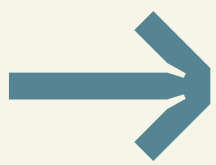


# CARING FOR YOUR SMILE DURING CANCER TREATMENT

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A Guide to Oral Health During, and  
After Radiotherapy





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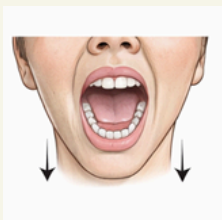
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# How to look after your mouth during radiation treatment

It is very important to keep your mouth clean during and after radiation treatment.

## IF YOU HAVE YOUR OWN TEETH, YOU SHOULD:

- Gently brush your teeth twice a day with a soft toothbrush (e.g. TePe Special Care or Curaprox ultrasoft)
- Suck an ice cube which may help with soreness in your mouth (mucositis), if tolerated.
- Rinse your mouth daily with a Bread Soda Mouthwash (new mix everyday):
  - 1 level teaspoon of soda bicarbonate (bread soda), diluted in 1 litre of cooled boiled water

### Instructions for rinsing your mouth:

- Rinse your mouth before & after eating. As treatment progresses you may find it more comfortable to rinse your mouth hourly.
- Use 2 or 3 mouthfuls & do not swallow.
- Follow these instructions until your mouth has healed fully. This may take 6-8 weeks following your radiation treatment.
- Do not use any other mouthwash unless advised by the oncology team.

## IF YOU HAVE DENTURES, YOU SHOULD:

- Clean your dentures with a denture brush after use.
- Leave dentures out overnight and soak in a recommended denture cleaner.
- If your dentures are not fitting properly or feel uncomfortable, leave them out.
- Radiotherapy or surgery can change muscles around the mouth, so dentures may not fit well. Wait 3-6 months before getting new dentures.
- Dry mouth can make wearing dentures difficult. Apply a thin layer of chlorhexidine gel to your denture before wearing it.

## IF YOU HAVE OBTURATOR PROSTHESIS,

- Rinse and clean it after every meal.
- Soak in a recommended denture cleaner at least once a day.
- Do not leave your obturator out of your mouth for longer than one hour. Unlike dentures, you should wear it at night.

# Possible Oral Complications

Radiotherapy to the head and neck can cause oral and dental complications in the short and long term. Short-term effects are:

- dry mouth
- difficulty or pain on swallowing
- soreness of the mouth
- altered taste

The range of side effects and severity can vary for each person but should improve in the weeks after radiotherapy finishes.

## **Long-Term Effects of Radiation Treatment on the Jawbone:**

The jawbone needs a healthy blood supply to heal properly. After radiotherapy, this blood flow is reduced, especially in areas exposed to the radiation. As a result, any injury—such as a tooth extraction or surgery—can lead to a serious condition called osteoradionecrosis, where the bone becomes infected and heals very slowly. To reduce this risk, it's important to avoid trauma or invasive dental procedures in the irradiated area whenever possible.



