

PATIENT INFORMATION

Nutrition and the Teeth for Patients receiving Radiotherapy to the Head and Neck

Name: _____

Date: _____

Provided by: _____

Contact: _____

Introduction

The aim of this booklet is to ensure your dental and general health is as good as it can be and that any dental problems are reduced in the future. Please read this leaflet, as it will explain about the team who are here to help you and what you can do to help yourself.

Radiotherapy used for cancer treatment of the head and neck can have harmful effects in your mouth. This includes dryness and soreness that greatly increases the risk of tooth decay, gum disease and infections.

Your oral and dental health needs to be as good as possible to reduce treatment side effects and keep your mouth feeling comfortable. Achieving good oral health is hard work but the dental team will help you with this. Unfortunately many foods and drinks contain sugar and other ingredients which cause tooth decay. Preventing dental problems is our aim so we encourage you to brush your teeth and use a fluoride mouthwash after drinks, snacks and meals.

Your general health is also very important and a well-balanced diet containing enough energy, protein, vitamins and minerals is essential to help you recover from treatment as quickly as possible. For this reason you will also be seen by the dietitian.

Stopping smoking will also be extremely helpful for your mouth, the cancer and also for your future dental treatment.

It is very important that during and after the cancer treatment your diet is properly monitored.

Team Members

The Head and Neck Nurse Specialists (01803 655044)

As part of their role in the Head and Neck Team, the nurse specialist will examine your mouth weekly during radiotherapy treatments and talk to the dental team if there are any problems. They will advise on pain control and arrange appointments with other Team Members as needed.

The Dietitian (01803 654380)

The Dietitian will advise you on how best to make the most of what you are eating. She can answer any question on the contents of foods and drinks and how these may affect your teeth. She will also advise you if you are struggling to maintain your weight.

A dental surgeon in Restorative Dentistry (01803 654262)

You will be seen before any surgery and radiotherapy to plan your future dental care. Arrangements will be made for you to see the Dental Hygienist and if needed one of their Clinical Assistants.

The Dental Hygienist (and the Dental Health Educator)

You will be shown how to brush your teeth with manual and electric toothbrushes, interdental toothbrushes and dental floss. You will also be advised on mouthwashes and gels to apply to your teeth and gums.

The Clinical Assistant in Restorative Dentistry

We have a number of Dentists from General Practice who may carry out treatments planned by the Consultant.

Your mouth during cancer therapy

The following may occur with the radiotherapy:

1. **A sore mouth** – The mouth often becomes inflamed, ulcerated and painful. This is called 'mucositis'. Swallowing can become extremely difficult and brushing your teeth may be uncomfortable but you should continue brushing to prevent dental problems.
2. **A dry mouth** – This often occurs during and after radiotherapy to the head and neck. It makes eating and wearing dentures more difficult and uncomfortable as well as increasing the chances of tooth decay and gum disease. A dry mouth may be a permanent problem following radiotherapy.
3. **Loss or change of taste** – This is usually temporary but does make eating less enjoyable.
4. **Tooth sensitivity** – The teeth and mouth can become sensitive to hot, cold, sweet and spicy things, you may have to dilute your mouth rinse at this time. Brushing your teeth may be uncomfortable but you should continue to prevent dental problems.
5. **Restricted jaw opening** – Difficulties opening your mouth are common after jaw surgery and radiotherapy, which makes brushing your teeth, eating and dental treatments more difficult.

Osteoradionecrosis – This is an aggressive bone infection that may follow tooth extractions, and is due to bone changes caused by the radiotherapy, preventing the need for removal of teeth after radiotherapy is therefore very important.

Restorative Dentistry

Before your cancer therapy you will have a dental assessment in the Department of Restorative Dentistry.

Before radiotherapy the Consultant may advise that some teeth should be removed to prevent osteoradionecrosis after radiotherapy. Dental infections can be very difficult to manage after radiotherapy as bone healing is poor. The aim is to stop the risk of future problems by removing unhealthy or heavily filled teeth.

The restorative dental team will review you about 1 month after radiotherapy to plan any replacement teeth that may be necessary.

