Improving Mouth Care for Adult Patients in Hospital
This resource is for nurses, health care support workers and other health care professionals (for example, doctors, respiratory physiotherapists, speech and language therapists, dieticians) who provide or give advice on mouth care for adult patients in hospital.

It is designed to

- Improve oral health knowledge and skills for health care professionals who support patients in hospital and those living with complex medical conditions and advanced illness.
- Enable health care professionals to provide and deliver a high standard of mouth care for adult patients in hospital.
- Support person centred training, and to suit individual needs and local circumstances.
- Support hands on training and teaching, and will be helpful for health and care professionals who find it difficult to clean a patients mouth.

<table>
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<th>Learning Outcomes</th>
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This resource is in several sections, some of which can be used on their own. Therefore there is repetition of some topics.

Care Outcomes

This resource will support the quality, care and delivery of mouth care practice. Staff will understand that providing mouth care (teeth, gums, and soft tissues) will help to:

- Promote patient comfort and a feeling of well-being.
- Preserve the integrity and hydration of the oral mucosa and lips.
- Alleviate pain and discomfort, thereby enhancing nutritional / fluid intake
- Reduce halitosis (bad breath)

Initial training

It is recommended to allocate approximately 3 - 4 hours for the initial in – house staff training. This time frame is sufficient for staff to become familiar with the mouth care risk assessment, mouth care plan and mouth care resources.

If time constraints are a problem they can be split into shorter sessions.

Follow-on training

Follow on training should be part of an ongoing training programme for health and care professionals. It may be aimed at key trained staff with a special interest in improving mouth health care e.g. oral health champions.

This might include:

- Practical sessions on delivery of mouth care for dependent patients
- Discussion on best practice
- Developing patient information leaflets
- Integrating mouth care with ‘Transforming Care’
- Denture marking.

It is important to make the learning experience meaningful. Link learning to:

- Work life experience
- Case studies / Patient stories
- Service improvement / health improvement
- Staff development and CPD
This resource is not exhaustive and health care professionals who require more information are advised to contact a member of the oral health team/community dental service in their Local Health Board.

**Contacts:** [please add local details here]

<table>
<thead>
<tr>
<th>Community Dental Service</th>
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<tbody>
<tr>
<td>Clinic Service Manager:</td>
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<td>Address:</td>
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| Named Lead: |  |
| Address: |  |
| Telephone: |  |
| Email: |  |

For further information on aspects of oral cancer/chemotherapy/radiotherapy, please contact:

| Head and Neck Cancer Team |  |
| Address: |  |
| Telephone: |  |
| Email: |  |

External resources and further reading can be found on the following links

1000 lives plus website  
[www.1000livesplus.wales.nhs.uk](http://www.1000livesplus.wales.nhs.uk)

1000 Lives plus ‘Improving mouth care for patients in hospital’ page  
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Review Date December 2015
Introduction

Definition of oral health

‘Oral health can be defined as having a comfortable and functional dentition that allows individuals to continue their social role’ (Dolan 1993)

The term “oral health” means far more than just good teeth; it is integral to general health, and essential for well-being. Dental caries (tooth decay) and periodontal disease (gum disease) have historically been considered the most significant oral health problems. However a wide range of conditions such as oral cancer and systemic illness affect the mouth. Their impact on individuals as a result of pain and suffering, loss of function, and reduced quality of life is considerable. Maintaining good oral health is an essential part of daily living.

Poor oral health is closely linked to economic deprivation, social exclusion and cultural difference. Emerging evidence has shown a strong link between the effects of chronic periodontal disease (gum disease) and general health. The mouth is the gateway to the rest of the body. Periodontal disease is associated with systemic disease such as cardiovascular disease, stroke, respiratory infections, diabetes, and nutritional problems. Aspiration pneumonia risk is significantly increased by oral factors such as decayed teeth and periodontal disease. Likewise, systemic disease can have an impact on oral health.

With the increasing population of older people and the associated increase of multiple ‘non-communicable’ diseases, the need for effective health care will increase dramatically. Future trends predict that people will keep their teeth longer and this alone will have an impact on nursing care. People in care environments, those with dementia, cognitive impairment, behavioural issues, or simply loss of function will be more demanding on mouth care practice.

Mouth care is an integral part of nursing practice, and is beneficial for all patients, particularly those with advanced disease. Maintaining good oral health in the critically ill patient is imperative in reducing the risk of nosocomial
infections and improving patient comfort. Critically ill patients are at great risk of poor oral health as many are elderly, undernourished, dehydrated, immunosuppressed, have a smoking or alcohol history, are intubated or on high-flow oxygen, and are unable to maintain good oral hygiene. It is important that oral health care strategies are integrated into nursing, palliative care and end of life integrated pathways in all health care systems at all levels.

Nurses and care staff have a vital role:

- in the promotion of good oral health and hygiene
- in preventing oral discomfort and inadequate nutrition
- in reporting oral changes
- in promoting good health – messages on smoking/alcohol and nutrition and most importantly improving health outcomes for patients and reducing harm from inadequate mouth care.

The role for health and care professionals in maintaining good oral health is either directly by providing mouth care or indirectly by providing advice and opportunities to provide self-care. The opportunity and potential for pharmacists, dietitians, speech and language therapists and general medical practitioners in promoting good oral health should not be underestimated. Oral care procedures must be based on sound scientific evidence, and not on tradition, anecdote or subjective evaluation.

Regular mouth care risk assessment and individualised mouth care plans, along with the use of a standardised protocol for oral care (incorporating proven modalities) is vital for optimal mouth care.

Part one of this document focuses on the two most common forms of oral disease:
Dental Caries (tooth decay)
Periodontal Disease (gum disease)
Exploring the cause / effects of these diseases and discussion on the value of straightforward preventive advice in maintaining oral comfort, and will set the foundation in understanding more complex oral health care. Tooth decay and
gum disease are almost entirely preventable and providing effective daily mouth care can help.

Part two will focus on mouth care for more complex patients.

Improving the oral health of adults in hospital is a key priority of Fundamentals of Care (WG 2003, standard 10). Good mouth care contributes to overall health and wellbeing and is the responsibility of every health and care professional. Hospital care is provided 24 hours a day, so this includes both night and day staff.
Part One
Dental Caries / Dental Decay (tooth decay)

In simple terms tooth decay is the breakdown and destruction of tooth enamel and dentine and can lead to pain and infection.

What Causes Dental Decay?
The mouth contains millions of bacteria. Many are in a sticky layer called plaque that adheres (sticks) to the surfaces of teeth. Plaque can form within minutes of brushing the teeth and stick to all surfaces of the teeth, dentures, crowns and bridges.

When sugars enter the mouth they are rapidly absorbed by plaque bacteria which convert sugars into acid.