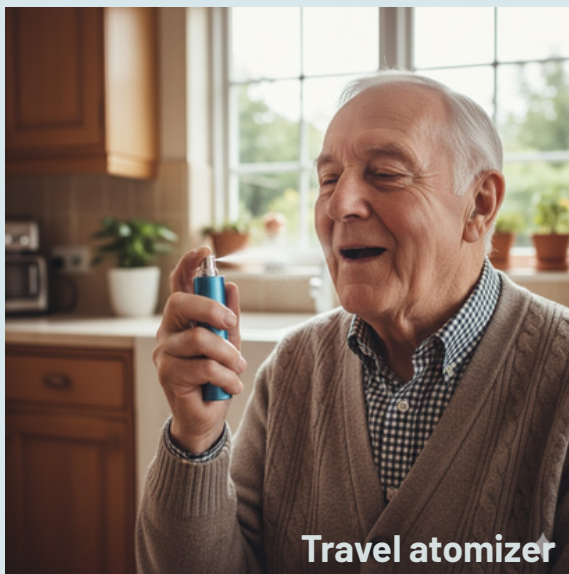
**Osteoradionecrosis of the lower jaw**

## **Long-term Effect of Radiation Treatment on Salivary Glands:**

Radiotherapy to the head and neck can damage the salivary glands, reducing the amount and quality of saliva. The biggest reduction in saliva is from the start of radiotherapy to 3 months after completion. Depending on the level of saliva gland injury some of your saliva flow may return over the following year. This can lead to a dry mouth, which may be long-lasting or even permanent. Saliva is important for keeping your mouth moist, protecting your teeth from decay, and helping with speaking, chewing, and swallowing. Without enough saliva, you may be more likely to get tooth decay, oral infections, discomfort and have trouble eating or speaking comfortably.

## The following may help with dry mouth:

- Do not smoke or drink alcohol.
- Use the Tooth Mousse Plus as recommended by your dentist.
- Moisturize your lips with lip balm/water soluble moisturizer.
- Carry a small bottle of tap water to sip during the day or keep at your bedside.
- Use an atomizer with cooled, boiled water to spray and keep your mouth moistened throughout the day.
- Put a humidifier beside your bed.
- Try coconut oil at night to lubricate your lips.



### Diet

- Increase your intake of fluids, particularly water.
- Avoid frequent sugar in your diet.
- Use gravy and sauces and take plenty of water when you are eating.
- You should avoid very hot or spicy foods, and acidic food like lemons.
- Make sure to rinse your mouth with water or bread soda mouth rinse after taking nutritional supplements and calorific shakes.
- Please consult your Dietitian and / or Speech and Language Therapist for advice

# The following may help with dry mouth

## Salivary Stimulants

- **Chew sugar free chewing gum** – this may help to stimulate the saliva flow, if there is some remaining salivary gland function.



Extra



Extra- Refreshers



Trident

- **Lozenges containing Xylitol or sorbitol**



SMINT



Salivix: For people with no teeth as they are acidic

## Salivary Substitutes

- There are a number of saliva substitutes on the market. You may have to try a few before you find one that suits!

**Oralieve:** [www.oralieve-direct.co.uk](http://www.oralieve-direct.co.uk) ; [www.amazon.co.uk](http://www.amazon.co.uk)



- Mouth gel (with xylitol): appropriate for lips (contains milk proteins)
- Mild mint Toothpaste: 1450ppm Sodium Fluoride & xylitol; SLS-free (contains milk proteins)
- Mouth spray (with xylitol): (contains milk proteins)
- Mouthwash 225ppm Sodium Fluoride & xylitol; Alcohol-free (contains milk proteins)

## Bioxtra Dry Mouth: [www.bioxtra.ie](http://www.bioxtra.ie); [www.pamex.ie](http://www.pamex.ie)



- Gel Mouth spray (with 150ppm NaF, xylitol & sorbitol): (contains milk derivative)
- Mouthwash 1500ppm sod fluoride & xylitol; Alcohol-free (contains milk & egg derivatives)
- Avoid oral gel & toothpaste as contain dextrose

## Xerostom: [www.oralhygiene.ie](http://www.oralhygiene.ie)



- -Saliva substitute gel (xylitol)
- -Mouth spray (xylitol)
- -Dental gum (sorbitol & xylitol)
- -Mouthwash (230ppm fluoride & xylitol)
- -Pastilles (225ppm fluoride & xylitol)
- -Toothpaste (1450ppm NaF & sorbitol)

## Some other salivary substitutes

- Biotene Dry Mouth oral balance saliva replacement gel/spray/mouthwash ([www.boots.ie](http://www.boots.ie))
- Boots expert dental dry mouth spray/mouthwash
- Mouth Kote dry mouth spray ([www.inishpharmacy.com](http://www.inishpharmacy.com))

## Xylimelts: [www.inishpharmacy.com](http://www.inishpharmacy.com); Saggart Pharmacy (P+P) 01-4580346



- Mild mint or unflavoured stick-on melts that adhere to your gum
- Stimulate natural saliva production and coat oral tissues to provide soothing, long-lasting moisture.