Dental Care

1. Any extractions will usually be arranged with the Maxillofacial Surgery Department
2. You may see a Clinical Assistant for fillings
3. You will see our Dental Hygienist or Dental Health Educator for oral hygiene instruction and advice on reducing the risk of problems with your teeth, gums and mouth
4. Replacement teeth will be provided as necessary
5. You can continue to see your own dentist but during your first year of cancer treatment you will be seen by the restorative department

Oral Hygiene Instruction

You will be shown two tooth-brushing methods:

1. **Basic tooth-brushing:** this consists of a basic two minute brush
2. **Intensive tooth-brushing:** this consists of a four minute brush, flossing, use of interdental brushes and checking plaque removal with disclosing tablets

You will be advised about the following:

- A muco-protectant mouthwash to help protect your mouth during radiotherapy and chemotherapy treatments
- Fluoride toothpaste – Duraphat® (to strengthen your teeth)
- Corsodyl® (Chlorhexidine®) mouthwash and gel (to protect gums from infections)
- Difflam® mouthwash and spray (to numb areas of the gums if they are sore)
- Artificial saliva, gel and mouthwash (to help moisten your mouth)
- Chewing sugar-free gum to help increase your saliva flow
- Jaw opening exercises (to help with opening your mouth)

Nutrition and Diet

Before your treatment the dietitian will check that you are eating enough. Keeping your weight stable throughout treatment is important. This can mean eating high energy snacks as well as your meals. Eating sugary or acidic foods may cause decay and erosion to your teeth.

It is very important that during your treatment you follow the advice of the restorative dentist.

1. **Before Radiotherapy** – you should try to avoid sugary foods to help protect your teeth, but if you are very thin or have recently lost a lot of weight, increasing your weight will be a priority and you will be given information on how to add extra energy to your food
2. **During radiotherapy and two weeks after radiotherapy** – now is the time to eat whatever you can manage, depending on the condition of your mouth or sore throat. You may manage soft snacks such as custard, rice pudding, cake or other high energy foods well. Make sure you brush your teeth after every meal or snack
3. **More than two weeks after radiotherapy** – the dietitian will start to reduce your nutritional supplements depending on your appetite and weight. You will be discharged from the dietitian when you do not need nutritional supplements and are maintaining your weight with a healthy diet

You may also experience difficulties swallowing during radiotherapy. Ask to see the Speech and Language Therapist, who can help with these problems.

Diet Advice

During radiotherapy you may experience swallowing difficulties and changes in taste. It is very important that you continue to eat and drink where possible during this time. The following advice should be of help:

1. Eat small, frequent, soft, moist meals. Use extra sauces and gravy where necessary
2. Avoid very hot, spicy or salty foods
3. Avoid acidic fruits such as oranges, grapefruit, lemons and pineapple
4. Ensure food and drinks are at room temperature
5. Drink plenty of water, milk, milky drinks and sugar-free non-fizzy fluids
6. Avoid sweet and sugary drinks and food, fruit juices and fizzy-drinks
7. Take any nutritional supplements advised by your dietitian but brush your teeth immediately afterwards
8. Choose sugar-free sweets to reduce the risk of dental decay

Supplements

If you are not eating enough, the dietitian may suggest that you take some nutritional supplements. These may also be called sip feeds. There are many different types, some of which are listed below.

- **Fresubin Energy Milkshake Style®** – this is a milk based nutritional supplement. It is the lowest sugar nutritionally complete supplement, which means that it provides all the vitamins and minerals that you need. It may be used if you are underweight or not able to eat enough during and after treatment
- **Fresubin Energy Protein®/Fresubin 2kcal®** – these are milk based nutritional supplements that contain more protein and energy than Fresubin Energy
- **Scandishake®/Enshake®/Calshake®/Complan Shake®** – these are powdered supplements that are made up with fresh milk. They are low in sugar but high in energy
- **Calogen®/Calogen Extra®** – these are fat based supplements which contain no sugar. They do no harm to your teeth and they may be used if you are underweight or are not able to eat enough during or after treatment
- **Prosource** – a high protein supplement that can be added to drinks or foods or taken directly from the packet. It is low in sugar.
- **Maxijul®** (glucose polymer) – this is a type of sugar that does not taste sweet. It will cause tooth decay. Please do not use this unless on the advice of the dietitian

