

# Dental advice for patients having radiotherapy and chemotherapy for head and neck cancer

## Information for patients

The management of your head and neck cancer can involve an operation and/or radiotherapy and/or chemotherapy. The aims of these treatments are to cure or shrink your cancer. Unfortunately, the side effects of this treatment can have long-term effects on your face and mouth. This leaflet will provide you with information about what side effects you may have in the short- and long-term.

If you have any questions about the information in this leaflet or about your treatment, please contact us Monday to Friday 8am to 5pm

- Restorative Dentistry reception desk: 01233 61 60 45
- Restorative Dentistry Secretary: 01227 86 63 17

### Why have I been referred to the Restorative Dental Team?

Before you start your cancer treatment, it is important that you have a dental assessment at the hospital with a consultant in restorative dentistry or a member of their team. This is because the treatment you are going to have causes several effects to your mouth. These include soreness, dryness of the mouth due to reduced saliva, and an increased risk of tooth decay, gum disease, and infections. It is very important that your mouth is as healthy as possible before you start chemotherapy and radiotherapy.

We may need to arrange for you to have some teeth removed before your cancer treatment. We may also need to do some fillings for you either before or after your cancer treatment depending on how urgent it is.



## When will I have my dental assessment?

Sometimes you will have your dental assessment after you have already begun chemotherapy, to prevent delay to your cancer treatment. Your dental assessment will be arranged around your chemotherapy schedule, to allow you time to recover before any dental work begins.

## What will happen at my dental assessment appointment?

- A large x-ray of your upper and lower jaws will be taken to check all of your teeth and bones. Your oncologist will ask for this before you come to your dental assessment appointment to make sure that we have all of the information we need before we see you.
- You will be seen by a consultant in restorative dentistry or a member of our team for a dental assessment before you begin chemotherapy and/or radiotherapy.
- As part of your dental assessment, your restorative consultant may recommend the removal (extraction) of some of your teeth. This may be because your teeth have infections, are badly broken down, or because your teeth may cause problems in the future as they are next to the radiotherapy fields. Sometimes teeth also need to be extracted if it will help your surgeons to remove the tumour or because your teeth are near the cancer. Depending on the location of the teeth being removed, we may provide you with immediate replacement dentures.
- If your cancer surgery involves your upper jaw, you may have an 'obturator' made to close any opening between the roof of your mouth and your nasal cavity (see below for more details). This will stay in place after your operation and during your radiotherapy treatment. This will be replaced with a new prosthesis after the area has healed.
- Radiotherapy treatment causes damage to the blood supply of the upper and lower jaw bones. If you need a tooth to be removed after radiotherapy, you would be at risk of having a serious bone infection of the jaw called Osteoradionecrosis; where the bone dies and becomes infected. To try and stop this, at your assessment we will check if you have any teeth that are at risk of being lost in the future. If you do, we will arrange for these teeth to be extracted before your cancer treatment begins, to avoid the risk of you developing this bone infection later in life.
- Our colleagues within the oral surgery team will carry out any dental extractions for you as soon as possible. We may also need to do some fillings for you either before or after your cancer treatment depending on how urgent it is. This will be discussed with you at your assessment.

## What is an obturator?

If your surgery results in a hole being created in your palate (roof of your mouth), an obturator plate may be used (see image below). This is a removable prosthesis (artificial device) that closes the hole in your palate left by your recent cancer operation. Leaving the hole in your palate open will affect your speech and can cause food to escape from your mouth up into your nose during eating and drinking.

The obturator will improve your speech, air flow, and ability to eat. It will also reduce the chances of you regurgitating your food (bringing your food back up into your mouth).

Your obturator will be reviewed regularly and will need to be remade every so often due to changes in the shape of your mouth after your cancer operation.



## How can I protect my teeth during my chemotherapy/radiotherapy treatment?

- We will prescribe you **high concentration fluoridated toothpaste called Duraphat 5000ppm**, which you should use twice a day. You must continue to get repeat prescriptions of this toothpaste from your GP or local dentist (free of charge) for the rest of your life, to protect your teeth from tooth decay. You may not be able to use this toothpaste during your chemotherapy or radiotherapy treatment due to a burning feeling in your mouth; we understand this. Please start using the toothpaste as soon as you are able to tolerate it in your mouth after your chemotherapy/radiotherapy has finished. It is important that you use this toothpaste instead of any other toothpaste as you are more likely to get tooth decay now and this toothpaste can protect your teeth.



