painful, but the lesions may interfere with chewing or talking. Good oral hygiene and professional cleaning are important in managing oral KS.

Treating oral KS will vary based on the extent of the problem. If it’s not bothersome, no treatment is possible. But if it is necessary, treatment can range from treating a single lesion (injecting chemotherapy or surgical removal at the site) to treating it systematically by injection. Many find that once they’re on effective HIV therapy, the lesions resolve. For more information, read Project Inform’s publication, Kaposi Sarcoma.

LYMPHOMA
Lymphoma is rarer than KS and generally more serious. Oral symptoms, which may simply be a small lump in the mouth or near the tonsils, are often its first sign. The lesions include firm masses and persistent ulcers. It’s possible to detect this condition early by having regular dental exams, but can only be diagnosed by biopsy. No one specific treatment is used to treat the oral lesions, but chemotherapy is often used.

Bacterial infections

GINGIVITIS & PERIODONTITIS
Gingivitis is inflammation of the gums, sometimes accompanied by bleeding and bad breath. Periodontal disease includes all diseases of the gums, teeth and underlying bone. People with HIV are more at risk for and may also face more rapid and severe forms of these fairly common conditions. More severe forms include linear gingivitis erythema (LGE) and necrotizing ulcerative periodontitis (NUP), conditions that occur almost exclusively in people with HIV.

LGE, or red band gingivitis, is marked by a profound red banding along the teeth where the gums and teeth meet. LGE is related to, and may be a precursor of, other NUP.

NUP is a condition that causes pain, spontaneous bleeding of the gums and rapid destruction of gum tissue and bone, which may lead to tooth loss. People often describe their discomfort as “deep jaw pain”.

NUP and LGE are best treated with a thorough dental cleaning and chlorhexidine rinse. Dentists may also prescribe antibiotics. Early detection and treatment is very important.

In some cases, NUP may progress to include larger ulcers on the roof of the mouth and gums, called necrotizing stomatitis, or NS. NS is most often seen in people with CD4 counts below 200 and can be managed with antibiotics, often by IV. Once NS, NUP or LGE is under control, keeping excellent oral health is crucial to prevent them from coming back.

MYCOBACTERIUM AVIUM COMPLEX (MAC)
MAC can lead to symptoms like night sweats, fevers and weight loss. Oral MAC lesions are uncommon, but when they occur they’re likely to be ulcers on the roof of the mouth. For more information, read Mycobacterium Avium Complex, available from Project Inform.
Viral infections

HERPES SIMPLEX
Herpes simplex virus (HSV) Type 1, which causes cold sores, is fairly common in the general population and even more so in people with HIV. HSV-1 can appear inside the mouth, often in firmer tissue like the roof of the mouth. Sores can occur with fever, pain and loss of appetite. They can either be small and almost painless or they can be troublesome, extensive and persistent. They’re often left untreated because they clear up after a relatively short period of time. Sores that are slow to heal can be treated with Zovirax (acyclovir) daily for 7–10 days. For more information, read Project Inform’s publication, Oral and Genital Herpes.

HAIRY LEUKOPLAKIA (OHL)
OHL is believed to be caused by Epstein-Barr, the virus that causes mononucleosis, and is one of the most common HIV-related oral conditions. It’s not dangerous and can occur very early in HIV disease. However, it may point to an increasing risk of other, more serious illnesses.

Symptoms include white patches on the sides of the tongue or walls of the mouth, which look corrugated, or folded, with hair-like particles along the folds. OHL is rarely painful and while annoying, it’s not serious.

OHL can be treated with acyclovir once a day for 2–3 weeks. Cytovene (ganciclovir), Retin-A (tretinoin) and Podocon-25 (podophyllin) may also work. Also, propolis tincture has shown some favorable results. However, all of these must be taken continuously because lesions return when treatment is stopped. Acyclovir may or may not prevent breakouts.