This acid causes a chemical process called demineralisation which leads to softening and loss of minerals from the tooth surface.\textsuperscript{16}

The more frequently sugars are consumed, the more acid attacks there are.

With repeated acid attacks the teeth will eventually decay/rot.

\textbf{Cause}
\begin{itemize}
  \item Sugar and Plaque $\rightarrow$ Acid
  \item Acid attacks teeth surfaces $\rightarrow$ Dental decay
\end{itemize}

Reducing the \textbf{frequency} of sugars consumed, reduces the risk of dental decay
Role of Saliva
Saliva is the body’s natural defence mechanism in the fight against dental caries. It dilutes acid and repairs damaged enamel by replacing the lost mineral salts from the tooth surface.\(^{16}\)

However it can take up to two hours for this process to take place.

If sugary foods and drinks are regularly taken at less than 2 hourly intervals, there is not enough time for the saliva to do its job.

At night the flow of saliva decreases during sleep so teeth will be more vulnerable at this time.

People who have low saliva flow (i.e. a dry mouth) and/or take oral nutritional supplements are at greater risk of dental decay.

The cause of dental decay is not just the amount of sugar in the diet, but how often it is consumed.

Therefore the message is to limit sugary foods and drinks to mealtimes. However this may not be possible for those with special nutritional requirements and these patients will be considered later.

What to look for in foods and drinks
In order to make sugar free choices, it is important to become familiar with labels and packaging.

Identify sugar by reading food labels!
Beware of foods that appear to be healthy. They may have a high sugar content!
The way to identify sugars is to look at the **Carbohydrate** content.

For example the contents of strawberry milkshake:

<table>
<thead>
<tr>
<th>Nutrition Information: Servings per package: 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving size: 150g</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Energy</td>
</tr>
<tr>
<td>Quantity per serving</td>
</tr>
<tr>
<td>608kJ</td>
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<tr>
<td>Quantity per 100g</td>
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<tr>
<td>405kJ</td>
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<td>Fat, total</td>
</tr>
<tr>
<td>7.4g</td>
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<tr>
<td>4.9g</td>
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<tr>
<td>- saturated</td>
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<tr>
<td>4.5g</td>
</tr>
<tr>
<td>3.0g</td>
</tr>
<tr>
<td>Carbohydrate, total</td>
</tr>
<tr>
<td>18.6g</td>
</tr>
<tr>
<td>12.4g</td>
</tr>
<tr>
<td>- sugars</td>
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<tr>
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<tr>
<td>12.4g</td>
</tr>
<tr>
<td>Sodium</td>
</tr>
<tr>
<td>90mg</td>
</tr>
<tr>
<td>60mg</td>
</tr>
<tr>
<td>Calcium</td>
</tr>
<tr>
<td>300mg (38%)*</td>
</tr>
<tr>
<td>200mg</td>
</tr>
<tr>
<td>Percentage of recommended dietary intake</td>
</tr>
<tr>
<td>Ingredients: Whole milk, concentrated skinned milk. <strong>Sugar</strong>, strawberries (9%), gelatine, culture, thickener (1442)</td>
</tr>
</tbody>
</table>

*Example of a food label – always look at the 100g column*

The National Guidelines for sugar are:

- **High** sugar is more than 15g per 100g
- **Low** is 5g sugar or less per 100g
- **Medium** is between 5g and 15g per 100g

**Dietary sugars**

Most sugars in the diet are contained in processed manufactured foods and drinks.

Many foods and drinks we consume on a regular basis can cause dental decay. They are called **cariogenic** and include:

- Chocolate and confectionery
- Cakes and biscuits
- Buns, pastries, fruit pies
- Sponge puddings etc
- Ice cream
- Sports drinks
- Milk-based beverages
- ‘Alco – pop’ drinks
- Dried fruit
- Table sugar
- Jams, preserves, honey
- Fresh fruit juices
- Syrups
- Sweet sauces
- Breakfast cereal
- Fruit in syrup
Sugars on food labels may be ‘hidden’ under other names:

<table>
<thead>
<tr>
<th>Sugar</th>
<th>Sucrose</th>
<th>Maltodextrin</th>
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<tbody>
<tr>
<td>Dextrose</td>
<td>Lactose</td>
<td>Caramel</td>
</tr>
<tr>
<td>Fructose</td>
<td>Maltose</td>
<td>Toffee</td>
</tr>
<tr>
<td>Molasses</td>
<td>Honey</td>
<td>Invert Sugar</td>
</tr>
<tr>
<td>Syrup</td>
<td>Corn Sugar</td>
<td>Hydrolysed Starch</td>
</tr>
</tbody>
</table>

*This list is not exhaustive*

Sugar claims on food labels

**No added sugar:**
- Means there are no refined sugars added
- However there may be naturally occurring sugars present from milk, dried fruits, purees and juices – fructose, lactose
- May be treated with pectin to release sugars (e.g. fruit juice).

**Low sugar:**
- Means that there is no more than 5g of sugars per 100g or 100ml in either a food or drink.

**Reduced Sugar:**
- This product should contain a minimum of 30% less sugars than the standard version of the product, but may still contain a lot of sugar.

**Light:**
This can often be used to describe anything from the product being light in colour / texture / weight or low / reduced in fat or sugars.

**Diet/Sugar Free Products:**
This claim can only appear on food if the food contains less than 40 calories per 100g or 100mls

In drinks look for the sugar and acid content.
Many sugar free drinks are still potentially harmful to the teeth as they contain:-

**Phosphoric and/or Citric Acid**

16, 17
Sugar-free medicines

Some medicines contain sugars. Always ask a doctor or dentist if sugar-free medicines are available and suitable. This is especially important for people with Dysphagia, Xerostomia (dry mouth), on Oral Nutritional Supplements or on long term medication.

Mixed messages

It is important to recognise that honey, fresh fruit juice and dried fruit all contain cariogenic sugars.

Dried fruit is a good source of iron, vitamins and fibre. It is often recommended as a snack by health professionals, however it contains concentrated sugar and is ‘sticky’. Frequent snacking on dried fruit can lead to tooth decay. It is better to add to cereals and puddings at a mealtime rather than eaten as a snack.

Fruit Juice is a rich source of vitamin C and aids the absorption of iron. One glass of fruit juice per day can count as one of the recommended five a day fruit and vegetables.\(^{17}\) However fruit juice has a high sugar and acid content and can cause dental decay and dental erosion. It can be diluted with water - 1 in 10 for children and 50:50 for adults.

