



International
Transplant Nurses
Society

**What Every
Transplant Patient
Needs to Know About**

DENTAL CARE



Dental Care after Transplant



As you recover from transplant surgery, you will learn a lot about how to take care of yourself and your healthy organ. You will learn many new things about medications, rejection, and infection.

In addition to your transplant care, there are many routine care needs that you must continue to do – such as taking care of your teeth and gums (*oral hygiene*). This is something that is important for everyone! For people who are waiting for an organ transplant and for those who have received organ transplants, maintaining healthy teeth and gums is an essential area of care. This booklet will discuss many issues about dental care and the best ways to take care of your teeth and gums.

Why could I have problems with my teeth and gums?

There are several reasons why you might have problems with your teeth or gums before and after transplant. When you were waiting for transplant, you may not have thought a lot about caring for your teeth. This may have been because you were ill or unable to take care of yourself. Patients who are very ill before transplant often cannot visit their dentist for regular check-ups and dental care. These factors may lead to dental problems before receiving a transplant. After transplant, you may be more concerned about transplant recovery. However, because you are now taking medications to suppress your immune system, your risk for developing infections is increased, including infections that could develop in your mouth and gums. Infections and gum disease (or gingivitis) can lead to problems with your teeth.

Should patients have a dental exam before having a transplant?

Most transplant centers include a dental check-up as part of the pre-transplant evaluation. You will be asked to have an examination by your local dentist around the time of your transplant evaluation to check the health of your teeth and gums, particularly observing for any cavities (*dental caries*), gum disease (*gingivitis*) or tooth infections (*dental abscess*). Having a dental infection at the time of transplant could postpone or cancel transplant surgery. Infections may occur or be more serious after transplant because anti-rejection medications weaken your immune system (your ability to fight infection). Maintaining your dental health as best as you can while waiting for an organ will decrease your risk of infection from dental problems after your transplant. Transplant centers usually recommend that all active dental problems be treated before transplant to decrease the risk of infection after transplant.

When should I see my dentist after transplant?

Most transplant centers advise patients to wait at least three months before having any dental treatment unless there is an emergency dental problem. Immunosuppression levels are highest early after transplant so you are at a greater risk for developing an infection during this time. You can see your dentist again to start routine check-ups and cleanings following your recovery from transplant surgery after your immunosuppression levels are lower, and your transplant team clears you for dental treatment. This is usually three to six months after your transplant.

What are the most common dental problems experienced by transplant recipients?

The types of dental problems seen in transplant patients are similar to those in the general population. Gum disease, tooth decay, mouth ulcers, dry mouth, and dental infections can occur. Some dental problems are side effects of medications you take after transplant. Also, you can develop infections more easily because your immune system is suppressed.

Gum Disease (Gingivitis)

What is gum disease and how is this treated?

Gum disease, or *gingivitis*, is an infection of the tissue that surrounds your teeth. Infection can develop in the gap between the tooth and the gum, just below the gum line. The infection can cause the tissue to break down. As this tissue breaks down, a pocket can develop within the gap. The pocket can develop into a more serious type of gum infection called *periodontal disease*. Some transplant medications can increase your risk of gum disease. Diabetes and smoking or chewing tobacco can make the gum disease worse.

Symptoms of gum disease (*gingivitis*) include:

- Red, swollen, and/or tender gums
- Gums that bleed easily

Symptoms of gum disease and/or periodontal disease include:

- Gums that have pulled away from the teeth, exposing more teeth
- Bad breath (*halitosis*) or a bad taste in the mouth that does not go away
- Loosening of the teeth
- Wider separations between teeth
- Changes in the way your teeth fit together when you bite



Gum Overgrowth (Gingival Hypertrophy)

Another condition of the gums that can occur in some patients after transplant is gum enlargement or overgrowth. This is caused by several medications, including an anti-rejection medication called cyclosporine. In some patients, these medications cause the gums to grow over their usual borders. As the gums enlarge, they cover part of the teeth. This gum overgrowth is called *gingival hypertrophy*. When the gums are enlarged, the overgrown gums interfere with brushing and flossing. Bleeding and infection can occur.