## If you can not tolerate the taste of toothpaste

### Oranurse: [www.celtic-marketing.ie](http://www.celtic-marketing.ie); [www.oralhygiene.ie](http://www.oralhygiene.ie)



- Sodium Lauryl Sulphate-free, unflavoured, 1450ppm sodium fluoride

- There are also tablets your dentist or doctor can prescribe to help stimulate saliva

# Stop Decay Before It Starts

## Radiation caries

When there is a reduction in your saliva flow (dry mouth), you are at increased risk of developing tooth decay.



**Fluoride: helps repair (remineralize) teeth. In Ireland, fluoride is found in tap water and toothpaste, but if you are at higher risk of decay, stronger fluoride treatments are recommended.**

The following products are available and your dentist will advise you:



- High fluoride toothpaste: (Duraphat) 2800 / 5000ppm Sodium Fluoride  
Pea Sized amount twice a day for toothbrushing.  
Spit but do not rinse your mouth after brushing



- 225ppm/ 0.05% Sodium fluoride mouthwash  
Use at alternative time to toothbrushing



- Calcium Tooth Mousse Plus  
Apply a thin layer over all teeth using a clean fingertip before bedtime  
Can use professionally made medicament trays if indicated

# Keeping Your Jaw Moving: Simple Exercises to Prevent Trismus



## **WHY IT MATTERS:**

Radiotherapy can sometimes cause the muscles that help open and close your mouth to become stiff. This is called trismus (reduced mouth opening). Daily jaw exercises can help keep your muscles flexible and strong.



## **THE "3-FINGER TEST"**

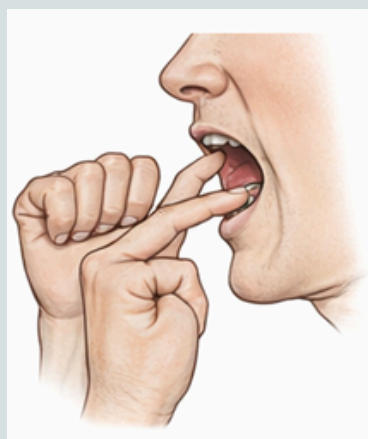
Place your index, middle, and ring fingers (stacked together) between your upper and lower front teeth. You should be able to fit three fingers comfortably.

If you can't, start daily jaw exercises.  
Early practice makes a big difference!