*Ideally it should be consumed at a mealtime!*

Key Points

*To prevent dental caries:*

- The *frequency* and amount of sugars eaten should be reduced
- Consumption of sugary foods should be limited to *mealtimes*
- Ideally limit consumption of foods and drinks with added sugars to no more than four intakes per day\(^ {16}\).
The role of fluoride in helping to prevent tooth decay

Fluoride helps to strengthen tooth enamel against decay. It is one of the active ingredient in most toothpastes. Sodium fluoride (NaF) is the most common source of fluoride, but stannous fluoride (SnF₂), olaflur (an organic salt of fluoride), and sodium monofluorophosphate (Na₂PO₃F) are also used. Fluoride is also found in some mouth rinses/varnish and can be applied professionally by the dental team. Brushing twice a day with fluoride toothpaste and limiting sugar to a mealtime can help prevent tooth decay. (see page 16 for more information on fluoride levels)

Dental Erosion

**Frequent** and prolonged exposure to acidic foods or liquids may cause loss of tooth enamel.¹⁶

Fizzy drinks, wines, ciders, cordials, squashes, fruit tea or fruit juice can cause erosion. These include:

- Alcopops, designer drinks, wine, cider
- Fruit herbal teas
- Some sports drinks
- Acidic fresh fruit such as lemons, oranges and grapefruit when eaten frequently
- Pickles
- Chewable vitamin C tablets, aspirin and some iron preparations

*This list is not exhaustive.*

The only ‘safe’ drinks for teeth are: plain milk, plain water, tea and coffee without added sugar.
Frequent vomiting and gastric reflux can cause acid erosion. Rinsing with plain water and using a high fluoride toothpaste or mouth rinse prescribed by a dentist may be helpful. Dental Erosion can cause sensitivity. In severe cases more persistent pain may occur. The thinning tooth enamel may fracture and break off.

A reduced saliva flow (Xerostomia - dry mouth) can increase the risk of acid erosion when acidic/fizzy drinks and foods are consumed.

**Prevention of dental erosion**

Dental Erosion may be prevented by restricting the frequency of consumption of acidic foods and drinks.

For the relief of dry mouth sipping plain water is preferable to citric/sugary or sugar free fizzy drinks/beverages.\(^{16,18}\)

Consuming milk or cheese after drinking or eating acidic foods is beneficial. If there are no swallowing problems (Dysphagia) drinking through a straw, placed well back in the mouth may also help.

**Key Points**

- Keep sugary foods and drinks to a mealtime. Avoid frequent sipping of sugary/diet fizzy/fruit juice drinks
- Use toothpaste containing at least 1450 ppm fluoride twice daily (a dentist may prescribe additional fluoride:- mouth rinse or fluoride toothpaste containing 2500 - 5000ppm fluoride)
- Spit out any excess toothpaste and try not to rinse with water as this washes the fluoride off the teeth
- After consuming any food or beverages wait at least 1 hour before brushing the teeth and gums
- Avoid brushing after vomiting
- Avoid acid intakes last thing at night
- Do not hold or swish acid drinks in mouth before swallowing – if possible use a straw placed well back in the mouth\(^{11A}\)

A dental health professional can advise on identifying sources of dietary acids.
Oral Nutritional Supplements

Poor weight management and malnutrition in vulnerable people predisposes to disease, delays in recovery from illness and adversely affects body function and well-being. It is important to follow the nutritional advice given by a health professional or dietitian.

However evidence based research supports concerns about the cariogenic effects of oral nutritional supplements, especially carbohydrate rich sip feeds for children and adults who are underweight or malnourished. There is a wealth of evidence that links the frequency of consuming sugar with the increased incidence of dental caries for patients with natural teeth.

Key Points

- Identify the risks by use of an appropriate Mouth Care Risk Assessment and Mouth Care Plan (*Appendix 4 & 5*)
- Use a toothpaste that contains at least 1450ppm Fluoride twice a day. A dentist may prescribe additional fluoride supplements: mouth rinse or toothpaste paste containing 2500-5000 ppm fluoride
- Frequent sips of water throughout the day, and rinsing with water after taking supplements
- For people with dry mouth, artificial saliva can be prescribed
- The use of a straw can help to minimise the contact of the food supplement with the teeth – always check there are no swallowing problems (dysphagia)
- Due to the increased possibility of dental decay, regular dental checks are important
- Oral care information made available to patients and service users
- The dental team will be able to give advice on prevention\textsuperscript{11A}
Periodontal Disease (gum disease)

The main cause of gum disease is the toxins produced by plaque, especially when it is near or under the gums. The main way to prevent gum disease is by thorough removal of plaque (tooth and gum brushing).

Gum disease
Regular brushing and flossing helps keep gums healthy and prevents gum disease. Good mechanical removal of plaque prevents the formation of calculus. Healthy gums are smooth, intact, have a firm texture, are closely adapted to the necks of their teeth and do not bleed.

Plaque is a complex mixture of up to 500 different types of micro-organisms (germs). It appears as a soft whitish deposit that forms on all tooth surfaces.
Early deposits of plaque may be hard to see. It can be revealed by using disclosing agents to stain plaque so it can be more easily seen and removed.

These teeth seem to be quite clean. But when a disclosing agent is used, the plaque stains and becomes visible.

Failure to remove plaque thoroughly allows plaque to accumulate around the teeth and gums. Early gum disease, gingivitis, can develop.

**Gingivitis**

Gingivitis is very common. It is usually painless, but signs and symptoms include gums that look inflamed with deeper pigmentation, swollen and bleed easily when touched or brushed.

**Key Points**

Gingivitis can be reversed with Good Oral Hygiene. (brushing teeth and gums thoroughly)
Calculus

If plaque is allowed to remain around the teeth, it can calcify and harden to form a material called *calculus* (Tartar).\(^\text{16}\)

Calculus sticks very firmly to teeth and can only be effectively removed by a dental professional. More severe forms of gum disease, *Periodontitis* can occur if gingivitis is allowed to persist and progress.

**Periodontitis**

Periodontitis is the advanced stage of gum disease. Infection and inflammation can affect the bones and fibres which support the teeth.
Periodontitis is the progressive **irreversible** loss of the bone and fibres that support the teeth. This may eventually lead to loosening and finally the **loss of teeth**.

**Signs and symptoms of early gum disease include:**
Inflammation or swelling of the gums  
**Gums that bleed** when being brushed and or touched  
An unpleasant taste  
An unpleasant smell: halitosis (bad breath)

**Later stages can include:**
- Looseness of teeth  
- Drifting of teeth  
- Pain on biting  
- Teeth sensitivity to hot / cold  
- Spaces appearing between teeth.