If you are concerned about gum overgrowth or have enlarged gums:

- Call your transplant coordinator to discuss this medication side effect. Ask if you are taking any of the medications that could cause gum overgrowth.
- Observe your gums for any fullness and growth over the usual gum-tooth border when you brush.
- Visit your dentist regularly for a dental exam and cleaning.
- Provide your dentist with a list of your current medications.
- Brush according to your dentist's or hygienist's guidelines if you have gum overgrowth. A very soft toothbrush is recommended to avoid bleeding gums.
- Discuss any problems you are having because of gum overgrowth with your transplant team. In some cases, it may be possible to change to another type of anti-rejection medication that does not have this side effect. If the medication cannot be changed, sometimes the level or dose of the medication can be lowered.
- Gum surgery can reduce gum tissue if your gums have become severely overgrown. This will help maintain good gum health and decrease the risk of infection.

Dental Decay (Dental Caries)

What is plaque and how does it lead to tooth decay?

Plaque is a sticky layer of bits of food and bacteria that is always forming on teeth. After you eat or drink foods that contain sugar or starch, the bacteria in plaque make acids that attack the hard *enamel* covering of the tooth. The enamel can break down over time from repeated attacks of this acid. When the enamel breaks down, that area of the tooth decays, forming a cavity.

Plaque can also build up around the base of the teeth. Plaque hardens and is more difficult to remove if you do not brush and floss daily or get routine cleanings. Plaque irritates the gums, causing them to become swollen and bleed. This can progress to periodontal disease or infection.

To prevent plaque build-up and further complications:

- Brush your teeth at least twice a day with fluoride toothpaste, especially after meals or snacks.
- Always brush your teeth before going to sleep at night.
- Clean between your teeth by flossing daily.
- Discuss the best method for brushing and flossing your teeth with your hygienist or dentist.
- Visit your dentist and dental hygienist at least every 6 months or more often if necessary, for a professional examination and cleaning. The dental hygienist will remove any hard plaque on your gum line or between your teeth.
- Eat a well-balanced diet. Limit between meal snacks and sweets. Limit high sugar foods and sugar-containing drinks, particularly if they are in prolonged contact with your teeth.
- Call your dentist if you notice any chips or rough areas on your teeth, if your teeth become sensitive to cold or hot foods and drinks, or if you develop any tooth pain.
- Go to the dentist to have cavities treated as soon as possible to avoid further progression of decay and infection.

What other oral problems can occur?

Thrush (*oral candidiasis*) is an infection caused by a fungus that normally lives in the mouth and does not cause any problems in people with a healthy immune system. Because you are taking medications to suppress your immune system to prevent rejection, this fungus can cause an infection in your mouth. You have a greater risk of developing thrush during times when you are receiving higher levels of immunosuppression, particularly in the first few months after transplant or if you are being treated for rejection. Having diabetes, a dry mouth (*xerostomia*), or dentures may increase the risk of getting a thrush infection. Smoking is another factor that can increase the risk of developing thrush.

Thrush appears as white patchy areas in your mouth and commonly forms on the lining of the mouth, tongue, and throat. The areas may be red and sore. If you have thrush, it might be uncomfortable or painful to eat and your mouth may be dry. Your provider will prescribe a medication to prevent thrush for the first few months after transplant or whenever you are being maintained on higher levels of anti-rejection medications, including high doses of steroids (*prednisone*). The dose of this prevention medication may be increased or another medication could be ordered if you develop thrush. Thrush is treated with medicines that can be taken as a lozenge, pill or oral rinse (such as *clotrimazole*, *fluconazole*, and *nystatin*).

Dry mouth (*xerostomia*) occurs when you do not have enough saliva to keep your mouth moist. This happens when the salivary glands are not working well and can occur as a side effect of some medications. Many over-the-counter medications, such as antihistamines and decongestants, cause dry mouth. Some of the medications that you are prescribed after transplant also cause dry mouth. Dry mouth is often seen in older adults.

Common symptoms of dry mouth include: thick stringy saliva, a constant sore throat, mouth/tongue burning, bad breath, and difficulty chewing, tasting, and swallowing. It may also be difficult to talk when you have dry mouth. Tooth decay and gum disease can worsen when there is not enough saliva to wash away plaque. Dry mouth is harmful to the transplant recipient because the dryness can irritate the soft tissue in the mouth, and mouth sores or ulcers can develop. These ulcers may be painful and could also become infected.

