

Oral Health & Hygiene (to be used with Module 3)

Why talk about oral health?

Promoting oral health is one of the keys to conquering noma.

- Prevention is urgent!
 - The community may not have access to good dental care at this time, but they can prevent disease with improved oral hygiene.
- Recognition:
 - Examine the mouths of children. Be vigilant to detect oral disease and teach the community to recognize early signs of noma.
- Treatment:
 - It is important for the primary health care workers to understand the principles of oral health care and be vigilant to detect and treat oral disease early, especially in children.

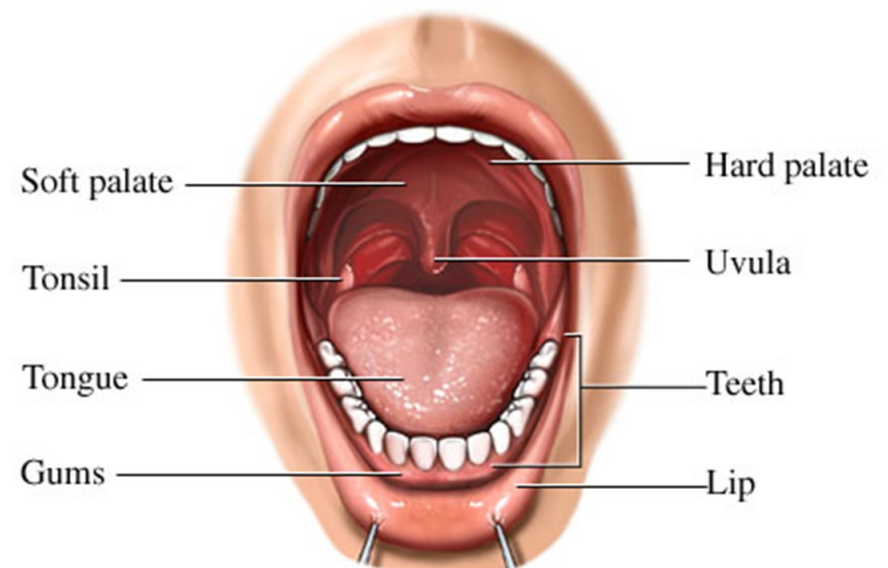
What is oral health?

- Oral health describes the well being of the oral cavity including the dentition and its supporting tissues.
- It is the absence of disease and optimal functioning of the mouth and its tissues in a manner which preserves the highest level of self esteem.

Importance of Oral Health

- Oral health is essential for general health, nutrition, fitness, quality of life and self esteem.
- The oral cavity is unique because it is the gateway and mirror to the body.

Anatomy of the Mouth



Common Oral Health Problems

- Tooth Decay (Dental Caries)
- Gum Diseases
- Toothache
- Tooth Sensitivity
- Difficulty in opening/closing mouth
- Foul Breath/Halitosis
- Discolored Teeth
- Dental Trauma
- Sores in the mouth
- Oral HIV/AIDS

Tooth Decay (Dental Caries)

- Decay of the hard part of the tooth
- Can cause swelling of the face
- Leads to tooth loss, pain, and lack of sleep
- May severely interfere with mouth functions

Gum Diseases

- Gum diseases are mainly due to inadequate plaque removal from the teeth at the gum line.
- This will lead to a condition called gingivitis, or inflamed gums.
- It can lead to tooth loss
- It can lead to the swelling of the face.



Bleeding Gums

- Can be a sign that you are at risk for, or already have, gum disease
- Persistent gum bleeding may be due to other serious medical conditions such as diabetes mellitus



Toothache

- **Toothache** or tooth pain is the most common reason for going to the hospital.
- Tooth decay, gum disease, injury, or loss of a tooth are the most common causes of tooth pain.
- Pain may also occur after tooth is pulled out.



Tooth Sensitivity

- It can be defined as a painful reaction in one or more teeth caused by hot, cold, sweet, or sour foods and drinks.
- It is caused by worn out tooth surfaces due to bruxism, hard brush or habitual biting of hard objects.

Difficulty in Opening/Closing Mouth

- Normal joints in the mouth open and close quite smoothly.
- If there is some injury, or infections, the opening may become difficult.
- Uncomfortable jaw opening and closing may often occur during eating and yawning.

Foul Breath/Halitosis

- It is offensive breath that comes from the mouth of a person.
- In most cases bad breath originates in the mouth for example from gum diseases, tooth decay, dry mouth etc.
- Bad breath may also originate from eating certain foods (such as garlic, onions), smoking and drinking alcohol.
- It can also originate from the upper air passages (nose etc), throat, etc.

Discolored Teeth

- Tooth discolouration occurs when one or more teeth has a different colour.
- This may be due to injury, poor oral hygiene or conditions during tooth formation e.g. tetracycline medication, consumption of excess fluoride



Dental Trauma

- Dental trauma is injury to the mouth, including teeth, lips, gums, tongue, and jawbones. The most common dental trauma is a broken or lost tooth.
- Dental trauma can result from:
 - contact sports
 - motor vehicle accidents
 - fights
 - falls
 - eating hard foods
 - drinking hot liquids

Sores in the Mouth

- These are painful and can be due to local causes from injury or infections.
- Mouth sores may be symptoms of a disease.
- Cancrum Oris (NOMA), a severe, often gangrenous inflammation of the lips and cheek that often occurs following an infectious disease, most often found in children in poor hygiene or malnourished condition may initially present as a mouth sore.



Care of Common Oral Health Problems

Care of Tooth Decay

- If there is pain, give **analgesic**
- If there is swelling, give **antibiotics**
- Refer to dental clinic **immediately**

Care of Gum Diseases

- Brush teeth gently with a soft chewing stick or soft-bristle toothbrush twice daily.
- Apply Warm Saline Mouthwash at least 4 times daily
- Maintain a balance, healthy diet.
- Eat fresh fruits and vegetables.
- Visit the oral health care provider at least once every 6 months for scaling and polishing.
- Refer to Dental Clinic.

Care of Toothache

- Give analgesics
- Refer to Dental Clinic immediately.

Care of Tooth Sensitivity

- Avoid desensitizing materials (fluoride containing toothpaste)
- Avoid using hard chewing stick or toothbrush
- Avoid biting of hard objects and foods
- Avoid consumption of unripe fruits
- Correct method of tooth brushing
- Refer to Dental Clinic

Care of Patient with Difficulty of Opening/Closing Mouth

- Reassure
- Refer immediately to Dental Clinic

Care of Patient with Foul Breath

- Advise on oral hygiene instructions
- Advise on scaling and polishing
- Advise on diet
- Refer to Dental Clinic

For Discoloured Teeth

- Advise on scaling and polishing
- Advise on oral hygiene instruction
- Refer to Dental Clinic

For Dental Trauma

- Place removed tooth in salt water
- Place clean cotton wool or cloth pack on bleeding area
- Refer to Dental Clinic immediately

For Sores in the Mouth

- Warm salt water and mouth wash / MAMA Dentifrice
- Eat fruits rich in vitamin C
- Analgesics
- Refer to Dental Clinic

For Oral HIV/AIDS

- Practice safe sex
- Advise use of antifungal drugs
- Refer to a Physician immediately

The Clinical Stages of Noma

Stage 1

The overall consensus is that the initial phase is Acute Necrotising Gingivitis (ANG) which under circumstances still to be elucidated may evolve into the gangrenous phase. Today scientists are more inclined to say that any intra-oral lesion can play the role of an entry point to the disease.