CYTOMEGALOVIRUS (CMV)
CMV mostly occurs in people with late-stage disease, and very rarely does it manifest in the mouth. Some dentists, however, report that they find CMV in ulcers on the inner lining of the mouth in people with CMV disease. These sores can be seen on the gums, cheeks and roof of the mouth. A biopsy may be necessary. When ganciclovir is used to treat CMV disease (in the vein, followed by oral drug), the oral ulcers recede. For more information, read Project Inform’s publication, Cytomegalovirus.

HUMAN PAPILLOMAVIRUS (HPV)
HPV is the same virus that causes genital and anal warts. In people living with HIV, HPV lesions can appear on the skin and inner lining of the mouth and look like typical warts: cauliflower-like, “spiky” or slightly raised with a flat surface. It’s not currently thought that oral warts can become cancerous. However, other types of HPV that cause cancer may also be present but not diagnosed. Oral cancers due to HPV are being reported more often in HIV-positive people. Surgical or laser removal can also be used to treat them, but recurrence is common. Safe oral sexual practices can help prevent passing it onto your partners. For more information, read Project Inform’s publication, Human Papillomavirus and HIV disease.
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Fungal infections

**ORAL CANDIDIASIS**
Also known as thrush, oral candidiasis is perhaps the most common oral condition in people with HIV. A healthy immune system can suppress the overgrowth of this fungus, but even a mildly weakened one may not keep it in check. Most outbreaks occur when CD4 counts fall below 400. But other factors may cause it, such as prolonged stress, depression and using antibiotics.

A trained dental professional can identify and distinguish the most common types of candidiasis that affect people with HIV. Symptoms may include red or white patches and clefts or grooves. They may or may not cause minor pain.

Oral candidiasis may be treated with antifungal medicine given as rinses, lozenges or pills. In mild cases, it’s treated directly for at least 2 weeks. Typical medications include Mycelex (clotrimazole) troches, Fungizone Oral Suspension (oral amphotericin B) and Nilstat (nystatin). Nystatin contains a lot of sugar, so if you use it, rinse afterwards with a fluoride (alcohol-free) mouthwash to remove the sugar. Excess sugar can help fungus and bacteria to grow.

More severe forms of candidiasis, such as esophageal candidiasis, may require oral drugs, including keto-, itra- and fluconazole (Diflucan). Treatment usually lasts 2 weeks or longer, as necessary. All these drugs interact with commonly used HIV drugs, particularly protease inhibitors. Changing your diet habits and nutrition may also help.

To help prevent it from coming back, the full course of therapy should be completed even when symptoms disappear. If outbreaks recur, ongoing preventive therapy may be useful. However, the main concern here is that the fungus may grow resistant, making these preventive drugs ineffective if or when treatment is needed. For more information, read Project Inform's publications, *Oral Candidiasis, Vaginal Candidiasis or Systemic Candidiasis.*

**HISTOPLASMOSIS**
Histoplasmosis is a common fungus in the US, mostly in the valleys of the Mississippi, Tennessee, Missouri, Ohio and St. Lawrence rivers. Most infections either go unnoticed or cause mild problems, so its diagnosis can be difficult. Symptoms include cough, fever and general fatigue, and sometimes mouth sores. People with very weak immune systems are more likely to get this disease. HIV-positive people with this condition require lifelong treatment with low doses of itraconazole because of its extremely high rate of recurrence. For more information, read the publication, *Histoplasmosis,* available from Project Inform.
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Other oral conditions

DRY MOUTH (XEROSTOMIA)
Dry mouth, or xerostomia, is a common condition in HIV disease. HIV disease itself may also cause dry mouth due to salivary disease that reduces the amount of saliva. Allergies and infections may cause dry mouth, as well as some HIV drugs and other meds like antihistamines and antidepressants.

Leaving dry mouth untreated may lead to problems such as tooth decay, periodontal disease and candidiasis. High acid levels can persist long after eating, which can wear out tooth enamel, leaving them more susceptible to cavities and other problems.