If you have dry mouth, discuss this side effect with your transplant team and/or dentist. Ask if this is a side effect of any of the medications you are taking. Your dentist can recommend some ways to increase the moisture in your mouth. You can improve the symptoms of dry mouth by:

- sucking on sugar-free candy to stimulate saliva
- chewing sugar-free gum
- using artificial saliva or an over-the-counter oral moisturizer
- rinsing frequently with alcohol-free oral rinses such as normal saline, 3% hydrogen peroxide, club soda, or Biotene®
- avoiding alcohol, salty foods, and caffeine
- drinking water frequently
- sucking on ice chips

Mouth ulcers or sores can develop in the soft tissue lining the mouth (oral mucosa). These sores can occur as a result of anti-rejection medications, but also appear for many other reasons, as in the general population. Ulcers also occur by accidentally biting the inside of your lip or when your mouth is irritated from dental braces or dentures. The ulcers wear away the mucosa resulting in a shallow sore with a red border and a yellow or white center. The area is usually swollen and painful.

Having mouth ulcers can cause problems with chewing, swallowing, and even talking. Eating soft, mild foods that are easy to swallow such as creamed soups, cottage cheese, and yogurt can help relieve the pain. Drinking cold fluids can also help. There are some over-the-counter medicines that can be applied to the ulcer and surrounding area to decrease pain. Patients who have painful ulcers and an inflammation (or swelling) of the oral mucosa may find relief with an anesthetic or numbing medication. This medication is sprayed or applied to the irritated area. Ask your dentist about the product that is best for you. Mouth ulcers usually heal within one to three weeks. Call your provider or dentist if you have mouth ulcers that are not healing or if the area around the ulcers has increased redness, swelling, or pain.

How can I avoid these dental problems?

You can have healthy teeth, gums and mouth tissue after transplant with good oral hygiene. It's easy to forget about this part of your health with all the other responsibilities you have as a new transplant recipient. Here are some important guidelines to maintain healthy teeth and gums:

- Brush at least twice a day, particularly after meals and before going to sleep.
- Floss between teeth at least daily to remove food particles and plaque.
- Use a toothbrush that has a small head with soft or ultra-soft bristles. A soft toothbrush will provide a safe and gentle action to remove trapped plaque and food.
- Brush for about 2 or 3 minutes. Power toothbrushes will automatically do this.
- Rinsing with a mouthwash may be helpful to reduce bacteria, freshen your breath, and reduce plaque.
- Visit your dentist and hygienist for regular check-ups and cleanings every six months. If you develop problems, check-ups should be performed every three or four months, or at the dentist's discretion.
- Eat a balanced diet and avoid sweets.
- Replace your toothbrush every three months.
- Schedule regular dental examinations and routine cleanings with your dentist and hygienist.
- Remember that your dentist and hygienist are a part of your transplant team.

As a transplant patient, you should also:

- Remind your dentist and hygienist that you have had a transplant.
- Make sure your dentist knows what medications you are taking.
- Examine your own mouth regularly and call your provider and/or dentist if you have any chipped or cracked teeth, tooth pain, swelling, red or swollen gums, bleeding, sores in your mouth, or white patches on your tongue or the lining of your mouth.
- Always take all your medications as prescribed by your transplant team.
- Get your labs drawn regularly as requested by your transplant team.

How should I brush my teeth?

Discuss the best way to brush and floss your teeth with your dentist and hygienist. If you are having any dental problems, they can show you the best method. Generally, the following steps are recommended for a thorough cleaning:

- Choose a toothpaste that is approved by your dental association (ADA approved, CDA approved).
- Choose a toothbrush as recommended by your dentist. A toothbrush that has a small head with soft or ultra-soft bristles is usually the best.
- Hold the brush at a 45 degree angle against your teeth so that the bristles of the brush reach into the space between your teeth and gums.
- Gently brush the outside and insides of your teeth on the top and bottom using a short back-and-forth motion or a small circular motion.
- Brush behind the upper and lower front teeth. Hold your brush vertically (straight up instead of sideways) and use the bristles at the top of the brush.
- Brush the surfaces of the back teeth.
- Rinse your mouth thoroughly.

How should I floss?

- Wrap the floss comfortably around your fingers so that you can control it as you floss.
- Gently ease and glide the floss back and forth between your teeth making a “C” shape around the tooth with the floss.
- Be careful to move the floss up and down the side of the tooth so that you are thoroughly cleaning between the teeth and between each tooth and the gum.
- If it is difficult to get the floss between your teeth, try using dental tape. It is slightly thicker than floss and may be helpful.



Do I have to do anything special before having a dental procedure since my immune system is suppressed?