The risk of gum disease can increase as a result of:
- Poor oral hygiene  
- Smoking, alcohol, drug dependencies  
- Hormonal conditions (particularly pregnancy related gingivitis)  
- Poorly-controlled diabetes  
- People under going Chemotherapy/Radiotherapy  
- Ineffective oral hygiene as a result of illness: Alzheimer’s, Dementia, Parkinson’s, Huntington’s Disease, Multiple Sclerosis, Stroke etc  
- Ineffective oral hygiene as a result of intellectual impairment: learning disability  
- Xerostomia - dry mouth  
- People who have an impaired immune system (e.g. people with Down’s Syndrome, HIV or those with Leukaemia) are also at greater risk of developing periodontal disease

**Although gum disease is very common, the rate at which it progresses varies enormously between individuals.**
Patients with gum disease should be advised and supported to improve their oral hygiene. If the condition does not improve with local measures it should be reported to a dental professional.

**Key Points**

**Prevention of gum disease**

Control the formation and build up of plaque.

Thorough **daily** removal of plaque from around the teeth and gums with a small head toothbrush.

Teeth and gums should be brushed twice daily (ideally morning and night).

The length of time is dependent on dexterity but ideally for 2 - 3 minutes.

**Foam Sticks/Sponge Pads do not effectively remove plaque.**

**Toothbrushes**

Toothbrushes are by far the most effective cleaning tool.

Many types are available and dental professionals suggest a **small** head brush with dense nylon filaments of a **medium** texture.

A toothbrush with a **small compact head** is easier to use.

A long, straight handle is easier to hold and manipulate, and can be easily adapted for people with manual dexterity problems.

**Adapting or modifying toothbrushes**

Simple adaptations may be required to enable an individual to maintain their own oral care:

- Toothbrush handles can be placed into hot water and bent backwards or forwards
- Handles can be inserted into a rubber ball, foam tube or bicycle handle grip.
- An occupational therapist may help with adaptations
Commercial devices are available

Aspirating Toothbrushes
The mouth plays host to millions of bacteria and these pathogens can be aspirated into the airway and lungs and cause infection. It is particularly important to keep the mouth as clean as possible for vulnerable or medically compromised patients. An aspirating toothbrush is helpful for individuals who are ventilated, enteral fed (nil by mouth), dysphagic (swallowing difficulties) or are critically ill in hospital. They can be attached to bedside or portable suction units. A speech & language therapist will advise if toothpaste is suitable for patients with dysphagia or totally nil by mouth.

Electric toothbrushes (rechargeable)
Electric toothbrushes can be as effective as manual toothbrushes, provided they are used correctly.

Advantages include:
- A small oscillating (rotating) brush head can aid access
- Useful for people who have problems holding a manual toothbrush
- A wider handle which may help with grip and control
- Teeth can be cleaned without applying too much pressure.

Disadvantages include:
- Heavier than manual brushes and can be difficult to control
- Some people find the vibration unpleasant
- Can be expensive (re-chargeable types are recommended) and the toothbrush heads need to be replaced regularly
- Battery operated ones are less effective - battery runs low very quickly
- The removable head must be securely taped into position for individuals with a tendency to bite the brush

**Toothbrushes should be well rinsed after use and allowed to air dry whenever possible.**

**Dental Floss & Interdental Cleaning Aids**

Dental floss/tape and other cleaning aids are of value but they must be used correctly. They clean in between the teeth where toothbrush bristles cannot reach.

A suitable length of floss is held between the fore finger and thumb and used to clean between each tooth and around the gum margin. It is important not to saw away at the gum as this can be very painful.

Follow the margin between the tooth and gum.

**Do not floss patient’s teeth unless you have been trained by a dental health professional.**

**Interdental brushes**

These have smaller heads than ordinary toothbrushes and can be used to clean spaces in between teeth where larger brushes cannot reach. Patients with manual dexterity problems may find them helpful.
Interspace brushes
These can be used to clean larger spaces in between teeth. They can also help to remove sticky tenacious secretions.

Oral irrigators
These use a pulsating water jet to clear away food or debris from teeth. They are mainly recommended for people with gum problems or with braces. They may be helpful for patients with very sore mouths following chemotherapy/radiotherapy or those who cannot tolerate a toothbrush or dental floss. They are not recommended for people with Dysphagia (swallowing difficulties).

Tongue cleaners
The tongue harbours millions of bacteria. Brushing the tongue will help remove even more bacteria from the mouth. Tongue cleaners are available, but they can be expensive and are unnecessary if patients can tolerate a toothbrush. However people with a pronounced gag reflex may find them helpful.

Toothpaste
For the majority of people, providing the toothpaste contains fluoride, the choice will rest on individual taste. Fluoride levels in toothpaste vary from one brand to another. Evidence suggest

- Children 0 – 3yrs should use a toothpaste with 1000 parts per million (1000ppm) of fluoride
- 3yrs and over should use a toothpaste containing 1350 – 1500 parts per million (1350ppm – 1500ppm) of fluoride

This will be highlighted in the ingredients list – e.g. 1000ppm, 1100ppm, 1250ppm, 1300ppm, 1350ppm, 1400ppm, 1450ppm and 1500 etc.
Individuals at greater risk of dental problems due to medical conditions, dysphagia, dry mouth, those on chemotherapy / radiotherapy / oral nutritional supplement, or on long term medication can benefit from toothpaste with higher fluoride content. These will be recommended by a dentist and are only available on prescription: **2800ppm - 5000ppm** fluoride.

**Sodium lauryl sulphate**
Sodium Lauryl Sulphate is the foaming ingredient found in many toothpastes. Non foaming toothpaste is recommended for individuals with dry mouth / dysphagia and/or having chemotherapy / radiotherapy. Bioxtra, Pronamel, Chlorhexidine Gluconate Gel, OraNurse are a few examples of Sodium Lauryl Sulphate free toothpaste. This list is not exhaustive and it is recommended to check the ingredients each time toothpaste is required, as ingredients often change.

Some toothpaste manufacturers make a variety of claims for their products:
- toothpastes that claim to remove stains are often very abrasive and should be used sparingly
- toothpastes that claim to reduce sensitivity seem to have some benefit in reducing painful sensations from exposed dentine.

**Important advice**

A **small pea sized** amount of paste is advised for self caring adults
Always spit out any excess toothpaste
When brushing another persons teeth

Use a *smear* of paste only on a *dry* brush
Push the paste well down into the bristles
This will prevent it coming off the brush and being aspirated

Patients should be encouraged to spit out excess toothpaste after brushing – not to swallow it

It is important *not to rinse* after brushing, as the fluoride in the toothpaste will be washed away too quickly!

Excess toothpaste left in the mouth may have a drying effect on soft tissues which can be particularly uncomfortable for patients who already have a dry mouth. A small soft toothbrush dipped in water or fluoride mouth rinse (shake off any excess) and swept inside the cheeks and mouth may be helpful for these patients.
Chemical plaque control and mouth rinses
A variety of mouth rinses are available.