Figure 6 - Acute necrotizing ulcerative gingivitis also affecting the hard palate

Stage 2

If the immune system is sufficiently weakened the soft tissue against the gingival lesions start swelling.



Stage 3

In a few days, in the absence of any intervention, there is formation of a gangrenous plaque which indicates the area of future loss of tissue.



Stage 4

On healing, large amounts of scar tissue prevent anymore than minimal opening of the mouth and the functional as well as aesthetic sequelae are extremely distressing.



SUSPECT NOMA IN MALNOURISHED CHILDREN WITH MOUTH SORES!

ESPECIALLY if malnourished with recent illness such as measles or malaria. **DO NOT DELAY THERAPY!**

- Metronidazole/Amoxicillin (see charts)
- 3 mega doses of Vitamin A
- Mouth cleaning with MAMA Dentifrice (Zinc-enriched)
- Multivitamins/Minerals (See Module 1)



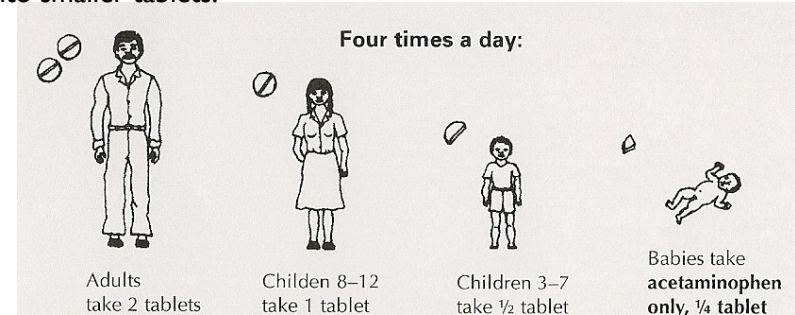
If infection is treated early it will not progress to full thickness tissue loss.

This tragedy can be prevented!



THE CORRECT DOSE

Before you give medicine think about the sick person's weight and age. The small children are, the less medicine they need. For example, pain medicine like aspirin (300 mg tablets) or acetaminophen (500 mg tablets) can be broken up into smaller tablets.



Notes: Do not hold aspirin on the bad tooth. Aspirin has acid that can hurt the tooth. Always swallow aspirin immediately. **For severe pain**, when aspirin does not help, an adult can take 30 mg of codeine 4 to 6 times a day, as needed.

ANTIBIOTICS: TO FIGHT INFECTION

Antibiotics kill bacteria that cause infection. Some antibiotics work better than other on certain bacteria. If you can, test the pus to find which antibiotic works best.

Do not give penicillin to a person who is allergic to it. Ask about the person's allergies before you give penicillin pills or injections. When you inject penicillin, always keep epinephrine (**Adrenalin**) ready to inject if the person shows signs of allergic shock. Stay with the person for 30 minutes. If you use these signs. . .

- cool, moist, pale, gray skin (cold sweat)
- weak, rapid pulse (heartbeat)
- difficulty breathing
- loss of consciousness

...immediately inject epinephrine: 0.5 ml for adults or 0.25 ml for children. If necessary, inject the same dose again after 20 or 30 minutes.

Always give the full dose of penicillin or any antibiotic, even if the person feels better. See page 94 for the correct doses of penicillin or erythromycin. Erythromycin also comes in liquid form. It has 125 mg in 5 ml, so 10 ml liquid (about 2 large teaspoons) is the same as one 250 mg tablet.

It is important to take a strong first dose of penicillin or erythromycin, and then smaller doses 4 times a day for 3 to 5 days after that.

Oral Hygiene

- Oral hygiene is the practice of keeping the mouth and teeth clean.
- Good oral hygiene is necessary for the prevention of dental caries, gum diseases (periodontal diseases), bad breath and other dental problems.

Importance of Good Hygiene

- Prevention is always better than cure.
- Good oral hygiene habits will keep away most of the dental problems, saving you from toothaches and costly dental treatments.
- Interestingly, it takes you few minutes everyday to achieve good oral hygiene.
- Healthy teeth not only enable you to look and feel good, they make it possible to eat and speak properly.
- Good oral health is important to your overall well-being.
- Daily preventative oral care, with proper brushing will help stop dental problems before they develop and are much less painful, expensive, and worrisome than treating conditions that have been allowed to progress.

Signs of Good Oral Hygiene:

- Good breath
- Healthy teeth and gums
- Self esteem and confidence



Effects of Poor Oral Hygiene

- Tooth decay (cavities)
- Gum disease
- Oral thrush
- Bad breath
- Tooth loss
- Most of these dental and mouth problems may be avoided by maintaining good oral hygiene



How to Maintain Good Oral Hygiene

- It is important to learn how to maintain good oral hygiene from early childhood.
- Parents should teach and supervise their children in the proper use of oral hygiene materials.
- Prompt replacement of worn out toothbrushes
- Brushing twice a day
- Toothbrush should be rinsed and kept dry
- Each member of the family should have his/her own chewing stick/toothbrush
- Good nutrition to make the teeth healthy and strong.
- Good oral hygiene should be a joint effort involving you and your health worker.



Instructions for Good Oral Hygiene

In between regular visits to the dentist, there are simple steps that each of us can take to greatly decrease the risk of developing tooth decay, gum diseases and other dental problems. These include:

- Brush your teeth at least twice a day with chewing stick or a fluoride toothpaste
- Rinse your mouth after every meal.
- Watch your diet.
- Eat fresh fruits and vegetables.
- Avoid sugar and limit snacks between meals.
- Visit your oral health care provider at least every 6 months.
- Have a dental professional cleaning regularly.

Brushing Technique



a: Clean the outside surfaces of the upper, then the lower teeth



b: Clean the inner surfaces of the top teeth.



c: Clean the inner surfaces of the lower teeth.



d: Finally, clean the chewing surfaces of the upper, then the lower teeth.

Chewing Sticks



Toothpaste and Toothbrush



MAMA Cleansing

Dental Powder

Recommended for mouth for the entire family — infants, children and adults:

- Each morning & evening place a pinch (level tiny scoop) inside lower lip.
- Spread around mouth.
- Next, clean teeth thoroughly and gently with fresh chewing stick.
- Then take a drink and swallow. Do not spit out!
- Repeat four times per day if the child has mouth infection, measles, malaria, diarrhea, pneumonia, inflamed eyes or is not growing well. Prevent Noma with good hygiene and nutrition.
- Seek medical attention *immediately* when malnourished children develop mouth infections.



Contains: Sodium Bicarbonate, Iodized Salt and Zinc Oxide. Two scoops (.15cc each) will provide 15 mg Zinc. Iodine and Zinc are micronutrients essential for growth and immune function.