Transplant recipients may have a greater risk for developing an oral infection when the gums or the lining of the mouth are injured because their immune system is suppressed. Bacteria that are commonly in the mouth can cause infection, which can be more serious if it spreads into the bloodstream. This risk is increased if immunosuppression levels are high, particularly during the first three to six months after transplant or if you are being treated for rejection.

If you are seeing your dentist for a routine examination, many transplant centers agree that no special treatment or antibiotic is needed before an appointment. If you are having a cleaning or any procedure that might injure the gums, like having a tooth pulled, taking an antibiotic before the procedure to prevent any problems with infection may be recommended by your center. This is called infection *prophylaxis* (or *prevention*). Your dentist will prescribe the appropriate antibiotic and will tell you how to take it.

Guidelines on infection prevention before dental procedures vary by center. It is very important that you know what your transplant center recommends. **Be sure you know your transplant center’s protocol for infection prevention before you have a dental procedure.** Discuss guidelines for dental care with your transplant coordinator. The National Institute of Dental and Craniofacial Research advises that dentists should decide with the patient’s provider if an antibiotic is needed to prevent infection from an invasive dental procedure. Most providers and dentists follow the American Heart Association’s guidelines to prevent endocarditis when deciding about giving antibiotics to transplant recipients before dental care. (*Endocarditis is an infection of the inner lining of the heart that can occur when bacteria from another part of your body, such as your mouth, spreads through your bloodstream and then goes to the heart.*) This recommendation states that when the risk of an oral infection, a blood infection, certain types of pneumonias, or endocarditis is greater than the risk from an allergic reaction against the antibiotic, it is best to advise the patient to take antibiotics before any dental work.

Remember, guidelines about taking antibiotics vary by transplant center. Be sure you know what your transplant team recommends!

What should I do if I have a dental emergency?

Contact your dentist immediately if you have an emergency dental situation, such as a cracked or broken tooth, pain, or swelling. Remind your dentist that you have had a transplant, and list the medications you are taking. Your dentist may prescribe an antibiotic if there is concern about infection before any procedure is begun. Do not ignore dental pain or delay treatment. It is important to have injured teeth repaired quickly to avoid further complications.

How does my diet affect my dental health?

The types of food that you eat and your eating habits affect the health of your teeth and gums. Some foods promote and maintain healthy teeth and gums, while other foods can lead to increased plaque and tooth decay. Good nutrition is important in maintaining healthy teeth and gums for everyone!

- Vitamin C and folic acid help maintain healthy gums. Many fruits and vegetables provide good sources of these nutrients.
- Iron and B Vitamins, which are important for your blood, are found in whole grains. Breads high in fiber, whole grain cereals, and rice are good sources.
- Protein is important for wound healing and tissue growth and repair. Good sources of protein include lean meat, fish, poultry, and beans.
- Fruits and vegetables high in fiber can contribute to good dental health by increasing the flow of saliva which lowers acid levels and helps clean the teeth. Chewing these foods can also help clean your teeth.
- It is also helpful to drink water throughout the day. Water will help decrease the growth of plaque and can also help rinse food particles from your teeth.

Eat a diet that includes the appropriate amounts of these foods based on your health needs. Do not take additional vitamins or supplements unless prescribed by your provider.

Carbohydrates can add to tooth decay by feeding the bacteria in plaque. Foods such as pasta, white bread,

whole milk, cakes, and cookies can cause the bacteria to release acids leading to decay. Some of this acid can be rinsed away by drinking or rinsing your mouth with water, the rinsing action of your saliva, and of course, by brushing your teeth. Foods that stick to your teeth can be more harmful because the plaque acids will continue to attack the enamel even after you have stopped eating. Other “sticky” foods include raisins and other dried fruits, candy, and chewing gum.

Remember that drinks such as fruit juices, iced tea, sports drinks and carbonated drinks contain sugar unless they are diet drinks. All these products have a high acid content that can promote tooth decay.

What is fluoride and why is it important for my teeth?

Fluoride is a mineral that is added to drinking water in many cities and has been proven to be safe and effective in reducing tooth decay. Cavities used to be very common, but thanks to fluoride being added to most drinking water, the incidence of tooth decay has decreased significantly. Fluoride helps strengthen teeth by repairing the areas in the enamel where acid from foods and the bacteria in plaque has begun to break it down. Teeth exposed to fluoride are more resistant to acid attacks that increase tooth decay. If you drink fluoridated water, the fluoride will also be in your saliva, which continually washes your teeth.