Chlorhexidene Gluconate

Chlorhexidene Gluconate has proved to be effective in suppressing plaque under clinical conditions. Very rarely people are allergic to Chlorhexidine so ask about allergies before use.

It is widely available as a mouth rinse, gel or spray and is used in the management of gum disease.

Chlorhexidine Gluconate mouth wash can be used in addition to brushing the teeth and gums. It works best on clean teeth by reducing the formation of plaque. It can also be used in addition to normal toothpaste. However it should not be used at the same time as brushing with a conventional toothpaste due to interaction between ingredients. A delay of half an hour between toothbrushing and rinsing with Chlorhexidine Gluconate is recommended. Alcohol free Chlorhexidine Gluconate is available and is recommended for patients with dry mouth or receiving cancer therapy.

Key Points

Mouth rinses are not appropriate for people with Dysphagia - always check with a Speech and Language Therapist.
Chlorhexidine Gluconate spray can be used for people with complex needs. A total of 12 sprays (for a complete set of 32 teeth) daily should be angled towards the gum margins in all areas of the mouth.

A dentist may recommend Chlorhexidine Gluconate Gel for individuals who are unconscious, nil by mouth, dysphagia or who have complex medical conditions. This is a non foaming gel.

Chlorhexidine Gluconate can cause staining of the teeth and impair taste sensation. These factors generally make it unacceptable for long term use. If Chlorhexidine Gluconate is required long term, the staining can be removed by a dental professional.

**Fluoride mouth rinse**

A fluoride mouth rinse may be recommended for the management of dental caries, dry mouth, people on oral nutritional supplements or undergoing chemotherapy or radiotherapy. Alcohol free mouth rinses are recommended. A dentist will advise which mouth rinse is the most suitable.

**Benzydamine hydrochloride (Difflam)**

Benzydamine hydrochloride is more palatable than Chlorhexidine Gluconate and sometimes better tolerated, but it is less effective in suppressing plaque bacteria.

It is effective for individuals who suffer from mouth ulcers or a sore mouth following chemotherapy or radiotherapy (mucositis).

Difflam oral rinse contains the active ingredient benzydamine hydrochloride, which is a non-steroidal anti-inflammatory drug (NSAID). It is most effective if applied directly to the area affected. Difflam is available as a mouth rinse or spray.
Other antiseptic agents
Other antiseptics are used in many mouth rinses and toothpastes. Many popular types contain triclosan and, although shown to be of some value in preventing plaque formation they are less effective than Chlorhexidine Gluconate.

Key Points

Most mouth rinses are \textit{alcohol} based and may also be \textit{acidic} so are not recommended to be used long term.
If a person insists on using an over the counter mouth rinse advise them to use an alcohol free version
Always seek advice from a dentist on the use of mouth rinses

\textit{Mouth rinses should only be used as an adjunct to tooth brushing and do not replace toothbrushing!}
When prompting or advising another person about their oral hygiene, they will need:

1) A toothbrush with a small head with medium nylon bristles. This will minimise toothbrush abrasion. People with a very sore mouth (mucositis), or those who are terminally ill may need to use a soft bristled (silk) tooth brush such as a TePe brush.

2) A small pea sized amount of fluoride toothpaste (1350 - 1500ppm). Some people with manual dexterity or physical mobility problems may need the paste applied to the brush.

3) There are several techniques recommended for toothbrushing, but essentially massaging the gum around the neck of each individual tooth is recommended.

Brush each tooth slowly. Move around the mouth, concentrating on the outside surface of each tooth.

Brush the inside surface of each tooth.
Brush the biting surface of each tooth

The time taken to clean teeth will vary, depending on an individuals’ dexterity.

But remember toothbrushing takes time to effectively remove plaque.

A red disclosing tablet shows plaque bacteria on the tooth surface

Ideally encourage individuals to spend 2-3 minutes morning and night. Egg timers are a good way of timing one-self.

4) After tooth brushing, advise individuals to spit out any excess and not to rinse.

The fluoride in the toothpaste that remains around the teeth continues to work and provide protection - especially at night! Self caring individuals should be advised not to rinse the mouth with water after brushing as this rinses away the fluoride toothpaste.

**Key Points**

**Bleeding gums** are a sign of poor oral hygiene and early gum disease. It is important to continue to brush the teeth when gums bleed to improve oral health.

A helpful tip is the use of a disclosing tablet after brushing. This shows up the areas that have been missed.
**Weakened oral control**

Some individuals may have weakened oral control and swallowing (e.g. after a stroke). This can lead to food pouching in the mouth. *Any debris needs to be thoroughly removed*, by using a damp soft toothbrush swept around and inside the cheeks to remove it.

**Replacing toothbrushes**

Toothbrushes must be replaced at least every three months or as soon as the bristles become splayed. It is important to replace toothbrushes after each episode of Candida (Thrush) mouth infection.

**Smoking and oral health**

People who smoke are at a greater risk of a range of oral disease / conditions, particularly gum disease and oral cancer.

All health professionals can identify smokers and point out the risks. Try to advise people who smoke to give it up as this will decrease their risk of oral disease as well as having other health benefits.

Stop Smoking Wales offer advice, support and smoking cessation to people who are interested in quitting smoking. Sign posting a person to this service on discharge from a hospital may encourage more people to quit smoking:

0800 085 2219 (free phone)

www.stopsmoking.wales.com

www.dimsmygucymru.com

**Alcohol and oral health**

Excessive use of alcohol can increase the risk of oral cancer, tooth decay and periodontal disease. Health professionals have an important role in identifying those who drink above the recommended level.

A patient who needs advice with a drink problem, on discharge advise to contact:
Health Challenge Wales
www.healthchallengewales.org

Alcohol anonymous national help line
Tel: 0845 769 7555
or
Email: help@alcoholics-anonymous.org.uk.

**Discharge Policy**
Most Health Boards/Trust will have a discharge policy. It is good practice to be familiar with the document and if possible to include appropriate mouth care advice and information on finding a dentist.
Oral Hygiene
Twice daily toothbrushing is the main part of oral hygiene. Good oral hygiene removes plaque which is the main cause of gum disease.

Oral hygiene for people who cannot care for themselves
Individuals who are capable of taking care of their own mouths should be encouraged to do so. This raises self esteem and encourages independence. However there may be situations when health and care professionals need to undertake oral care for dependent, unconscious/critically ill or end of life patients.

The care-giver should try to involve the person as much as possible in the care process and:
- Encourage them to do as much as possible for themselves
- Be kind and reassuring.
Any approach to mouth care will vary from person to person and it may be necessary to adapt a technique for each individual.

The following suggestions may be helpful.