Steps to Oral Hygiene for Children

- ✓ Clean your baby's gums after each feeding using:
 - cotton wool
 - clean soft cloth
- ✓ Clean your baby's teeth using:
 - chewing stick
 - small soft bristled toothbrush
- ✓ Avoid using feeding bottles for babies to prevent tooth decay and gum diseases.
- ✓ Rinse child's mouth after every meal.
- ✓ If you use fluoridated toothpaste, be careful not to allow children to use more than a pea-sized amount and do not swallow. Avoid in areas with high fluoride in water supply.
- ✓ Make dental visits positive.
- ✓ Encourage a positive attitude toward dental visits.
- ✓ Teach and supervise your child on how to brush.
- ✓ Make brushing a daily routine, but keep it enjoyable.
- ✓ Use a chewing stick/a pea-size amount of fluoridated toothpaste and make sure the child does not swallow stick bristle or the paste.
(In areas affected by high fluoride in the water, it is not advisable to use extra fluoride)
- ✓ Encourage good eating habits:
 - A balanced diet will help ensure healthy teeth.
 - Encourage regular intake of fruits and vegetables
 - Encourage regular intake of dairy foods.

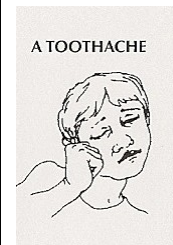
LEARN TO TELL SIMILAR PROBLEMS APART

If a person comes to you with a toothache or a sore or a loose tooth, there are many possible causes for each problem. The first thing you notice—the toothache, sore or loose tooth—is your first step to a diagnosis. To this you must add more information before you can point to the most probable cause. Put together what you have found with what you already know about teeth and gums. You can make a good diagnosis of a problem without knowing a special name for it.

Usually it is easy to make a diagnosis. However, sometimes you will not be sure, and these are the times to seek the advice of a more experienced dental worker. **Never pretend to know something you do not. Only treat problems that you are sure about and have supplies to treat properly.**

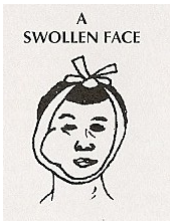
Use the information beginning here to help you make the diagnosis.

If the person has a toothache:



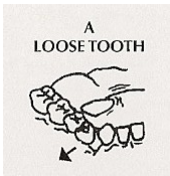
- The tooth hurts only after eating or drinking. There is a cavity, but the tooth does not hurt when you tap it. It may be a cavity.
- Part of the filling has fallen out, or is cracked and ready to fall out. Eating or drinking make the tooth hurt. It may be a cavity under an old filling.
- The tooth hurts when chewing food. It may hurt when tapped, but there is no cavity and the tooth looks healthy. It may be tartar between the teeth.
- It hurts all the time—even when the person tries to sleep. The tooth hurts when you tap it and it feels a bit loose. It may be an abscess.
- It hurts when the person breathes in cold air. The tooth was hit recently. It may be a cracked or broken tooth.
- The person cannot open his mouth properly. Steady pain and a bad taste are coming, from the back of the mouth. It may be a new tooth growing in.
- Several top teeth hurt, even when you tap them. She had a head cold and can only breathe through her mouth. It may be an infected sinus.

If the person has a swollen face:



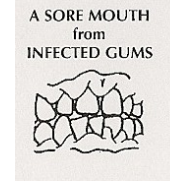
- He had a toothache recently. The bad tooth hurts when you tap it. It may be a tooth abscess.
- She is young, about 18 years old and has trouble opening her mouth. It may be a new tooth growing in.
- He was hit on the face or jaw. The bone hurts when you touch it. The teeth do not fit together properly. It may be a broken bone.
- The swelling is under or behind the jaw. It gets worse when he is hungry and smells food. It may be an infection inside the spit gland.
- The swelling has been there for a long time. It does not seem to get better. It may be a tumor.

If the person has a loose tooth:



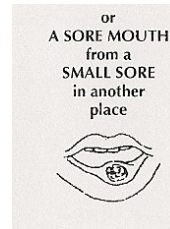
- Food and tartar are attached to the tooth. The gums around it are loose and swollen. It may be an infection inside the root fibers—from gum disease.
- There was pain in the tooth before, but it does not hurt so much anymore. It has a cavity and there may be a sore on the gums near it. It may be an infection in the bone from an old tooth abscess.
- The tooth was hit some time ago. It may be a root broken under the gum.
- When the loose tooth moves, the bone around it and the tooth beside it also move. It may be a broken bone around the tooth's roots or an infection inside the bone from Vincent's infection.
- When you ask the person to slowly close his teeth, one tooth hits another, before the other teeth come together. It may be that a tooth is out of position and biting too hard against another.

If the person has a sore mouth from infected gums:



- The gums are red and swollen. They bleed when the teeth are cleaned. It may be gum disease starting.
- Between two teeth the gums are sore and swollen, like a small tumor. It may be something caught under the gum.
- The gums between the teeth have died and are no longer pointed. Pus and blood around the teeth make the mouth smell bad. It may be Vincent's infection (a more serious gum infection).
- The gums are bright red and sore, but between the teeth they are still pointed. It may be fever blisters on the gums- from Herpes virus.

If the person has a sore mouth from a small sore in another place:



- A sore on the inside of the cheek, lips, or under the tongue, is yellow with the skin around it bright red. Food touching it makes the sore hurt more. It might be a canker sore.
- A sore spot around or under a denture hurts when you touch it. It may be a sharp piece on a denture, or an old denture that needs to be refitted.
- A kind of white cloth seems to be stuck to the top of the mouth or tongue. It may stop a baby from sucking. It may be thrush.
- The sore is near the root of a bad tooth. It may be a gum bubble.
- The corners of the mouth are dry. The lips crack and are sore. It may be malnutrition.
- Small painful blisters on the lips soon break and form dry scabs. It may be fever blisters- from the herpes virus.

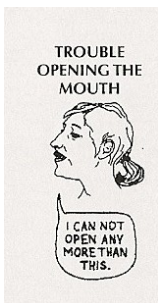
A SORE THAT DOES NOT HEAL PROPERLY MAY BE CANCER!

If the person has a sore on the face:



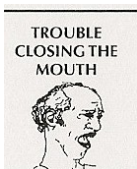
- Inside his mouth, he has a tooth abscess or a broken tooth near the sore. It may be an abscessed tooth draining pus to the outside of the face.
- A dark sore is eating through the cheek. Her gums are badly infected. A bad smell is coming from the dying skin on the face, and from inside the mouth. It might be a condition called *Noma*- starting from Vincent's infection of the gums.
- A 1-month-old sore on the lips is not healing with medicine. It might be cancer.

If the person has trouble opening their mouth:



- He is young, between 16-24 years, with some swelling behind his jaw. It might be a new tooth growing in.
- He recently had an accident. It might be a broken jaw-probably in front of the ear. He has a bad tooth-ache before in a back tooth with some swelling. It might be an abscess in a back tooth.
- When she tries to open her mouth, there is a clicking sound from in front of her ear. It also hurts in that place whenever she tries to open her mouth or chew food. It might be pain in the joint-where the jawbone hits the head.
- Swallowing is difficult and the jaw grows stiff. Germs have gone into the body from dirty instruments or an infect wound. It might be tetanus.

If the person has trouble closing their mouth:



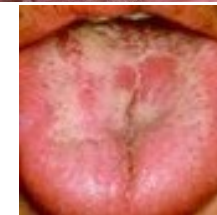
- After opening wide to eat or yawn, his mouth became stuck there. He has many missing back teeth. It might be a dislocated jaw.
- He had an accident and now something is stopping the teeth from coming together. It might be a broken jaw.