Fluoride can also be applied to the tooth surface. This is the fluoride treatment applied to your teeth by your dentist or hygienist at your routine check-up and cleaning. Most toothpastes contain fluoride, and fluoride mouth rinses are also available. Adding topical fluoride treatments to your dental care routine helps teeth resist the development of tooth decay.

The American Dental Association (ADA), Canadian Dental Association, and the British Dental Health Foundation recommend the appropriate use of fluorides through fluoride toothpaste in adults and children over the age of 2 years, in mouth rinses with fluoride for adults and children over the age of 6 years, and through applications of fluoride by a dentist or dental hygienist during routine dental visits.

I know I should visit my dentist regularly, but I'm really frightened about having any dental work. What should I do?

Being worried and even scared about visiting the dentist is a common fear. There's even a name for it! It's called "dental anxiety." The best way to overcome your fear of going to the dentist is to make an appointment to discuss your concerns. As your dentist and the dental staff get to know you better, they will be able to work with you on ways to reduce your fear. Choose a time for your visit when you are not rushed. An early appointment might be helpful so you don't worry all day. Many dentists can use a variety of relaxation therapies, music, and other distraction techniques to help anxious patients.

Dental treatments have become more comfortable over the years, so you may be worrying unnecessarily. Talk to your dentist about your fears. If you continue to have severe dental anxiety, medications can be used to help you relax. There are some medications that can put you into a light sleep, if necessary. If this type of medication is needed, your dentist and transplant team will need to consider your overall health status and any ongoing problems, the type of dental procedure, your level of anxiety, and your current medications.

My insurance does not cover any dental care. What options do I have for care?

Dental health plans vary widely with insurance coverage. Some patients pay only a small co-payment while others have very little coverage and must pay out-of-pocket for all dental care and procedures. If your health plan does not include dental coverage, you can purchase stand-alone dental insurance with a separate premium from a variety of dental insurance companies. You may also be able to set up an individualized payment schedule with your dentist.

If you do not have dental insurance, discuss the options with your transplant social worker or insurance case worker. There may be alternative choices for care if you qualify, such as attending a free dental clinic at a dental school or participating in a community dental clinic that bills on a sliding scale.

I wear dentures. Do I still have to be concerned about mouth care?

If you have lost some of your teeth and have partial dentures, you should follow the same guidelines that have been described for patients who have their natural teeth. People who have lost all or most of their teeth may choose to use dentures. Maintaining good oral health is just as important for these patients. Denture wearers are also at risk for some of the conditions that have been described in this booklet, including infection with an oral fungus (thrush), dry mouth, and mouth ulcers. The methods for the prevention and treatment of these conditions will be the same as for patients who have teeth. You should keep your mouth and dentures clean and rinse both your mouth and dentures after eating. Brush your gums, tongue, the roof of your mouth and the inside of your cheeks with a soft-bristle brush daily. This helps decrease the risk of irritation and bad breath. Brushing also helps remove plaque on your gums and stimulates circulation in your gums. Dentures should not be worn at night – give your mouth a rest!

Weight gain or loss before or after transplant surgery can cause changes in how your dentures fit. This should be corrected as soon as possible so that poor-fitting dentures do not interfere with eating and maintaining a healthy diet. Loose-fitting dentures can also cause gum irritation, sores, and infection.

If you develop a sore mouth, a lump in your mouth, or a sore spot or ulcer that does not heal within two weeks, you should schedule an appointment to see your dentist. Denture wearers who smoke are at greater risk for thrush, other infections, and mouth disease. Remember that being immunosuppressed after transplant increases the usual risk for infection.

Denture wearers should have their mouths examined by a dentist at least once a year. This examination should include a screening for mouth cancer.

Can transplant patients develop cancer of the mouth?

Cancers of the mouth (oral cancers) tend to develop in older people, especially if they have smoked. This also applies to patients who have received transplants. Mouth cancers tend to grow slowly and patients are usually not aware that cancer has developed in their mouth until the tumors have become advanced. This is another reason why you should have a regular check-up with your dentist. At the time of your routine check-up every six months, or yearly for denture wearers, the dentist should complete a screening examination for oral cancer. This involves careful inspection of all areas in your mouth including the gums, cheeks, the roof of the mouth, tongue, and under the tongue.