Where and when to brush
Mouth care is usually carried out in the bathroom near a sink and done twice a day - in the morning and last thing at night.
This is not always possible for people with special care requirements.
It may be necessary to clean someone else’s mouth whilst they remain in bed and at a time of day when cooperation is at its best. In some circumstances this may only be once a day, or in some instances this may be up to 4 times a day: cleaning one quadrant of the mouth each time. It is important to establish a routine and document when oral care has been achieved.
Involvement of the individual
To increase cooperation, giving choices may be helpful.
A Tell-Show-Do approach can be a useful method:
- **Tell** the person what you are going to do
- **Show** the person what you are going to do
- **Do** as you have explained.

Reinforcement
Positive feedback, smiling and praise can reinforce good management during mouth care.

How to clean someone else’s mouth
1. Prior to mouth cleaning organise the equipment needed:
   - Good lighting (a torch may be useful)
   - Suitable chair/bed.
   - Bowl or basin (for spitting out)
   - Head support (if needed)
   - Towel
   - Face flannel/gauze
   - Toothbrush
   - Toothpaste
   - Mouth rinse or oral sprays (e.g. Chlorhexidine Gluconate)
   - Mouth props
   - Gloves
2. Wash hands as per hand hygiene protocol and put on disposable examination gloves. Disposable gloves should be well fitting.
3. Explain what you are going to do.
4. If the person is seated in a chair or wheelchair take up a position behind or to the side of the person with their head cradled against your body. This provides support and control over head movements.
Where possible ensure the person is seated comfortably in an upright position, with their feet firmly on the ground.
If the person is seated in a low backed chair make sure the head and neck are well supported during toothbrushing.
Try not to tilt the head backwards as this hinders safe swallowing.
Posture is important in facilitating swallowing.

5. If the person is confined to bed, and is able to sit up, the back rest should be raised upright and pillows used to support the head, neck and shoulders. The head should be tilted forward and to one side to assist drainage.

If the person is lying down, the head should be tilted to one side to assist drainage.
If suction is available aspirating toothbrushes can be useful in clearing the mouth of any saliva, food or debris.
It is always best to work from either the side or behind the person when brushing their teeth.
In people with cerebral palsy, loss of neck support often results in symmetrical neck reflexes. These reflexes can be minimised by supporting and cradling the head and neck from behind.

6. Gently open and support the lower jaw.
Gently pull back the person’s cheek to enable you to see the mouth and teeth.

If there is difficulty with cooperation, for example: in opening the mouth or the person clamps down onto the toothbrush, a mouth rest can be used to open one side of the mouth whilst brushing on the other side.

These should be sterilised after use as per manufacture guidelines.
• Whilst standing behind or to the side of the person, cradle the head with your arm whilst supporting the chin
• Gently open and support the lower jaw
• Use your thumb and forefinger to gently part the lips to gain access to the mouth
• Remove any dentures or other removable appliances
• Retract the cheeks
• Pull the cheek gently outwards away from the teeth and not towards the back of the mouth.

7. Use a suitable tooth brush. The person you are caring for may have a particular preference but ideally a small head medium textured brush should be used.
You may need to try several brushes until you find one that works best.

8. A brush that can clean more than one surface at a time may be helpful.
Examples:

The Superbrush or Collis Curve brush.

They clean three surfaces of a tooth at one time and can be effective for people with behavioural issues. This list is not exhaustive.

These brushes can be especially helpful for people who have difficulty keeping their mouth open.

Other types of toothbrushes include interproximal brushes.
These have much smaller heads and can be used to clean spaces in between teeth.
9. When brushing another person's teeth, only use a **smear** of fluoride toothpaste on a **dry** brush. This will help to avoid excess foam in the mouth. Encourage the person to spit out any excess toothpaste. If this cannot be managed, a small damp soft toothbrush swept inside the cheeks may help remove the excess toothpaste.

10. Hold the toothbrush as you would a pen and gently brush all the surfaces of the teeth and gums using a rocking or circular movement:
   - It is important to follow a methodical order around the mouth to ensure all tooth surfaces are brushed
   - With confused or people who are unable to co-operate you may only be able to clean one part of the mouth at a time. If so clean a different area of the mouth each time and record this on the mouth care documentation form
   - Choose a side of the mouth to start tooth brushing
   - Start working on the outside surface of the upper teeth and gums
   - As you brush slowly move round the mouth to the other side brushing only the upper teeth and gums
   - Once the top outer surfaces have been cleaned return the brush to the starting side and brush the inside surfaces of the teeth in the same way
   - Don’t forget to brush the biting (top) surfaces of the teeth.
   - Pause frequently to allow the person to rest and feel in control
   - Brush the bottom teeth and gums in the same way
   - Be aware of any loose or sensitive teeth and gums
   - The gums may bleed when brushed if the person has gum disease.

Many people who are unwell or unable to manage good mouth care may have some form of gum problems.

11. After cleaning inspect the mouth for any changes or infection. A torch is useful:
- Weakened oral control and swallowing can lead to food “pouching” or retained toothpaste in the mouth. A small soft toothbrush swept inside the cheeks and around the mouth will help remove any retained food or toothpaste.

- If using chlorhexidene spray, direct the nozzle towards the gum margin. A total of up to 12 sprays can be administered around the mouth for a person with a complete set of 32 natural teeth. Use less sprays if there are fewer teeth.

**Key Point**

If there is any bleeding **DO NOT STOP BRUSHING.**

**CONTINUED GENTLE MASSAGE WITH A TOOTH BRUSH WILL NOT DAMAGE THE GUMS**
Background Information
People with dentures can function well provided the dentures are well fitting and they have become used to their dentures.

It is vital to ensure that dentures are kept safe when a person is in hospital or in long term care. Denture loss is common when people with dementia are in unfamiliar environments such as short term hospital stay. Lost dentures affect self esteem and dignity, and are often a cause for complaints. Ideally dentures need to be named at the point of construction. Alternatively dentures can be temporarily named using a simple technique that will last for approximately 6 – 12 months. Naming a denture does not prevent denture loss, however it does mean they have more chance of being reunited with their owner (See appendix 1 for guidance).

The loss or breakage of dentures can have a detrimental effect on health and general wellbeing. Some individuals, especially elderly people, may find it very difficult to adapt to wearing a new set of dentures. This can cause anxiety and failure to eat properly. A person may experience difficulty with speech, eating, drinking and social acceptance resulting in a sense of low self esteem.

A policy on the safe keeping and care of dentures should provide:
- Appropriate denture care training for all staff
- Up to date denture cleaning guidelines
- Up to date denture marking guidelines (appendix 1)
- Denture pots to be labelled and kept in a safe place
- As part of an oral health risk assessment, dentures to be checked and any non labelled denture to be named with the persons consent
- Lost dentures need to be reported as an incident on DATIX or patient safety incident reporting system.