Oral HIV/AIDS

These are manifestations of HIV/AIDS in the mouth.

These include:

- Kaposi's Sarcoma (top picture)
- Fungal Infection (bottom picture)
- Dry Mouth
- Inflammation of oral mucosa and gum



WHAT IS HIV/AIDS?

HIV (Human Immunodeficiency Virus) is a germ that causes **AIDS** (Acquired Immune Deficiency Syndrome) by weakening the immune system, the part of the body that fights off infection and disease.

A person is said to have AIDS when he or she starts to get many common health problems more often than usual (although you cannot be sure a person has HIV/AIDS without a special blood test). Some of these problems are losing weight, sores that will not heal, a bad cough, sweating at night, diarrhea, skin rashes, a fever, or feeling very tired all the time.

Without treatment the immune system of a person with HIV/AIDS gets weaker and weaker and the person is less able to fight these health problems. This goes on until the person's body is too weak to survive, and he or she dies.

Some people die from AIDS very quickly after they become infected with HIV. But for many people, several years can pass before they get sick with AIDS. This means that a person can be infected with HIV and not know they have it because they feel healthy. But HIV can be passed from one person to another as soon as a person is infected. So, the only way to know if you are infected is to take the HIV test. This is a test that can be done at many clinics, hospitals, or other locations.

Medicines called anti-retrovirals, or ARVs, can help people with HIV regain their health or stay healthy. ARVs can also help prevent the spread of HIV to a baby or to sexual partners. ARVs cannot cure HIV completely, however. So these medicines must be taken for life.

Medicines for HIV are expensive, though people affected by HIV have organized to make them available in more countries and at lower prices. Many governments and organizations provide ARVs for free either through their own funding or with the support of international donors. Talk to a health worker who has experience working with HIV to find out where someone can go for treatment.

DENTAL CARE FOR A PERSON WITH HIV

In general, there is no need to change dental treatment because a person is infected with HIV. This is especially true if the person has not signs of HIV. If there is already an infection in the mouth, use a mouth wash before treatment. This will help prevent the infection from getting worse.

There are not special problems in doing simple fillings, or fitting false teeth (dentures) for a person infected with HIV. But as the HIV infection advances to AIDS, you will be able to give better dental care if you know about any health problems the person may have. For example, if you need to take out a tooth, you must be extra careful not to cause an infection. Remember, always use clean, sterilized instruments, and when you give injections use only clean sterilized needles and syringes, or disposables, so you do not cause infections. If you have any concerns about someone's health, it may help to speak with a health worker.

Taking out a Tooth

To prevent infection for someone with HIV, before you remove the tooth, make sure the person's mouth is as clean as possible. A mouth rinse can help.

To prevent infection and to help with healing, gently scale or scrape away the tartar from all the teeth. Be careful to do as little damage as possible to the gum and bone around the tooth you are taking out. An infected tooth socket (the hole that is left after you take out the tooth) in a person with HIV can be a serious problem.

In the later stages in HIV infection when the person has AIDS, the blood may not clot as quickly as normal. Be very gentle when you take out the teeth. Take only one tooth out at a time, and wait until bleeding is controlled before taking another one out.

COMMON PROBLEMS CAUSED BY HIV AND HOW TO TREAT THEM

There are many infections that occur in the mouth, such as a cold sore or gum infection. Most of these infections are not caused by HIV and do not usually cause serious problems. But all infections are serious when a person has been infected with HIV because the virus makes the person's body weak and unable to fight off infection. Smoking or chewing tobacco can also make problems in the mouth worse.

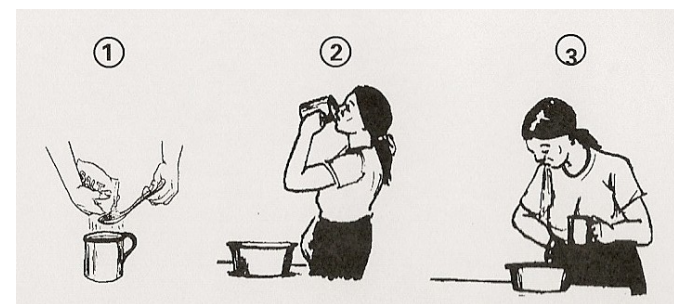
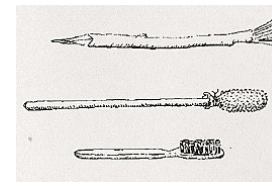
The main problems in the mouth for persons with HIV are:

1. white or yellow patches
2. open sores
3. gum infections
4. cold sores or blisters
5. dark-colored skin patches
6. dry or painful mouth and throat

General Treatment:

Always remove false or plastic teeth (dentures) before using any of these treatments. Most problems can be helped:

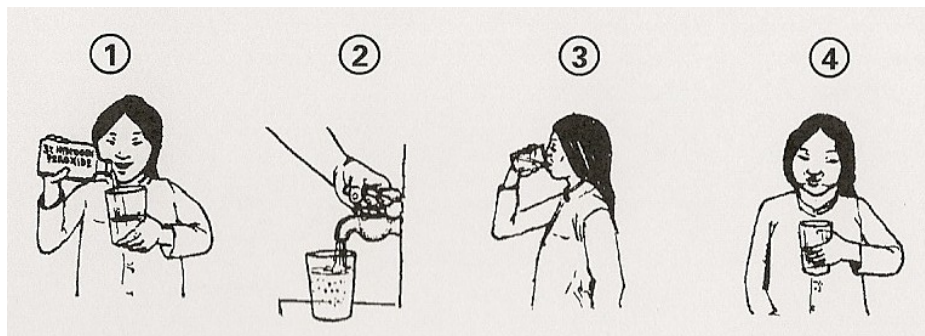
- if the teeth are kept clean by brushing or using a chewing stick every day, including false or plastic teeth
- by rinsing the mouth several times a day with a simple mouth wash made with salt and clean water or by using the MAMA Dentifrice.
- by gently cleaning any infection or sores with a clean cloth that has been moistened with salt water
- by gently wiping inside the mouth (teeth, gums, all the soft inside skin) with a clean cloth



Be careful if you use a chewing stick. Some wood is very hard and can hurt and damage the gums. The soft wood from the neem tree (which grows in many tropical countries) works well. You can also wrap clean cloth around the pointed end of a small stick or tooth pick and use it carefully clean the teeth one at a time.

Other treatments that can help are:

- Chlorhexidine gluconate, 0.2% -- a mouth wash that has no alcohol in it. Hold some in the mouth for 1 minute, 2 times a day. Make sure it covers the whole mouth inside, and then spit it out. This mouth wash reacts badly with some kinds of toothpaste. So wait 30 minutes between using this mouth wash and brushing your teeth.
- Gentian violet, 0.5% -- a purple-colored liquid that kills germs. Paint in onto the parts of the mouth that are infected. Sometimes it may be necessary to paint the whole inside of the mouth. Try not to swallow any.
- Povidone iodine, 1% -- a brown-colored liquid that kills germs. Hold some in the mouth for 1 minute, 2 times a day. Make sure it covers the whole mouth inside, and then spit it out (do not swallow any). Do not use for more than 14 days. Do not use if you are pregnant or breast feeding.
- Hydrogen peroxide, 3% and clean water – mix hydrogen peroxide evenly with water—that is ½ cup of hydrogen peroxide and ½ cup of water. Hold some in the mouth for about 2 minutes. Spit it out and repeat. Do this every hour when awake for 3 days.