Some mouth cancers develop from pre-cancerous lesions. These are painless white patches (*leukoplakia*) or red patches (*erythroplakia*). These lesions should be examined by a dentist immediately, particularly if they develop on the sides or under your tongue. These abnormal areas can be biopsied to see if they are benign (not cancerous), pre-cancerous, or malignant (have cancer cells). Your dentist may perform a biopsy or refer you to an oral surgeon or an ear, nose, and throat (ENT) specialist for this procedure.

If you develop a lump, sore, or ulcer anywhere in your mouth, or a lump in your neck that lasts for more than two weeks, you should see your health care provider or dentist for an examination.

Dental Care for Children with an Organ Transplant

My child has received a transplant. How should I start caring for his teeth?

If your child is a transplant recipient, caring for your child's teeth and gums includes the same care routines as for any child. The first step in taking care of an infant's teeth is to get him used to the feeling of cleaning his teeth and gums. Dentists call this "desensitizing" the mouth. You can begin to desensitize your child's mouth by touching or rubbing his mouth and gums with your clean fingers. You can use a washcloth, a rubber stimulator (in the baby section of your supermarket), or a toothette sponge (like a toothbrush, but with a small sponge on the end) to massage and clean the gums and any new teeth. Use only water to clean an infant's teeth and gums.

You should rinse your baby's mouth with water or clean it with a moist toothette or clean cloth after breast or bottle-feeding. Avoid soothing your child to sleep with breast or bottle feedings or a sippy cup. Tooth decay develops around the teeth where the milk has settled. This pattern of decay is called "baby bottle mouth." Saliva, which helps rinse and protect the teeth, is decreased when sleeping which can add to the development of tooth decay.



As your child gets older, it is important to have him brush twice daily, especially before going to bed. Place a pea-sized amount of toothpaste on his toothbrush. Teach your child to brush each section of his mouth: the upper and lower teeth on each side, and the top and bottom front teeth. After brushing, he should swish and spit, then rinse. Learning to "swish and spit" is difficult for a small child, but he will improve in time. Rotary (automatic) toothbrushes can be helpful for young children learning to hold and position the toothbrush in their mouths.

Flossing between your child's teeth is important to remove plaque and food debris. Your child will need help with this for a while, particularly if they have tightly arranged teeth. Individual dental "flossers" are easy to use when flossing your child's teeth. These are available in the dental section of your pharmacy or supermarket.

What are my child's risks for dental problems after transplant?

Children, like adults, are at risk for gum problems, tooth decay, mouth ulcers, and infection. Gum overgrowth can also occur as a side effect of some medications, particularly cyclosporine.

What can I do to help my child have healthy teeth and gums?

There are several things you can do to help your child maintain good dental health.

- Remind, supervise, and help your child brush his teeth and floss.
- Examine your child's mouth regularly to watch for signs of gum swelling, redness or overgrowth, mouth ulcers, dry mouth, or signs of infection (red, swollen gums and/or white patches [thrush]). As he gets older, teach your child how to check for these signs of problems.
- Provide healthy snacks for your child and avoid high sugar snacks, soft drinks, and treats that can contribute to tooth decay.
- Schedule visits to your child's dentist and dental hygienist every 6 months for an examination and cleaning.
- Call your dentist with any problems or complaints and have dental problems treated promptly.
- Ask your dentist about sealants. A sealant is a protective coating that can be applied to the surface of the back teeth where cavities often develop. These are helpful in preventing cavities in some children.
- Be sure your child is getting the right amount of calcium, vitamin D, and phosphorus. These nutrients help build strong teeth as well as bones and are found in dairy products such as milk, cheese, and yogurt. Talk to your pediatrician or transplant dietitian about nutritious food choices for your child.

- Fluoride is important for children because it strengthens the teeth as they develop — even before the teeth appear! Your child can absorb fluoride through drinking water that is fluoridated or by taking vitamins that have fluoride. Fluoride can also be given as drops, tablets, or lozenges if you do not have fluoridated water.

What should adolescents know about the risks of oral piercing?

Piercing the tongue and lips has become popular in some groups of adolescents and young adults as a form of self-expression. Many serious complications have been associated with this practice. Teens should be given advice about the serious complications that can arise from oral piercing.