Most people’s dentures have no form of identification marks. So they are easily mixed-up or lost! Denture Marking kits are available.
Types of dentures

Full or Complete Dentures - Acrylic
People with complete dentures have no natural teeth.
Most complete dentures are made from plastic (acrylic).
People with dentures can either have a full upper or
full lower denture or both.

People with only an upper or lower set may have
some natural teeth as well.

Dentures can become loose and begin to damage the mouth if they have
been worn for a number of years. As these changes happen slowly,
individuals often adapt to them without realising the harm that is being done to
the mouth.
Individuals who experience difficulty wearing dentures may have a soft lining
added to their denture. This is a soft cushioned base in contact with the
gums. Over vigorous brushing may damage the soft lining.

Vulcanite denture
Very occasionally older people have
dentures that are made from a rubber like substance
(vulcanite) with porcelain teeth. This type of denture
is very old and difficult to repair, so it is imperative
to take extra care when cleaning them.

Partial Dentures
Partial dentures are usually made from a combination of acrylic, metal and
metal clasps. They are more prone to trap food and need more attention.
Individuals who wear partial dentures have some natural teeth as well. The supporting natural teeth require special attention to avoid problems such as gum disease and tooth decay.

*Partial Denture with Metal Parts*  
*Acrylic Partial Denture*

**Denture hygiene**

It is imperative that any type of denture is kept scrupulously clean. They can become coated with food and bacterial plaque. This may increase the risk of aspiration pneumonia for people who are already unwell.

Plaque forms on dentures and is not easily visible until it has become quite thick and hard. This may take a number of days.

Hardened deposits of plaque are known as calculus and this makes the surface of the denture rough and unhygienic, possibly causing irritation. If dentures are worn at night, a fungal infection of the soft tissues lining the mouth can develop – *Denture Stomatitis* (discussed in part two).

**Key Point**

**Dentures must be kept scrupulously clean**
Advice for people who wear dentures

- Dentures should be removed after every meal, brushed and rinsed thoroughly to remove food debris. The mouth should be rinsed well with water to remove any food residue.
- Dentures should always be cleaned over a bowl or sink of warm water. This will prevent the denture from breaking if it is accidentally dropped. A folded towel or cloth can also be used to prevent breakage.
- Ideally they should be removed at night. If this is not possible they should be removed for at least four hours during the day.
- The soft tissues of the mouth and palate should be gently brushed with a small soft toothbrush - food tends to pouch in the area between the cheek and gums so particular attention should be paid to these areas.
- People with complete dentures need to have a mouth check at least once a year.
- People with partial dentures should ensure any natural teeth are thoroughly cleaned with a toothbrush and fluoride toothpaste. Always remove the dentures before cleaning the natural teeth.

Cleaning Dentures

A soft nylon brush or toothbrush may be used to clean dentures. Ideally a different brush to the one that is used to clean any natural teeth or inside the mouth.

Nail brushes are not advised as they harbour bacteria due to the density of the bristles.

To restore independence for self caring individuals, toothbrushes and denture brushes can be easily modified and adapted in a number of ways, making them easier to use.
Caring for patients with dentures

1. Always wear disposable gloves when cleaning dentures.

2. Soak dentures for a few minutes before cleaning to soften any debris. Diluted sodium hypochlorite 1% (1:80 parts water) is recommended.
   - Soak acrylic (plastic) dentures for **3 minutes** and no longer as this may cause some bleaching of the denture.
   - Dentures with metal clasps may be soaked for **1 min** in diluted sodium hypochlorite.
   - Patients may like to use other commercially available products. Soak for approximately 3 – 10 minutes and no longer.
   - If sterilising tablets are used always ensure they are safely locked away after use. In some cases they have been eaten by confused people.
   - Soaking alone will not clean dentures. It is the brushing action that will thoroughly clean dentures.
   - Do not use household bleach on acrylic dentures or on dentures with a soft lining as this will discolour them, weaken the acrylic and cause any soft lining to harden.

3. Clean dentures over a sink or bowl half filled with water.

4. Clean dentures with non perfumed liquid soap or specially formulated denture paste.
   Toothpaste is too abrasive.

5. Ensure the dentures are thoroughly clean. Brush vigorously to remove all traces of food debris and plaque. However be careful not to damage any soft lining.

6. Rinse dentures well in **cold** tap water to remove any traces of soap or cleaning solution before wearing.

7. The mouth needs to be cleaned to remove food particles and bacteria from becoming trapped in the folds of the mouth. The soft tissues and palate should be brushed with a small soft tooth brush.
8. Any natural teeth or supporting teeth for partial denture wearers need additional attention. Use fluoride toothpaste and a different tooth brush to ensure teeth are completely free of trapped plaque, food and debris. Teeth and gums need to be brushed twice daily.

Check dentures
Once dentures have been removed and thoroughly cleaned they should be checked for any rough or sharp areas or hard deposits of calculus and staining.
If you see any of the above you should report them to a dental professional.

Storage of dentures
Dentures should always be stored in cold tap water in a suitable secure, labelled container (e.g. a soap dish with a lid).
All patients should be encouraged and supported to carry out their own mouth care. If they are unable to do this, they are at increased risk of oral disease. Underlying medical conditions can contribute to this, for example:

- Immunocompromised
- Anaemia
- Diabetes
  - Receiving treatment
- Head and neck radiation
- Chemotherapy
  - Anything that causes a dry mouth
- Receiving oxygen
- Medication
- Open-mouth breathers

Patients who are unable to mechanically remove plaque bacteria from the mouth include:

- Vulnerable / Frail elderly
- Mentally or physically disabled
- Mechanically ventilated / Unconscious
- Receiving palliative care / at end of life
- Post operative
- Stroke
- Head injury
- Lack of understanding / motivation

They will need encouragement and support to maintain daily oral hygiene.

**Vulnerable Adults in Hospital – mouth care documentation**

Mouth care is an essential part of overall care. People who are in hospital: short or long term, in intensive care units, or intubated may be more vulnerable to oral disease than the general population. Good oral care is imperative for patients who are critically/terminally ill/near end of life and/or who are reliant on care professionals for oral care and hygiene.
People admitted to hospital for longer than 24 hours require:

- A *Mouth Care Risk Assessment* completed within 24 hours (or according to local policy). This is colour coded in columns and the goal is to move oral health status from a red/amber colour code to a green code when possible.

- A *Mouth Care Plan* (A, B, C) specific to patient need and inserted into patient / nursing files.

- *Documented Daily Mouth Care*. These documents should be easily accessible and available to all health and care professionals.