WHO GETS HIV?

Millions of people all over the world are infected with HIV. If the body is strong, the HIV virus can grow quietly for several years, slowly weakening the immune system before it turns into AIDS. If the body is weak, the diseases of AIDS may develop more quickly.

Both rich and poor people can be infected with HIV, but the sickness is worse for the poor. This is because poor people get more infections, which weaken the body, because they do not have access to:

- Low-cost health care
- Clean, safe drinking water
- Good sanitation
- Enough nutritious foods
- Safe, uncrowded living conditions



HOW HIV AFFECTS THE MOUTH

People with HIV are likely to have more problems inside the mouth than people who do not have HIV. Because their bodies are weaker, any sores and infections may spread more quickly than they do for healthier people. So people with HIV may need more regular and careful help from dental workers than other people in the community.

Most people with HIV will get at least one kind of infection or problem in the mouth at some time during their illness. If this is not treated, it can be painful, can affect how much food the person eats, and can cause more serious health problems.

Infections in the mouth related to HIV affect the soft skin (tissue)—the lips, the cheeks, the tongue, the lining of the roof of the mouth, under the tongue, and the skin around the teeth (the gums). HIV does not directly affect the teeth themselves, but in the final stages of AIDS, the gums and the jaw bone, which hold the teeth in place, may be destroyed. Also, HIV can cause “dry mouth,” especially for people using ARVs (anti-retroviral drugs), which makes it easier to get cavities (tooth decay).

HOW TO EXAMINE THE MOUTH FOR SIGNS OF HIV OR AIDS

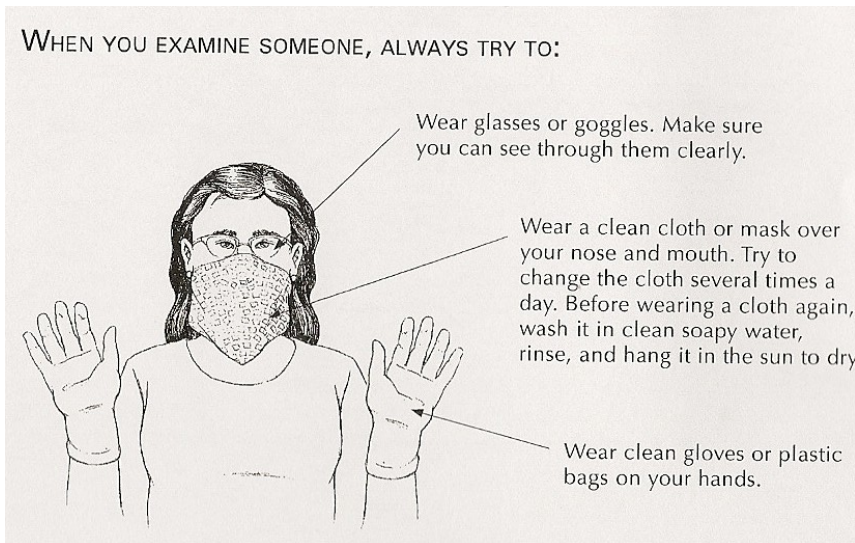
IMPORTANT: You cannot tell from looking at a person if he or she has HIV.

Dental workers must always be careful to make sure they do not pass the virus from one person to another during dental care.

Also, dental workers must protect themselves to make sure the virus does not pass to them from someone they are treating. So **always use precautions against HIV infection with every person you see.**

The best precautions are to always wear clean latex gloves or plastic bags on the hands, a face mask, eye protection, and to use only clean, sterile instruments.

If possible, dental workers should always be protected so they can prevent HIV from passing to themselves, the people they are treating, their families and their sexual partners.



Always examine the lips, face, and inside the mouth of someone who wants advice about a dental problem. Look for any swelling, broken skin, sores, redness, infection, or unusual color changes.



Look carefully inside the cheeks and lips. Ask the person to lift up her tongue so you can look underneath it. Also, ask her to stick her tongue out. Wrap a small piece of clean cloth around the tip of the tongue and gently pull it forward so that you can see the sides of the tongue and as far down the throat as possible.

It is important to ask about the person's general health too. There may be other signs of HIV such as fevers, night sweats, and feeling very tired all the time, weight loss, or diarrhea. Many people with HIV also become ill with tuberculosis or cancers. If the person has any of these problems, make sure he or she goes to see a health worker or doctor who is experienced with HIV.



Always tell the person what treatment you would like to give. After your examination, explain what you found and what can be done to help or prevent it from

getting worse. Always ask the person for permission before you do any treatment, just as you should for any person you see.

Respect the privacy of a person with HIV as you would anyone who comes to you for dental care.

MORE SERIOUS GUM INFECTION (gangrene of the face, Noma, Cancerum Oris)

SIGNS:

In the most severe gum infection, the jaw bone will become infected and this can spread through the cheek to the face. This will be very easy to see, as parts of the face and jaw rot away and smell bad. It happens mainly to very sick children (usually one to four years old), but can also happen to adults with HIV infection.

TREATMENT:

Get medical help as quickly as you can—in a hospital if possible.

In the meantime, clean and treat the gangrene.

For an adult, give the following:

For an adult who is able to swallow:

- Give 400 mg of metronidazole by mouth, 3 times a day for 10 days
- OR if you cannot get metronidazole, give 450 mg of clindamycin by mouth, 4 times a day, for 5 days
- OR if clindamycin is not available give 500 mg of erythromycin by mouth, 4 times a day, for 10 days

NOTE: clindamycin, erythromycin, and metronidazole are OK to use for women who are pregnant or breast feeding

For an adult who cannot swallow:

- Inject 2,000,000 (@ million) units of penicillin G into a large muscle, 3 times a day, for 7 days.

For and adult who is allergic to penicillin:

- Inject 600 mg of clindamycin into a large muscle, 4 times a day, for 5 days

If you give the medicines by injection, change to medicines by mouth once the person starts to feel better. But do not stop giving the medicines until 7 to 10 days have passed.

WORKING FOR CHANGE IN YOUR COMMUNITY

By teaching and talking about HIV, dental workers can plan an important role in help to stop the spread of the disease. **Treating people with HIV infection is important, but preventing its spread is an even greater challenge.**

You can help if you:

- Learn as much as you can about HIV, how it is spread, and how to prevent it
- Share your knowledge about HIV with others in community meeting places-like schools, stores, religious meetings, restaurants and bars, and military bases.
- Teach people how to practice safer sex to stop the spread of HIV. Safer sex is when no body fluids pass from one person to another during sex.
- Educate people about the importance of using clean needles for injections. In hospitals and health centers, make sure your needles come out of a sealed, sterile packet. Set up needle exchange programs for IV drug users in your community.

Practice Safer Sex

Safer sex means to:

- Have sex with only one partner who has sex only with you
- Always use condoms during sex, and help women learn how to ask men to use them
- Not have sex with many partners, or to not have sex with someone who does
- Not have sex with someone who shares drug injection needles.