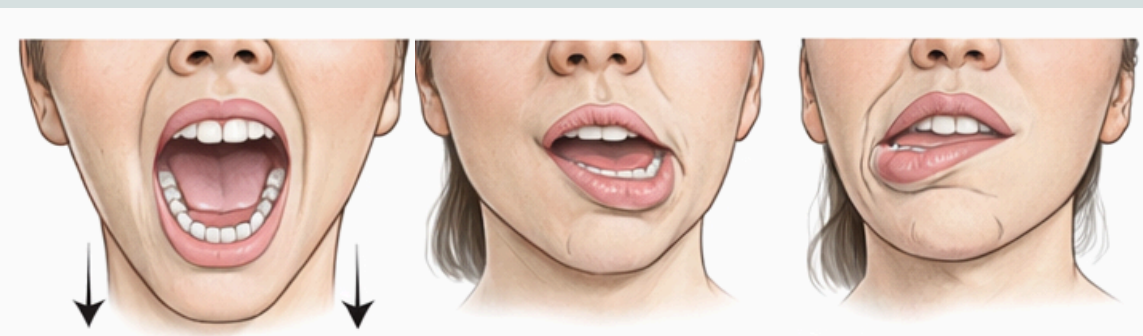


## **Massage**

**Rub from the cheek bone area downward toward the lower jaw.  
30 seconds twice daily**



**Passive stretch  
hold for 5 seconds,  
then relax  
Repeat 5 times,  
2 times daily**



**Dynamic stretch  
repeat 5 times  
during a session,  
2 times daily**

**Mouth open:  
hold for 5 seconds,  
then relax**

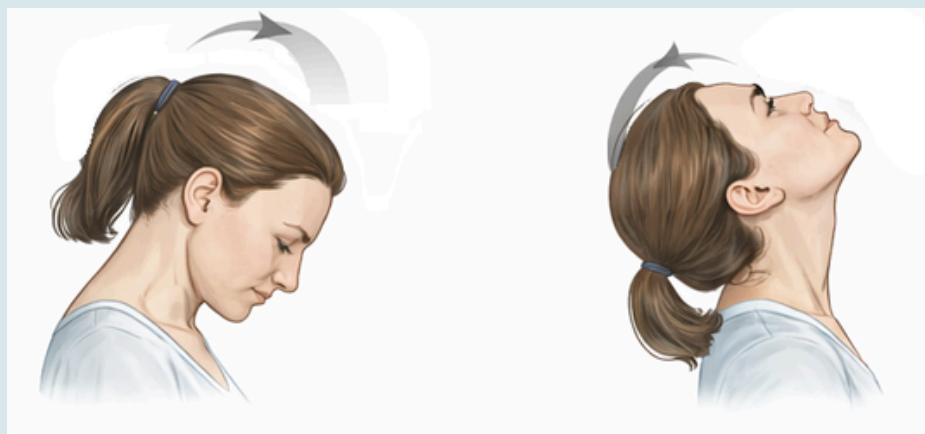
**Move jaw to the left:  
hold for 5 seconds,  
then relax**

**Move jaw to the right:  
hold for 5 seconds,  
then relax**

# Keeping Your Jaw Moving: Simple Exercises to Prevent Trismus

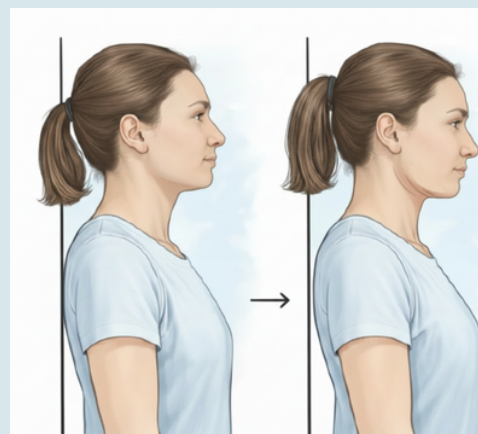
## USEFUL TIPS

- Warm up your jaw with a warm, moist towel before exercising.
- If your jaw feels very sore, reduce the intensity but keep moving.
- Always stop if you feel sharp pain – and let your dentist or oncologist know.



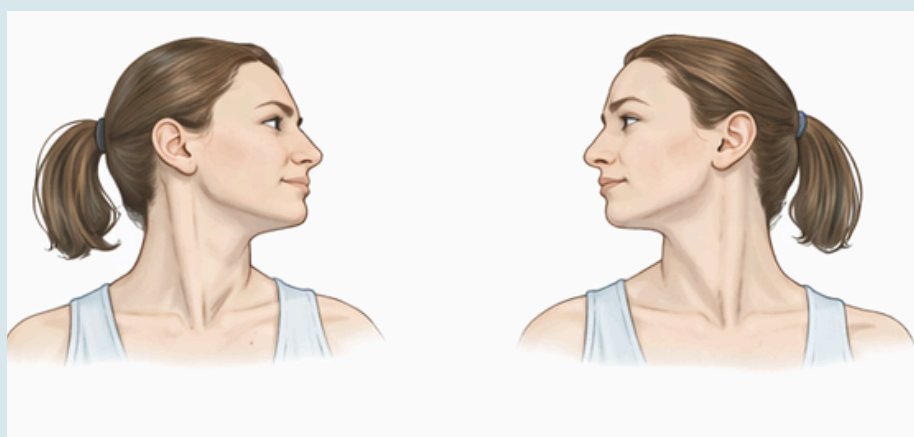
### Neck Stretches - Upward and downwards