- We also recommend that you use a pea-sized amount of **GC Tooth Mousse** which you smear over your teeth with your finger; leaving it without rinsing for five minutes. Follow this by brushing your teeth for two minutes with Duraphat toothpaste. Spit the toothpaste out; do not rinse with water afterwards as this will wash away the toothpaste.



This mousse is very important as it tops up the minerals in your saliva that are lost as a result of radiotherapy. You can buy the mousse from our department or online. Please speak to a member of staff for details.

- We may also recommend you use an **alcohol-free fluoride mouthwash** to help protect your teeth from tooth decay. You should use this mouthwash once a day, 60 minutes after brushing your teeth with Duraphat toothpaste.
- It is very important to have good oral hygiene during your cancer treatment. We recommend you **visit our Dental Hygiene Therapist** to discuss your toothbrushing technique.



## What side effects can I expect during my radiotherapy/chemotherapy?

You should expect some or all of the following side effects during your radiotherapy/chemotherapy treatment.

- Your mouth can become red, sore, and painful** during radiotherapy and/or chemotherapy treatment. This usually starts within the first two to four weeks and settles two to three weeks after you complete your radiotherapy treatment.
- During this time, it may become **very difficult for you to swallow**.
- You may develop **regular mouth ulcers** and a **burning feeling in your mouth**.

Please speak with your clinical nurse specialist or oncology team if you have any pain or soreness of your mouth during your treatment. It may not be possible for you to brush your teeth during your cancer treatment because of the discomfort and pain. Do not worry if this is the case.

## How can I manage the side effects?

- There are mouthwashes that may help with the soreness/ulcers in your mouth during radiotherapy/chemotherapy such as Benzydamide (Difflam) mouthwash. Your oncology team can prescribe this for you.
- If you are unable to brush your teeth, you can also use Chlorhexidine mouthwash as a disinfectant for one to two minutes, up to two to four times a day. Be aware that this may stain your teeth. Please stop using Chlorhexidine mouthwash once you are able to brush your teeth again, as it is no longer necessary.
- You can also use soft pink sponges to gently clean the inside of your mouth while you are unable to brush your teeth during radiotherapy/chemotherapy.
- Sucking on ice chips can help with mouth soreness and burning sensations of the mouth during your treatment.
- Avoid alcohol and smoking, as these can make your mouth feel worse.
- Saliva substitutes can help lubricate your mouth. For more details, please speak to your pharmacist or a member of staff.
- Lidocaine gel (local anaesthetic gel) can also provide short-term pain relief. For more details, please speak to your pharmacist or a member of staff.



## I am having difficulty eating solid food, what can I do?

The soreness in your mouth can make eating very difficult. Whilst having radiotherapy, it is important that you keep up your strength and you eat plenty of carbohydrate foods (such as pasta, potato, and rice based dishes) to support you through your cancer treatment.

- Your oncology team and dietician may recommend you have a PEG tube (a flexible feeding tube placed through your abdominal wall and into your stomach) to help you feed while your mouth is very uncomfortable.
- Alternatively, you may be advised to have high energy drinks. These energy drinks are very important to keep your energy up during your cancer treatment but they are very high in sugar and can cause rapid dental decay of your teeth causing them to break down. After drinking them rinse your mouth with water, as the sugar can cause damage to your teeth. **You must make sure you have strength.** Once you are feeling better and are able to eat and drink better, we will advise that you stop drinking high energy drinks and return to a balanced diet.
- If possible, eat frequent soft meals.
- Avoid hot and spicy foods.
- Avoid acidic fruits such as oranges, grapefruit, lemons, and pineapple.
- Drink plenty of sugar-free fluids, avoiding fruit juices.

## What side effects may I have after my surgery and/or chemotherapy/radiotherapy?

- **Change in my appearance**

If you had an operation to remove your cancer, and depending on the size of your cancer and where it is, you may have scarring on your face, a loss of facial symmetry after your cancer is removed, and deviation of your jaw towards one side. These issues vary from patient to patient.

- **Loss of taste**

This is usually temporary, as the radiation treatment damages your taste buds. Most patients report the loss of taste with certain food groups such as spicy foods, salt flavours, and sweets.