Suggested Diet and Mouth Care Plan

Meal	Food/Supplement To be planned with the dietitian	Oral Care
Breakfast		Intensive tooth-brushing and saltwater mouthwash after breakfast
Mid-Morning		Basic tooth-brushing after any snacks or supplements
Lunch		Basic tooth-brushing and saltwater mouthwash after meal
Mid Afternoon		Basic tooth-brushing after any snacks or drinks
Evening Meal		Basic tooth-brushing and saltwater mouthwash after meal
Before Bed		Intensive tooth-brushing with Duraphat toothpaste and saltwater mouthwash

Minimising the Side-effects of Treatment

A sore mouth – use frequent saltwater mouth washes. Avoid alcohol and smoking as these can make mucositis worse and delay healing (as well as being cancer causing habits) Only use a soft toothbrush if your mouth is too sore but return to a medium stiffness brush as soon as possible as this will clean your teeth and gums better. Painkilling mouthwash (Diffiam®) and soluble painkillers may be advised if your mouth becomes very sore. You may be given a prescription for a specialised mouthwash which can help prevent severe mucositis, this must be used from day 1 of your radiotherapy treatment. Your Consultant or specialist nurse will give you advice regarding this.

A dry mouth – take regular sips of water and chew sugar free chewing gum. You may be given a gel or mouthwash which has been developed particularly for mouth dryness as a result of radiotherapy. Your hygienist or specialist nurse will advise you how to use these

Sensitivity – you will be given a fluoride gel to use as toothpaste at night. It also protects teeth from decay

Dentures – leave your dentures out at night or if they are causing ulcers or discomfort. Clean them carefully after every meal with unscented soap or a denture soak

Jaw Opening Exercises

These exercises are designed to:

- Improve muscle coordination
- Increase the range of movement of the lower jaw
- Increase muscle strength

Exercises should be performed at least three times a day. Start the day before radiotherapy commences and continue throughout the treatment. It may take a number of months before you notice any real improvement so we advise you to carry on even if there are no obvious changes.

Exercise One – sit in a chair. Relax your shoulders and cheeks as much as possible. Place lips together and keep your teeth apart. Retain this position for two or three minutes

Exercise Two – open your mouth as far as possible and hold it in the widest position of four or five seconds. Repeat this movement eight to ten times.

Exercise Three – open your mouth approximately half way. Now move the jaw to the left as far as you can, followed by the same movement to the right side. Repeat this alternating movement from left to right eight to ten times.

Exercise Four – open your mouth approximately half way. Now move your lower jaw forward as far as you can and hold for four or five seconds. Repeat this movement eight to ten times.

Exercise Five – rotate your jaw (imaginary chewing) in small movements to begin with, with your lips closed. As this becomes easier gradually open your mouth wider. Rotate in both directions.

Useful Contacts:

For further advice on diet:

The British Dietetic Association

www.bda.uk.com

For further advice on dental health and treatment:

Mouth Cancer Foundation

www.rdoc.org.uk

Dental Health Advice

www.dentalhealth.org.uk

Restorative Dentistry

www.restdent.org.uk

Dental Implants

www.adi.org.uk

Torbay Hospital

www.mouthcareincancer.co.uk

For further advice on cancer:

Cancer Backup

www.cancerbackup.org.uk

Cancer Research Campaign

www.cancerhelp.org.uk

For further advice on stopping smoking:

www.ash.org.uk

Telephone **01803 299160**

Notes

Diet and Mouth Care Advice for Patients receiving Radiotherapy to the Head and Neck

Incorporating:

- Care of the mouth during and after radiotherapy**
- Oral Management of Radiotherapy Patients**
- Jaw exercises**

For further assistance or to receive this information in a different format, please contact the department which created this leaflet.