Fortunately, dry mouth is fairly simple to treat. Chewing sugarless gum or sucking on sugar-free candy, crushed ice or lozenges can stimulate more saliva. Drinking plenty of liquids is a great idea, as is rinsing often with warm salt water or alcohol-free mouthwash. Sugar can dry out your mouth and promote fungus.

Prescriptions may also help, such as artificial saliva or pilocarpine therapy. Herbs like demulcients, chickweed and slippery elm may help combat dry mouth, though it’s unclear if they interact with HIV therapies.

APHTHOUS ULCERS
Aphthous means “little round”, so these ulcers are small round sores in the mouth. What causes them is still not known, though some HIV meds can cause them. They tend to form on “soft” tissue. These ulcers are common in HIV-negative people, but people with HIV may suffer from more severe and prolonged ulcers.

The sores are usually very painful when touched. A typical ulcer has a red halo and is covered by a grayish layer or membrane. They’re generally mistaken for herpes sores. Sometimes these ulcers resolve without treatment, but small ones can rapidly become very large.

Treatment can involve applying directly on the ulcers. A mixture of Lidex (fluocinonide) and Orobase, one of Cormax or Temovate (clobetasol) and Orobase, or a Decadron (dexamethasone) elixir is effective. An experimental therapy, thalidomide, has been very effective in treating these ulcers in studies, though it’s not without serious side effects. (Note: thalidomide should NOT be used by pregnant women or women who are planning to become pregnant while on therapy.)

Commentary
Planning a course of action for dental care and treatment is important for people living with HIV. Your dentist is a partner in helping you develop this plan, there to provide you with information about your options, potential risks and benefits, and recommendations. One main way to keep ahead with good oral health is by keeping HIV under control with potent regimens. Optimally, any course of treatment should be made together — with you, your doctor and your dentist working together.

Other recommended resources include www.HIVdent.org, a non-profit website dedicated to assuring high quality oral health services for people with HIV. It has a collection of easy-to-read materials on a variety of oral health and general HIV topics. The National Institute of Dental Research (www.nidcr.nih.gov) has information on studies and links to sites that deliver dental care.

Special thanks goes to Dr. David Rosenstein for his editorial review of these materials.
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Oral conditions at a glance

APHTHOUS ULCERS

SYMPTOMS
Formation of sores; pain, discomfort.

AFFECTED AREAS
Mostly soft parts of the mouth like the cheeks and sides of the tongue.

DIAGNOSIS
With strong history of aphthous ulcers, or when other possible causes are ruled out.

TREATMENT
Systemic and topical corticosteroid, occasionally thalidomide.

PREVENTION
None.

CYTOMEGALOVIRUS

SYMPTOMS
Mouth sores; pain, difficulty swallowing.

AFFECTED AREAS
Anywhere in mouth. May appear in the throat as well.

DIAGNOSIS
Biopsy.

TREATMENT
Ganciclovir, foscarnet.

PREVENTION
None.

DRY MOUTH

SYMPTOMS
Ongoing dryness of the mouth.

AFFECTED AREAS
In the mouth and throat.

DIAGNOSIS
Observations of reduced saliva flow, examination of one’s medication regimen.

TREATMENT
Artificial saliva, chewing sugarless gum, drinking plenty of liquids.

PREVENTION
It’s hard to anticipate bouts of dry mouth, but most treatments will work for prevention too.

GINGIVITIS, PERIODONTAL DISEASE

SYMPTOMS
Inflammation of the gums, swelling, bleeding, bad breath, breaks in the seal between the gums and teeth.

AFFECTED AREAS
The gums and teeth.

DIAGNOSIS
The presence of typical signs/symptoms.

TREATMENT
A thorough professional cleaning, chlorhexidine rinse.

PREVENTION
Follow guidelines for good oral health; particularly thorough brushing, flossing and regular dental visits.

HISTOPLASMOSIS

SYMPTOMS
Cough, fever, fatigue.

AFFECTED AREAS
All over the mouth.

DIAGNOSIS
Biopsy.