- **Problems opening your mouth fully**

Radiotherapy causes damage to the muscles around your cheeks, which causes them to scar and lose their elasticity. This is a common side effect of radiotherapy and can make brushing your teeth, eating certain foods, and opening your mouth very difficult to do.

To help manage this avoid biting into hard foods.

After your radiotherapy, we will also give you some wooden spatulas to place in between your teeth to do some daily jaw exercises (see image). This will limit the extent of the problem and relieve some of the tightness in your jaw, but unfortunately it cannot reverse the effects of the reduced opening.



**Opening your mouth before treatment**



**Opening your mouth after treatment**



**Placing wooden spatulas between your teeth**

- **Dry mouth**

Saliva is important in clearing away food from your mouth and neutralises the acids from the food you eat. Your salivary glands can get damaged from the radiotherapy treatment. Most patients report that their mouth feels like sand and it becomes difficult to swallow or enjoy the taste of foods because of this. The dryness may improve after several months but it may never fully recover to the level you had before your cancer treatment.

When your saliva reduces you become more likely to develop tooth decay, gum disease, and infections in your mouth.

### How to manage dry mouth

- Carry a water bottle with you at all times. Take frequent sips of water throughout the day and night.
- Use Vaseline on your lips frequently.
- During your radiotherapy/chemotherapy treatment, you can suck on ice chips to help with the dryness of your mouth.
- There are products that can be prescribed to you that act as saliva substitutes to help moisten your mouth. If you have any teeth, please make sure this saliva substitute has a neutral pH such as Saliva Orthana. Alternative products such as Glandosane should only be prescribed to you if you have no remaining teeth.

Caphosol® mouthwash can be used to help with dry mouth. It contains calcium and phosphate to replenish what is lost in your saliva.



### • Difficulty with dentures

Wearing your dentures can be very difficult during your radiotherapy treatment. This is due to your lack of saliva, which causes your dentures to not fit as well as before. It is also due to the inflammation (swelling) in your mouth which can make wearing your dentures sore.

Advice to help with your dentures

- Take them out at night or if they are causing ulcers or discomfort for you during the day.
- Consider using a denture fixative if your dentures are loose.
- Clean your dentures carefully after every meal.
- Use a denture cleansing agent once a week to avoid infections.
- If possible take your obturator out at night. Be aware, this will make it difficult to insert your obturator back into your mouth first thing in the morning.

### • Sensitivity

Your mouth can become very sensitive to different food groups such as sweets, cold foods, or spicy foods during radiotherapy/chemotherapy. Your mouth will also be very sensitive to toothpaste and brushing your teeth may feel very uncomfortable. It is important to keep your mouth as clean as possible but do not worry if you are unable to brush your teeth during this time.

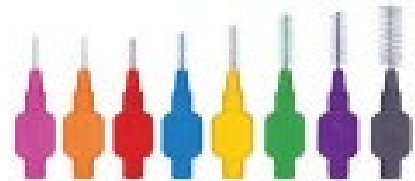
### How to manage sensitivity

- Use Chlorhexidine mouthwash and some sponge brushes to gently wipe the inside surfaces of your mouth and all of your teeth surfaces during your radiotherapy treatment. If you find the mouthwash stings your gums, dilute it with water.
- Be aware that the continued use of this mouthwash will stain your teeth.
- If toothpaste irritates your mouth, you can brush with a solution of one teaspoon of salt added to one cup of warm water, until you are able to start using toothpaste again.
- After you complete your radiotherapy/chemotherapy and your mouth is not sore any longer, start using the GC Tooth Mousse and high concentration fluoride toothpaste prescribed to you. You may also wish to use sensitive toothpaste.

## How should I look after my mouth after the radiotherapy and chemotherapy is finished?

- 1. Avoid smoking and drinking alcohol.** Smoking increases your risk of developing gum disease and causing tooth loss.
- 2. Good oral hygiene** will prevent tooth decay and gum disease. Brush your teeth twice a day using a medium tufted toothbrush with a small/medium sized head that can get to all the surfaces of your teeth and gums. A single tufted brush can also help to access your teeth for brushing. Brush your teeth 30 to 60 minutes after each meal, snack, and sugary drink. Do not rinse your mouth after brushing, just spit out the remaining toothpaste.

We will show you how to use different sized interdental brushes if you have active or previous gum disease. It is very important that you use these brushes twice a day every day as they will help you maintain good oral health and minimise the risk of your gum disease progressing, needing any teeth to be taken out in the future.