There are many risks associated with oral piercing. Injuries, tongue bleeding or swelling, nerve damage, and transmission of infections can occur. The metals that are used can also cause problems. Metals can cause the gums to be injured or to recede, and can crack or chip teeth. The metal piece can be a choking hazard if it becomes loose. Oral jewelry can also cause excessive saliva, affect speech, and cause problems with chewing and swallowing food. Oral jewelry will interfere with good tooth brushing and flossing.

Infection is a common side effect of oral piercing. With all the bacteria in the mouth, infections can easily develop in injured tissues. Transplant patients are at an even higher risk of infection since their immune system is suppressed. Transplant patients should never consider oral piercing.

How can I find a dentist?

The best plan for most patients is to have your regular dentist continue to treat you after transplant. That person will be familiar with your mouth and will be able to determine if you are developing problems that were not present before you had your transplant. Providing dental care for transplant recipients is not much different than treating other patients.

If your regular dentist is not comfortable caring for your dental health after transplant, or if you need a new dentist because you have relocated, start by asking your local health care provider for a referral to a dentist in your area who is comfortable with caring for patients with transplants or has experience with these patients. Friends, family, or co-workers can also be a referral source. You can also check with your country's dental society. For example, The American Dental Association (ADA) recommends that you contact your local or state dental society. A listing of these societies is on the ADA website: www.ada.org. In the United Kingdom, a list of dentists can be found through the National Health Service (NHS) or British Dental Association: www.bda.org.

Before you arrange an appointment with a dentist for your first check-up, ask for some time to talk to him or her about your dental care as a transplant recipient. Asking questions before your appointment can help you feel comfortable with your dentist's care. It is important that your dentist can spend enough time with you to answer your questions and concerns.

Some questions to ask when choosing a dentist:

- Do you have any experience in providing dental care for transplant recipients?
- If not, are you comfortable treating patients who are immunosuppressed?
- Do you think it is important to take antibiotics before any invasive dental procedure since I'm immunosuppressed?



- How often would you like to see me for routine check-ups and cleanings?
- Are your procedures for sterilizing your dental instruments appropriate for patients who are immunosuppressed?
- What types of procedures do you do in the office?
- What types of procedures will be referred to another specialist?
- What should be done in case of a dental emergency? Is there an office emergency line, emergency contact, or answering service?

Dental health is an important aspect of care for everyone. As a transplant recipient, it is essential that you take care of your teeth and gums by regular brushing and flossing. Be sure to see your dentist and dental hygienist every 6 months. Remember, your dental care practitioners are part of your transplant team!

RELATED LINKS FOR MORE INFORMATION

These sites are provided as a network resource and ITNS is not responsible or liable for any information received from these websites. Information from the Internet in regard to your transplant should always be discussed with your transplant team. For additional information on dental care:

ITNS is the first professional nursing organization to focus on the professional growth and development of the transplant clinician. ITNS offers nurses a forum for learning about the latest advances in transplantation and transplant patient care. To access more transplant education materials for patients and healthcare workers please visit the International Transplant Nurses website at itns.org.

www.ada.org

The American Dental Association is the professional association of dentists committed to the public's oral health, ethics, science, and professional advancement.

www.ada.org.au

The Australian Dental Association is an organization of dentists whose aim is the encouragement of the health of the public and the promotion of the art and science of dentistry.

www.cdc.gov/oralhealth/publications/factsheets/sgr2000_05.htm

Oral Health Resources through the Centers for Disease Control and Prevention (CDC). Contains information about state- and community-based programs in the US to prevent oral disease, to promote oral health, and foster research to enhance oral disease prevention.

www.bda.org

The British Dental Association is the professional association for dentists in the United Kingdom.

www.cdha.ca

The Canadian Dental Hygienists Association. The CDHA contributes to the health of the public by leading the development of national positions and encouraging standards related to dental hygiene practice, education, research, and regulation. Information is available on oral health care for the public.

www.hdassoc.org

The Hispanic Dental Association is the only national association of dental health professionals dedicated to promoting and improving the oral health of the Hispanic community.

www.oralb.com/learningcenter/

Oral B. Dental hygiene learning center for adults, kids, teens, and teachers.

www.nidcr.nih.gov

The National Institute of Dental and Craniofacial Research (NIDCR). The mission of this organization is to improve oral, dental, and craniofacial health through research, research training, and the dissemination of health information.

www.oralcareindia.com

Oral Care India. Provides information on dental care, emergencies, and dental practitioners in India.

www.webmd.com/oral-health/tc/basic-dental-care-overview

Basic dental care information through WebMD.

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