TREATMENT
Amphotericin B, itraconazole.

PREVENTION
None.

HUMAN PAPILLOMAVIRUS

SYMPTOMS
Warts that are cauliflower-like, spiky or slightly raised with a flat surface.

AFFECTED AREAS
Inner lining of the mouth.

DIAGNOSIS
Biopsy.

TREATMENT
Various treatments including surgical or laser removal of the warts.

PREVENTION
None.

KAPOSI’S SARCOMA

SYMPTOMS
Red or purple patches or swellings either raised or flat; may become painful.

AFFECTED AREAS
Common on roof of mouth. May also appear on the gums, tongue and back of throat.

DIAGNOSIS
Biopsy.

HERPES ZOSTER

SYMPTOMS
Sores and small blister-like bubbles.

AFFECTED AREAS
Anywhere in the mouth.

DIAGNOSIS
Biopsy.

TREATMENT
Famciclovir or acyclovir.

PREVENTION
None.

HERPES SIMPLEX

SYMPTOMS
The formation of sores or small blister-like bubbles; pain, discomfort.

AFFECTED AREAS
Primary HSV: lip and gums. Recurrent HSV: lip, hard parts of mouth like the roof and the back of the tongue.

DIAGNOSIS
A history of herpes, the presence of typical physical signs/symptoms.

TREATMENT
Acyclovir.

PREVENTION
Acyclovir may be used in the presence of frequent recurrence.

HISTOPLASMOSIS

SYMPTOMS
Cough, fever, fatigue.

AFFECTED AREAS
All over the mouth.

DIAGNOSIS
Biopsy.

TREATMENT
Amphotericin B, itraconazole.

PREVENTION
None.

HUMAN PAPILLOMAVIRUS

SYMPTOMS
Warts that are cauliflower-like, spiky or slightly raised with a flat surface.

AFFECTED AREAS
Inner lining of the mouth.

DIAGNOSIS
Biopsy.

TREATMENT
Various treatments including surgical or laser removal of the warts.

PREVENTION
None.
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Oral conditions at a glance

**ORAL CANDIDIASIS**

**SYMPTOMS**
Pain, loss of taste, distortion of taste, burning, discomfort.

**AFFECTED AREAS**
All over the mouth, possibly the throat, sometimes the corners of the lips.

**DIAGNOSIS**
Biopsy, culture.

**TREATMENT**

**PREVENTION**
For individuals who may have been exposed to or are at risk to get TB, isoniazid is usually used.

**LYMPHOMA**

**SYMPTOMS**
Lesions include firm masses and persistent sores. May simply show up as a small lump.

**AFFECTED AREAS**
In the mouth, near tonsils.

**DIAGNOSIS**
Biopsy.

**MYCOBACTERIUM AVIUM COMPLEX**

**SYMPTOMS**
Oral lesions occur as sores.

**AFFECTED AREAS**
Sores appear on the roof of the mouth.

**DIAGNOSIS**
Culture, secondary tests that may indicate MAC.

**TREATMENT**
Numerous options include: clarithromycin, azithromycin plus ethambutol, rifabutin, rifampin, ciprofloxacin, amikacin, etc. Some drugs, particularly clarithromycin, may interact with common anti-HIV meds. Talk to your doctor or pharmacist about possible drug interactions.

**PREVENTION**
Avoid exposure to MAC organisms, like boil drinking water, don't eat raw foods, etc.

**NECROTIZING ULCERATIVE PERIODONTITIS (NUP)**

**SYMPTOMS**
Pain, spontaneous bleeding of the gums, rapid destruction of gum tissue and supporting bone; tooth loss in advanced cases.

**AFFECTED AREAS**
The gums and teeth.

**DIAGNOSIS**
The presence of typical signs/symptoms.

**TREATMENT**
Thorough professional cleaning, chlorhexidine rinse.

**PREVENTION**
Follow the guidelines for good oral health; particularly thorough brushing, flossing and regular dental visits.