30 seconds with 5 repeats twice daily



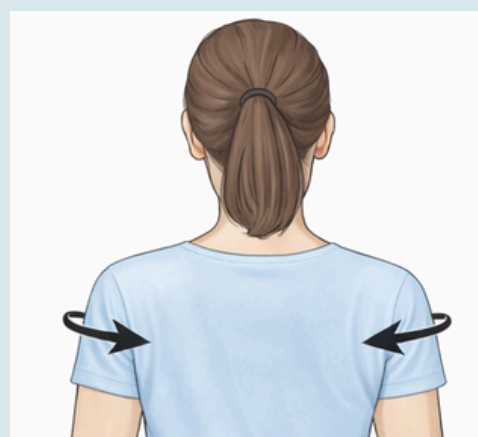
### Chin-tuck

Feel a strong but comfortable stretch  
Hold for 5s, then relax  
repeat this 5 times,  
twice daily



### Neck Stretches - Upward and downwards

30 seconds with 5 repeats twice daily



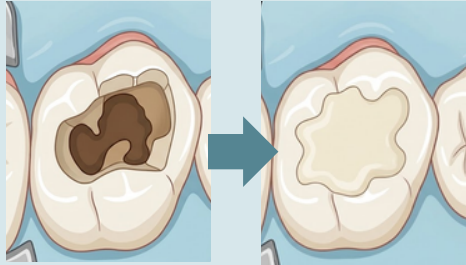
### Shoulder blade-squeeze

Hold for 5s, then relax  
repeat this 5 times,  
twice daily

# Dental Treatments after radiotherapy to head and neck



## Safe Dental Procedures



- Routine cleaning and dental hygiene methods
- Routine restorations such as fillings, crowns and bridgework.
- Routine endodontic (root canal) treatments
- Carefully made dentures to avoid trauma to gums and remaining teeth

## Unsafe Dental Procedures



- Any procedure, which may cause injury to the jawbone. For example: extractions or implant surgery in the irradiated area.
- If a dental extraction is required, this may be carried out here at the Dublin Dental University Hospital. Antibiotic cover will be provided if the tooth is in the radiation field.
- There is no difficulty with any of these procedures in areas outside the field of radiation.

## Always remember the following information

- Radiation damage to the jawbone is permanent. Advise your general dentist of your radiation. Always inform your dentist of your medical history.
- Attend your general dentist for regular check-ups and routine dental care every 3-6 months.
- Inform your dentist if your swallowing is impaired.

## Appointment visits following radiation treatment

- You will be seen for dental review post-radiotherapy.
- The following will be checked for on these follow up visits:
  - Dental decay & periodontal (gum) disease
  - Dietary & oral hygiene advice
  - Jaw stretching exercises if your mouth opening has reduced. It is very important to regain the range of mouth opening as soon as possible.

# Useful contacts and information

Mouth Head & Neck Cancer Awareness Ireland Group	<a href="http://www.mouthcancer.ie">www.mouthcancer.ie</a>	
Irish Cancer Society	<a href="http://www.cancer.ie/cancer-information/cancer-types/mouth-head-and-neck-cancer">www.cancer.ie/cancer-information/cancer-types/mouth-head-and-neck-cancer</a>	
Dental health foundation	<a href="http://www.dentalhealthfoundation.ie">www.dentalhealthfoundation.ie</a>	
Other Important Websites	<a href="http://www.mouthcancerfoundation.org">www.mouthcancerfoundation.org</a>	
Videos: Meet the Cancer Care Team	<a href="http://theihns.com">theihns.com</a>	
Dublin Dental University Hospital	<p>Patient Information          Telephone: 01 6127391          E-mail: <a href="mailto:patient@dental.tcd.ie">patient@dental.tcd.ie</a></p>	
	<p>Main Hospital          Telephone: 01 6127200          Fax: 01 6711255          Website: <a href="http://www.dentalhospital.ie">www.dentalhospital.ie</a></p>	
	<p>Unit contact details          Division of Restorative Dentistry and Periodontology          Tel no: 01-6127305          Website: <a href="http://www.dentalhospital.ie">www.dentalhospital.ie</a></p>	