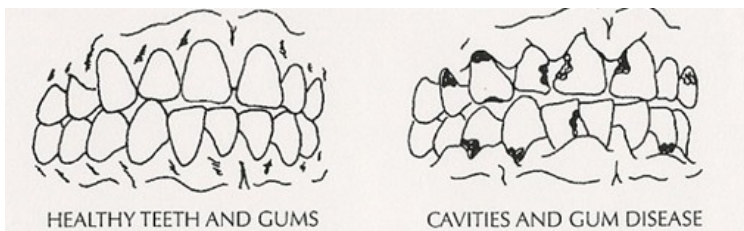


If the whole community has good information about HIV and safer sex, men and women and their partners may feel more comfortable making changes in their sex lives to protect themselves. No one has become infected with HIV because he or she spoke openly and honestly about safer

SORE BLEEDING GUMS

Healthy gums fit tightly around the teeth. Gums are infected if they are loose, sore, and red, and if they bleed when the teeth are cleaned. Infection in the gums is called **gum disease**.

Gum disease, like tooth decay, happens when acid touches the teeth and gums. This acid is made when sweet and soft foods mix with germs.



Infection from gum disease can spread into the root fibers and bone. But **you can stop gum disease and prevent it from coming back**. There are two things to do: clean your teeth better and strengthen your gums.

1. Even if your gums are sore and they bleed, you must still clean the teeth beside them. If more food collects on the teeth, the gum infection will get even worse. Get a **soft** brush and use it gentle. This way you will not hurt the gums when you clean.
2. To make your gums stronger and more able to fight the infection:
 - eat more fresh fruits and green leafy vegetables, and fewer soft sticky foods from the store
 - rinse your mouth with warm salt water. Do this every day, even after your gums feel better.
3. Use MAMA Dentifrice or mix some salt with a cup of warm water. Take a mouthful and rinse. Spit it out. Repeat until all of the salt water is finished.



MORE SERIOUS GUM DISEASE

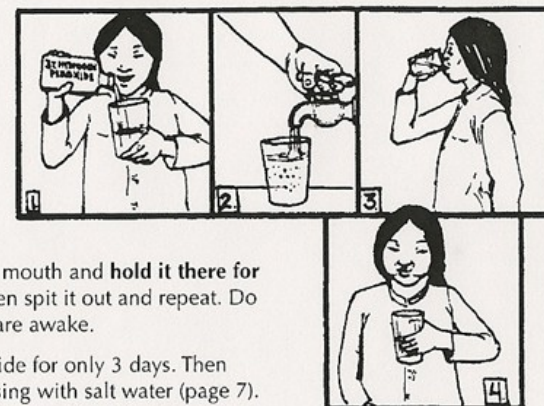
Painful gums that bleed at the slightest touch need special treatment. If you have this problem, ask for help. A dental worker can explain what is happening and what needs to be done. A dental worker can also scrape the teeth and remove the tartar that is poking the gums, making them sore.

At home, you can do some things to help.

- Clean your teeth near the gums with a soft brush. **Gently** push the brush between the tooth and the gum. It may bleed at first, but as the gums toughen, the bleeding will stop.
- Make your food soft, so it is easier. Pounded yam and soup are good examples.
- Eat plenty of fresh fruits and vegetables. If it is difficult for you to bite into fruit, squeeze it and drink the juice.
- Start rinsing your mouth with a mixture of **hydrogen peroxide** and water. You can get hydrogen peroxide from your clinic or your pharmacy (chemist).

The strength of hydrogen peroxide is important. Ask for a 3% solution and mix it evenly with water — that is, 1/2 cup of hydrogen peroxide with 1/2 cup of water.

WARNING: Read the label to be sure the solution is 3%. A mixture with more than 3% hydrogen peroxide can burn the mouth.



Take some into your mouth and **hold it there for about 2 minutes**. Then spit it out and repeat. Do this every hour you are awake.

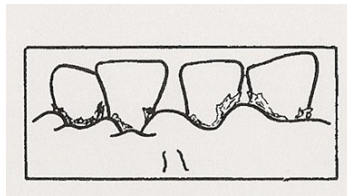
Use hydrogen peroxide for only 3 days. Then change and start rinsing with salt water (page 7).

GUM DISEASE STARTING

Infection can start in the gums whenever the teeth near them are not clean. For example, there may be swelling between only 2 teeth or between many teeth. In addition, gums that are weak from poor nutrition are not able to resist the infection. This is why malnourished children and pregnant women and people living with HIV/AIDS must take special care to eat well and clean their teeth carefully. When a person has HIV, his body cannot fight infections well, so a gum infection can quickly get worse and even progress to noma.

SIGNS of mild gum disease:

- Gums are red instead of pink.
- Gums are loose instead of tight against the tooth.
- Between the teeth, gums are round instead of pointed.
- Gums bleed when the person brushes or flosses.
- Gums bleed when you press against them, or when you scrape away food from under them.
- The person has bad breath and a bad taste inside the mouth.



Gum Disease Treatment:

1. Show her how to clean her teeth better near the gums.
2. Tell her to rinse her mouth with warm salt water. Make 4 cups each day until the bleeding stops. Then make 1 cup a day to keep the gums strong and tough (or use MAMA Dentifrice).
3. Tell her to eat fresh fruits and vegetables. Guavas, oranges, pineapples, papayas, tomatoes, peas, and green leaves give strength to gums.

MORE SERIOUS GUM DISEASE

Vincent's infection of the gums, also called trench mouth, affects both adults and children. In its worst form, it can eat a hole through the cheek of a weak child.

A person with Vincent's Infection may not want to eat because his teeth hurt when he chews food. That can make a child's malnutrition worse.

You must prevent this problem from starting, especially in a child who is weak from sickness. Teach mothers to clean their children's teeth and to get their children to rinse their mouths with warm salt water.

SIGNS:

- Gums between the teeth are dying and turning grey.
- Pus and old blood collect around the teeth.
- Burning pain from the gums.
- Bleeding from the gums.
- The mouth smells bad.



WHITE OR YELLOW PATCHES IN THE MOUTH (thrush, oral candidiasis)

Thrush is the most common infection in the mouth seen in people with HIV infection. Thrush can also be a problem for people who do not have HIV.

SIGNS:

- A burning or swelling feeling in the mouth, especially when eating spicy foods. Because of pain, eating and swallowing become more and more difficult.
- The skin inside the mouth is usually covered with white, yellow, or red patches. If you try to remove the white patches with a clean cloth, they will come off, but sometimes leave a bleeding red surface underneath. In some people they may not come off easily. In a few people, there are no white patches. Instead, the skin of the mouth is red and blotchy. It may look very rough.
- Sometimes there are painful cracks at the corners of the mouth that will not heal and sometimes bleed.

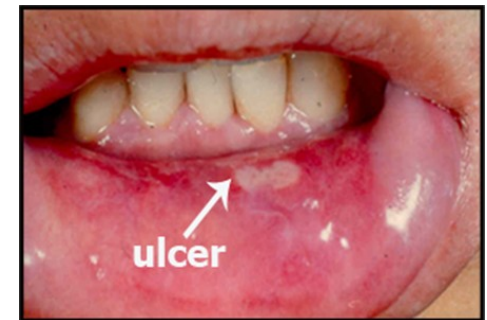


SORES OF THE SKIN OF THE MOUTH (ulcers)

Most people from time to time have had a small open sore (ulcer) in the mouth caused by an infection that has destroyed the skin in that area. It is usually painful and can make eating and speaking difficult for 1 or 2 weeks. The ulcer heals if the mouth is kept clean. For people with HIV infection, the healing process can be very slow and sometimes the sore area in the mouth becomes very large. This is especially true if the person is taking one of the medicines used to weaken HIV, such as zidovudine (AZT).