- 3. Use high concentration fluoride toothpaste twice a day.** We will prescribe you with Duraphat 5000ppm toothpaste to begin with. You must see your GP or local dentist to get this toothpaste on repeat prescription for the rest of your life. Your teeth are at a greater risk of dental decay following radiotherapy treatment. This toothpaste will help to protect you against tooth decay. Please make sure no one else at home uses this toothpaste, as it can be harmful if not prescribed specifically for you to use. We recommend you use GC Tooth Mousse first, smeared over your teeth and left in place for five minutes before brushing your teeth with the Duraphat 5000ppm toothpaste.
- 4. Visit your local dentist every three months** to make sure that your mouth is healthy. We will see you in hospital four months after you complete your radiotherapy treatment for a dental review appointment.

We will provide any difficult dental treatment you may need but we need you to see your local dentist every three to six months to carry out routine check-ups and dental treatment. You are at high risk of developing dental disease after radiotherapy. Please make sure that you are registered with a local dentist and that you see them regularly because tooth decay can progress very quickly after you have had cancer treatment.

- 5. Avoid high sugar snacks and drinks between your meals.** Follow the advice of your oncology team and dietician. You may not be aware that fruit juices and fruits have sugar that can cause tooth decay and acid erosion to your teeth. Try to limit sugary foods and drinks to meal times only.

## Will I have a follow-up appointment with the Restorative Dental Team?

Yes, after you complete your radiotherapy and/or chemotherapy, the Restorative Dental Team will review you again. We will help to rehabilitate your mouth as best as possible and tell your GP and dentist about what treatment you have had.

## Summary of products to help your mouth during and after chemotherapy/radiotherapy

- **GC Tooth Mousse** replenishes the calcium phosphate ions lost in your saliva after radiotherapy. Smear on to all your teeth for five minutes, then brush your teeth with Duraphat 5000ppm toothpaste. This mousse can only be bought by a dental professional, it is not available in shops or online. It is available to buy from the Maxillofacial Department at William Harvey Hospital.
- **Duraphat 5000ppm** toothpaste is given free on a NHS repeat prescription by your GP or dentist for the rest of your life. It protects your teeth from tooth decay once your saliva is reduced after radiotherapy. Use twice daily. After brushing, spit out, do not rinse with water.
- **Fluoride mouthwash** can be bought over the counter. It is available to buy from the Maxillofacial Department at William Harvey Hospital. It provides additional fluoride protection for your teeth against tooth decay. Use the mouthwash at least 30 minutes after brushing your teeth with Duraphat 5000ppm toothpaste.
- **Difflam mouthwash** helps relieve pain due to ulcers or a burning sensation in your mouth. The oncology team will give you this mouthwash before you start your treatment.
- **Chlorhexidine mouthwash** is an antiseptic mouthwash that is useful when you are unable to brush your teeth due to pain/soreness in your mouth. You may wish to dilute this mouthwash with warm water and rinse your mouth twice a day. It is common for you to have difficulty brushing your teeth during chemotherapy/radiotherapy due to pain/burning. Do not worry if you are unable to clean your mouth during this time. This mouthwash can be used until you are able to brush your teeth again. The oncology team can provide this mouthwash for you before you start your chemotherapy/radiotherapy.
- **Saliva substitutes** help with mouth dryness, which is common during and after radiotherapy due to the damage to your salivary glands. Your saliva function may improve but it can take several months or years, and it may never return to your previous levels. You may wish to try these saliva substitutes on an NHS prescription, but most people find frequent sips of water the best remedy.

If you would like this information in **another language, audio, Braille, Easy Read, or large print** please ask a member of staff. You can ask someone to contact us on your behalf.

**Any complaints, comments, concerns, or compliments** please speak to your doctor or nurse, or contact the Patient Advice and Liaison Service (PALS) on 01227 78 31 45, or email [ekh-tr.pals@nhs.net](mailto:ekh-tr.pals@nhs.net)

**Patients should not bring in large sums of money or valuables into hospital.** Please note that East Kent Hospitals accepts no responsibility for the loss or damage to personal property, unless the property had been handed in to Trust staff for safe-keeping.

**Further patient leaflets** are available via the East Kent Hospitals web site [www.ekhuft.nhs.uk/patientinformation](http://www.ekhuft.nhs.uk/patientinformation)