

### *When should dental treatment be carried out?*

All dental treatment and especially extractions should be completed at least two to three weeks before commencing radiation therapy. Your dentist or dental hygienist should thoroughly clean your teeth and educate you on correct tooth brushing and flossing techniques. Nightly application of topical fluoride, regular mouth rinsing and routine use of Sodium Lauryl Sulphate (SLS)-free toothpaste should be commenced. As everyone's mouth is different the oral care programme should be individually customised.

### *Toothbrush and toothpaste*

Use a soft small-head toothbrush and SLS-free toothpaste to limit irritation in sensitive mouths.

### *Mouthwash*

A warm rinse of sea salt (3 teaspoons) and baking soda (1 teaspoon) in 1 litre of water will improve oral comfort if you have a sore mouth. If you need to use an anti-bacterial mouth rinse use one which is alcohol-free such as Listerine Zero®, Biotene® or Oral 7® as alcohol has a drying effect on oral tissues. If your pain is severe use a topical local anaesthetic such as Xylocaine viscous.

### *Relieving dryness*

Saliva substitutes may help keep your mouth moist and allow for easier eating, swallowing, talking and sleeping. Many patients have reported significant relief from the effects of dryness by using Biotene® Oral Balance Moisturizing Gel or Oral 7® mouth gel which are both available at your chemist. These are also suitable to place under dentures.

### *Nasal hygiene*

If you have a dry mouth you may also have a dry nose. Sterimar 'Sea Water Microspray' produces a fine mist of salt water to help moisturize your nasal passages. There are several brands of sprays available; however, Sterimar uses a Nitrogen propellant and together with the special shaped nozzle makes it easier to use.

### *Diet*

Should you have significant oral discomfort and find eating normal meals difficult pure protein shakes in between meals may be helpful. You can reduce the impact of tooth decay by limiting sweet, sticky foods or anything with a high acid level such as grapefruit, tomato or orange. Brush immediately after eating as this will limit debris on and between teeth. If it is not possible to brush, swish and swallow with water as soon as possible and remember to always speak to the hospital's dietician.

- take frequent sips of water
- chew sugarless chewing gum to help stimulate salivary flow
- suck sweets or candies, but only sugarless containing Xylitol
- suck on ice
- keep water by your bed for sipping during the night or on awakening
- drink frequently while eating as this will make chewing and swallowing easier and may improve taste
- use bland, non-spicy sauces and gravies as accompaniments to meat dishes
- moisten foods with butter
- pasta dishes with creamy sauces may be easier to swallow
- limit caffeine-containing coffee and tea as many patients report increased dryness after drinking beverages containing caffeine

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A joint facility of St Vincent's Hospital Sydney  
and the Garvan Institute

# Radiation Therapy

of the Head and Neck  
and your

# Oral Health



## Information for Patients



ST VINCENT'S  
HOSPITAL  
SYDNEY

A FACILITY OF ST VINCENT'S HEALTH AUSTRALIA

Treatment of head and neck cancer requires a multidisciplinary team approach. Surgery, chemotherapy and radiotherapy, either on their own or in combination is recommended based on global data. In many instances there are treatment options available and these will be discussed with you by your specialist.

### *Why is it important to see a dentist?*

A side effect of radiation therapy to the head and neck can be damage in and around the mouth. As oral and dental complications may have immediate or long-term consequences it is important that your mouth is examined prior to commencing treatment so that you understand how to reduce some of these complications. On completion of your radiation treatment it will be important to maintain a high level of oral and dental care and see your dentist frequently.

### *Sore mouth*

Oral mucositis or sore mouth is often an early complication of radiation therapy. It usually commences by the second or third week and can lead to the inside of your mouth becoming red and sore.

### *Thrush*

Candidiasis or thrush is often associated with mucositis as the normal balance of microorganisms in saliva is disturbed by radiation therapy. White or yellow patches of thrush should be closely monitored as increased clusters of thrush can worsen the symptomatic effects of radiation therapy and may be harmful if it spreads to your digestive system or lungs.

### *Trismus*

Trismus is a spasm of muscles and can occur when the muscles used for chewing are in the field of radiation. It may be a consequence of the cancer itself or surgery and may limit your ability to keep your mouth open, especially for long periods. Physiotherapy, analgesics, anti-inflammatories and warm packs may be necessary to relieve any discomfort.

### *Dry mouth*

Xerostomia or dry mouth is often an early side effect of radiation therapy to the head and neck and occurs when the salivary glands are in the way of the beam. Even low dosages can affect saliva, making your teeth significantly more susceptible to decay.

### *Loss of taste*

A lack of saliva and damaged taste buds will alter your sensation of taste during radiotherapy and you may find that many foods have an altered taste eg salty, bitter, metallic or excessively sweet. Taste buds generally recover in 2-4 months following radiation therapy.

### *Gum disease*

Gum disease can become a problem when your mouth is dry, leaving your teeth loose, causing bad breath and potentially becoming a source of infection which can spread to other parts of the body.

### *Complication of radiotherapy in the jaws*

Osteoradionecrosis is a difficult to treat infection and can occur in bones that are directly in the path of radiation treatment. When teeth are extracted the normal healing process requires a healthy stable blood clot; however, as irradiated bone has a reduced blood supply the clot may disintegrate, leaving the extraction site vulnerable to infection. Although it is a relatively uncommon

infection, osteoradionecrosis can be serious. To reduce this risk teeth in the field of irradiation are often considered for extraction. As a minimum of 2-3 weeks is necessary for healing of dental extraction sites the recommendation to extract teeth is made in consultation with your radiation oncologist and based on your specific treatment plan. In situations where a delay in your radiotherapy is not possible and teeth are left it will be necessary to have frequent dental examinations and close monitoring by your dentist.

### *Dentures*

False teeth should be taken out at night, thoroughly cleaned, and left to soak in a denture cleaner. They should also be left out as often as possible during the day, when using mouth wash and during radiation therapy sessions. If mucositis develops use a moisturising gel on the tissue fitting surface of the denture to minimise irritation. At the first sign of discomfort, the denture should be removed and checked as adjustment or relining may be required. Ill-fitting or loose dentures can result in ulcers which may lead to osteoradionecrosis and any new dentures should only be constructed after adequate healing. In the interim your dentist may suggest flexible liners as the risk of osteoradionecrosis is a lifelong threat.

### *See your dentist*

Heightened sensitivity or discomfort in the mouth during radiation therapy and oral complications after treatment can be limited by improving oral hygiene, attending to badly positioned, partially erupted or infected teeth, especially third molars (wisdom teeth), any active dental abscesses, gum disease, tooth decay, unsound fillings, rough or sharp edges on teeth, poorly fitting false teeth, orthodontic braces and any other possible cause of oral irritation.