SIGNS:

The skin lining the mouth or on the tongue is broken and will probably look much redder than the skin that is not broken.



INFECTION OF THE GUMS (Vincent's Infection, trench mouth)



Many people have some infection of the gums around their teeth. The amount of infection depends on how clean the mouth is kept and how well a person's body can fight off disease. If the mouth and gums are not kept clean, the infections may get so bad that it will spread to the jaw bone and

other tissues nearby and the teeth will eventually loosen and fall out.

Because the body of someone with HIV infection is less able to fight off disease, any gum infection will quickly get worse if the person does not keep his mouth and teeth clean. This can be very serious. If a person with HIV loses his teeth and cannot eat, he will become even more ill.

SIGNS:

- The gums are red, puffy, and very painful.
- There may be yellow liquid (pus) oozing from the gum around one or more teeth.
- The gums between several teeth have sores (ulcers).
- The person's mouth smells very bad.

If the infection of the gums is very bad and advanced (as it can be for a person with HIV), the signs may include:

- red, raw ulcers of the gums.
- the roots of the teeth will show.
- pieces of the jaw bone can be seen at the bottom of the ulcers.
- some teeth are loose.

COLD SORES OR FEVER BLISTERS

Many people get cold sores or fever blisters caused by the herpes virus. People who become infected with herpes carry the virus forever. Most people are infected as children. The herpes sores can come and go.



The herpes sores usually heal after 1 or 2 weeks. But for person infected with HIV, the sores come more often and last much longer.

SIGNS:

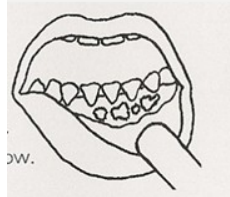
1. One or more small, sometimes painful, red blisters appear on the lips and skin around the mouth. In people with HIV infection, they also appear just inside the lips, and on the gums and the roof of the mouth.
2. The blisters burst and become small open sores that often spread into each other.
3. After the blisters on the lips burst, a yellow crust forms over them.

The herpes sores can pick up other infections, particularly in people with HIV infection. Also, the liquid inside the sores are blisters can spread infection. **If herpes is spread to the eyes, it can cause blindness.** Keep fingers and hands away from sores because they contain very active virus. It is very important to wash the hands before and after touching the face or eyes.

FEVER BLISTERS

Herpes virus is a kind of germ that causes fever blisters. Fever blisters are sores that can form inside the mouth on the gums or outside on the lips. Blisters on the cheeks only are not from herpes virus.

Sores **inside the mouth** are a serious problem that usually affect children between 1 and 5 years old. A child with fever blisters in his mouth can become very sick. He will not be able to eat properly. If he does not drink enough fluids, he can become dehydrated (lose his body water). This is dangerous! Fever blisters are also a problem for people living with HIV/AIDS.



SIGNS:

- Sore throat.
- Fever.
- Crying, stops sucking 2-3 days before sores appear.
- Spit spills from the mouth because it hurts to swallow.
- Painful swelling under the jaw.
- Bright red blisters on the gums, **but not between the teeth**. Blisters also may be on the roof of the mouth.

TREATMENT:

Medicine cannot kill the Herpes virus. The sores will go away by themselves in about 10 days. The treatment is to help the person feel more comfortable and to be sure he gets enough to eat and drink.

1. Give aspirin or acetaminophen for fever.
2. Wipe milk or yogurt over the sores to protect them before eating.
Wash your hands before touching the insides of someone's mouth. Then give food that is soft and not spicy. If the person cannot eat, prepare a special drink.
3. Give lots of fluid to drink.

Sores **on the lips** usually occur after the age of 5. They often appear when the person is weak and sick (for example, with diarrhea or pneumonia). Usually there is no fever. The blisters soon break open and release water. When they dry, a crust forms. The blisters often return. When sores leak water they can pass infection. If you or anyone else touches them, wash your hands immediately.

To prevent the blisters from becoming infections, put an antibacterial cream or petroleum jelly (Vaseline) on them. IF you hold ice against the sores for several minutes each day, it may help them heal faster.

This virus is very dangerous for newborns. Use care to not allow newborns near a person with fever blisters or "cold sores".

THRUSH

Thrush is an infection caused by a yeast fungus called *Candida*. It often appears when a person is weak and poorly nourished, or sick and taking medicine like tetracycline or ampicillin. In a baby, thrush usually appears on the tongue or top of the mouth. It can stop the baby from sucking. In an adult, thrush often occurs under a denture. Thrush is a very common problem for people living with HIV/AIDS.



SIGNS:

- White patches on the tongue, cheek or top of the mouth. Wipe the white area: If there is **no** bleeding it is **old milk**. If there **is** bleeding, it is **thrush**.
- The child may not want to suck or eat.

TREATMENT:

There is usually something else present which is helping thrush to grow. Try to find what it is and deal with it. For example, treat the malnutrition, change or stop the antibiotic medicine, or leave the denture out of the mouth for a while. Then:

1. Cover the white patches with nystatin drops. Use a full dropper 4 or 5 times a day until the patches are gone. If you do not have nystatin you can soak a piece of cotton in gentian violet and use it to paint the white patches 2 times a day.
If the baby's mother has sore, painful nipples, she may also have thrush in her breasts. She should treat her nipples the same way she treats the baby's mouth.
Do not use penicillin or any other antibiotic unless you need to treat something different. Thrush can get worse when a person uses an antibiotic for a long time.
2. Continue breastfeeding. For older persons, make their food soft and easy to chew.

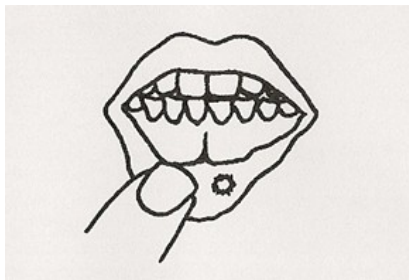
CANKER SORES

The exact cause of canker sores is not known. Unlike fever blisters, canker sores usually affect adults rather than children.

One or more sores can appear at any time. These sores hurt, especially when pieces of food touch them.

SIGNS:

- A sore can appear on the cheeks, inside the lips, on the tongue, or below the gums on the smooth skin.
- The sore is white or yellow with the skin around it bright red.
- The person may have had a similar kind of sore before. It tends to come back.



TREATMENT:

A canker sore goes away by itself in about 10 days. Medicine does not make that happen any faster. The treatment is simple. Tell the person how to feel comfortable while waiting for the 10 days to pass.

- Eat foods that are soft and not likely to hurt the sore.
- Do not eat food with a lot of pepper.
- Drink lots of water.
- Chew food on the other side of the mouth, away from the sore.

Ask the person to rinse with warm salt water, 4 cups each day until the sore is better. Or use MAMA Dentifrice.

If the sore continues after 10 days, it may be infected. Give antibiotics.

A sore that does not heal after antibiotic treatment may be cancer. See a doctor immediately.

SORES AT THE CORNERS OF THE MOUTH

Poor health can make lines at the corners of the mouth crack and become sore. These cracks are often infected with thrush and can be treated with nystatin.

A child who has had a fever or measles often has dry lips. The corners of her mouth can crack and become sore. Cracks and sores appearing at the corners of a child's mouth are signs of dehydration and malnutrition.

The child needs to eat the kind of foods that give strength, energy, and protection. Feed her beans, milk, eggs, fish, oils, fruits, and green leafy vegetables.

TREATMENT (when sores occur):

1. Wash the sores with soap and hot water.
2. Mix 2 part sulfur with 10 parts of petroleum jelly (Vaseline).
3. Smear some on the sores 3-4 times a day.
4. Use MAMA Dentifrice
5. Take Vitamin A Megadose for 3 days
6. Use Essential Micronutrients.

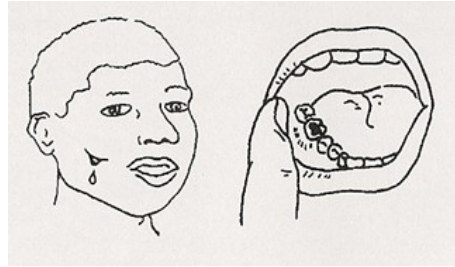


SORES ON THE FACE

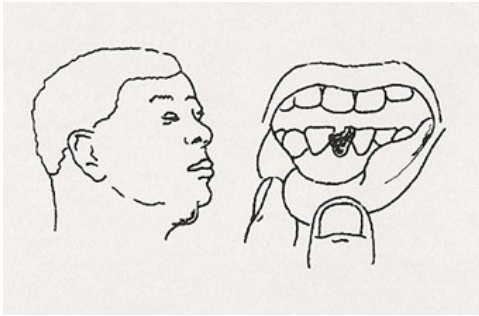
Whenever you see a sore on a person's cheek or under his chin, remember there may be a tooth or gum problem. If it is a gum problem, it may be NOMA.

A bad tooth:

Ask him to open his mouth. Look for an infected tooth in the area of the sore. There may be a large cavity and the tooth may be loose.



Or the tooth may be darker in color than the others. This is because it is dead. The pus is draining onto the skin, so the pressure is reduced and the person does not complain of pain.



TREATMENT:

1. Tooth does not need to be pulled. Give antibiotics.
2. After the penicillin treatment, check the sore. If it has healed, there is no longer infection inside. The treatment is finished.

But if the sore is still open and you can squeeze out pus, you will need the help of experienced health workers who can:

- Test the pus to see if it is resistant to penicillin. **The person may need to take a different antibiotic.**
- Take an x-ray to see if there are dead pieces of bone which are keeping the infection alive. If there are, they must be removed.

If infected gums (and not a bad tooth) are the cause of a sore on the cheek or chin, the problem is more serious.

Send the person to the hospital as soon as possible. The person must have wires placed on his teeth within a week of the accident. The wires must remain there for 4 to 6 weeks. Every week, the person must return to the hospital to have the wires tightened. During this time he cannot open his mouth to chew food or brush his teeth.

CARING FOR A PERSON WHO CANNOT EAT PROPERLY

1. Give liquid foods for strength and energy.

Prepare food in two ways: (a) First, a milk-oil drink to build strength and then (b) a special soup to keep him strong and give him energy.

Start with Super Drink.

To keep strength and give energy: Special vegetable soup

Cut into small pieces and cook together in a pot of water:

- 1/2 tin of fish or a handful of dried fish
- 4 small spoonfuls of peanut oil or palm oil
- 6 sweet potatoes or small yams
- 1 large handful of green leaves
- 1 small spoonful of salt

Pour the soup into an empty tin with small holes made in the bottom. Use the back of a spoon to press as much of the cooked food as you can through the holes. The person can suck the soup between the teeth to the throat and then swallow it. Clean the tin and set it in boiling water, so you can use it again the next day.

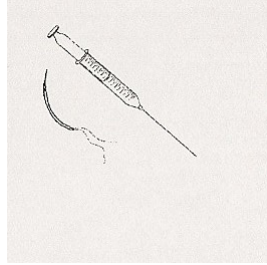
2. Keep the teeth clean and the gums tough.

The person must learn to clean teeth and gums or the gums can quickly become infected and the mouth will feel sore. So:

- Scrub both the wires and the teeth with a soft brush after drinking soup.
- Rinse with warm salt water, 2 cups every day.

GET RID OF WASTES SAFELY

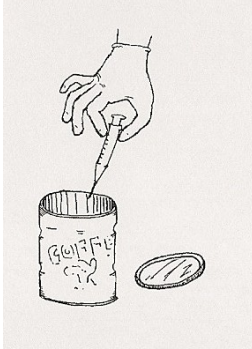
Every time you examine a person's mouth, fill a cavity or extract a tooth, you are left with some waste. For example, used cotton or gauze, disposable needles and syringes, plastic gloves, and other materials must be thrown away. But **do not put them in the trash.** These wastes carry germs and can spread infections to you and to the people in the family and community. Wear gloves when you touch wastes, and get rid of them carefully.



HOW TO DISPOSE OF SHARP WASTES

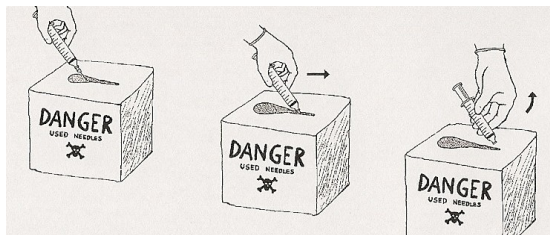
Sharp wastes must be put into a container so that they will not injure anyone who finds them. A container made of metal or heavy plastic, with a lid or tape to close it, works well.

When the container is half full, add 5% bleach solution, then seal it closed and bury it deep in the ground.



Make a box to dispose of needles safely.

- Find a metal or hard plastic box. Make a long hole in the lid of the box that is wide on one side and gets narrower on the other side.
- When you have finished using a disposable syringe, put the needle into the box and slide it down to the narrowest point.
- Then pull up on the syringe and the needle will fall off into the box. The plastic syringe can be sterilized and thrown into a waste pit.
- When the box is half full, pour 5% bleach solution into the box, seal it closed and then bury it deep in the ground.



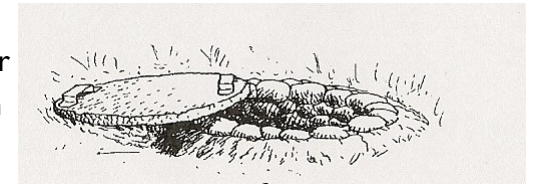
OTHER WASTES

Other wastes, like plastic gloves, syringe barrels, or cloth soaked in blood, should be sterilized and then buried deep in the ground. You can sterilize them by soaking them in bleach for 20 minutes.

WARNING: Do not burn plastic gloves, syringes or any other plastics. Burning plastic wastes is dangerous —when plastic burns, it makes smoke and ash that is very poisonous.

BURYING WASTES

Find a place away from where people get their drinking water and away from where children play. Dig a safe waste pit to bury wastes.



Special thanks to the Hesperian Foundation. Much of Module 3 and the information about oral health and hygiene was adapted from "Where There is No Dentist".

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