- A laminated *Mouth Care Practice and Resource Guide* made available to all staff. Depending on area of nursing this may be placed either at the foot of the bed, in patient nursing notes or in a visible place near the PSAAG board (Patient Status At A Glance Board).

Staff need to be aware of the risk factors that impact on oral health and any condition which may affect the patient’s ability to self care. These need to be well documented.

Mouth care documentation must be recorded accurately and signed off daily. Any oral problems or changes in oral condition must be recorded and acted upon. The mouth care plan is updated as oral health improves or becomes worse.

**Oral problems**

Common oral conditions including pain, soreness, ulceration, glossitis, candida infections and dry mouth have a serious impact on quality of life. Oral care regimes are based on the relief and improvement of symptoms:

- Good oral hygiene; removal of plaque and food debris
- Good denture hygiene
- Relief of xerostomia (dry mouth)
- Keeping the mouth comfortable
- Relief of other reported symptoms

A mouth care plan appropriate to individual need should be available for each patient. Factors such as general health, medical condition and prognosis,
medication and therapeutics as well as previous standards of oral hygiene and ability to self care should be documented. It is helpful to include a dental professional in palliative care and multi disciplinary teams to ensure that oral needs are managed effectively for vulnerable and medically compromised people. Your local Community Dental Service may be able to advise on this.

**Xerostomia: dry mouth**

**Functions of saliva**

Saliva is the viscous, clear, watery fluid secreted from salivary glands throughout the mouth.

The pH of saliva usually varies between 6 and 7.4.

Saliva plays many important functions including mechanical cleansing, control of pH, removal of food debris from the oral cavity and lubrication. It facilitates swallowing, and contains enzymes and antigens. It also contains calcium and other minerals which help repair tooth enamel.

Xerostomia is defined as dry mouth resulting from reduced or absent saliva flow. It is not a disease, but a symptom of some medical conditions and an unwanted side effect of radiation to the head and neck and a wide variety of medications. It may or may not be associated with decreased salivary gland function such as Sjogrens disease. Xerostomia is a common complaint among older people.

**Complications associated with xerostomia**

Xerostomia can affect nutrition and dental health, as well as psychological well being. Common problems associated with xerostomia include:

- A constant sore throat
- Oral ulceration/infection
- A burning sensation
- Increased gum disease
- Increased dental decay
- Difficulty speaking, chewing and swallowing
- Hoarseness and/or dry nasal passages
- Difficulty with denture retention
Xerostomia can be a hidden cause of gum disease and tooth loss. If left untreated, the oral pH decreases and the development of plaque and dental caries significantly increases. Oral candidiasis is commonly associated with xerostomia.

**Signs and symptoms of xerostomia**

Individuals with xerostomia often complain of problems with eating, speaking, swallowing and wearing dentures. Dry, crumbly foods, such as cereals and crackers, may be particularly difficult to chew and swallow. Denture wearers may have problems with denture retention, ulcers relating to the denture and the tongue sticking to the palate.

Individuals often complain of taste disorders (dysgeusia), a painful tongue (glossodynia) and an increased need to drink water, especially at night.

If saliva is present it may appear stringy, ropey or foamy.

Xerostomia can lead to markedly increased dental caries, parotid gland enlargement, inflammation and fissuring of the lips (cheilitis), inflammation or ulcers of the tongue and buccal mucosa, oral candidiasis, salivary gland infection (sialadenitis), halitosis and cracking and fissuring of the oral mucosa.

Dental caries associated with xerostomia tend to be found at the cervical margin or neck of the teeth, or roots. It is exceptionally difficult to repair and can lead to tooth fracture and loss. The role of the diet in the prevention of dental caries is paramount.
Key Points

The sipping of acidic, sugary, fizzy drinks and fruit juices between meals should be avoided as they can increase dental decay and erosion.

Common causes of xerostomia

Medications

Perhaps the most common cause of xerostomia is medication. More than 400 commonly used drugs can cause dry mouth. The main culprits are:

- Antidepressants
- Antihistamines
- Anorexiant agents
- Anti-Parkinson agents
- Antihypertensives
- Anticholinergics
- Antipsychotics
- Diuretics and sedatives.

Other drug groups that commonly cause xerostomia include antiemetics, antianxiety agents, decongestants, analgesics, antidiarrheals, bronchodilators and skeletal muscle relaxants. It should be noted that, while there are many drugs that affect the quantity and/or quality of saliva, these effects are generally not permanent.

Diseases and other conditions

The most common disease causing xerostomia is Sjögren's syndrome (SS), a chronic inflammatory autoimmune disease. However other systemic diseases that can cause xerostomia include:

- Rheumatoid arthritis
- Bone marrow transplantation
- Nutritional deficiencies
- Thyroid dysfunction
- Scleroderma
- Hypertension
- Cystic fibrosis
- Endocrine disorders
- Nephritis
- Systemic lupus erythematosus
- Diabetes mellitus
- Cerebral palsy

Neurological diseases such as Bell's palsy.
Dehydration resulting from impaired water intake, emesis, diarrhoea or polyuria can result in xerostomia. Psychogenic causes, such as depression, anxiety, stress or fear, can also result in xerostomia. Alzheimer's disease or stroke may alter the ability to perceive oral sensations.

**Xerostomia and cancer therapy**
Xerostomia is a common side effect associated with radiation therapy to the head and neck. A common early complaint following radiation therapy is thick or sticky saliva. Radiation induced xerostomia is invariable permanent. Certain cancer chemotherapeutic drugs can also change the composition and flow of saliva, resulting in xerostomia, but these changes are usually temporary.

People experiencing xerostomia from radiation therapy or cancer chemotherapy are at particular risk of infections from normal oral flora. Oral ulcerations can become the nidus of invasive gram-positive and gram-negative infections, and opportunistic infections with fungal organisms such as Candida.

**Management of xerostomia**
Ideally, the management of xerostomia will include identification of the underlying cause. Symptomatic treatment typically includes four areas:
- increasing existing saliva flow
- replacing saliva with saliva substitutes and keeping the mouth moist
- control of dental caries
- specific measures such as treatment of infections.
Self-care
People suffering from xerostomia should be encouraged to take an active role in management of their condition, and helped to understand how it can adversely affect their dental health.

People should be encouraged to check their mouth daily for red, white or dark patches, ulcers or signs of tooth decay. Anything unusual should be reported to their dentist.

Good regular oral hygiene is essential to remove plaque effectively from the mouth.

Key Points

- A small head medium bristled tooth brush is advised
- Use of sodium lauryl sulphate free tooth paste that contains 1350ppm – 1500ppm of fluoride (mildly flavoured, OraNurse for example). Toothpaste containing sodium lauryl sulphate may contribute to the formation of ulcers so a dentist may advise to avoid these products
- A dentist may advise additional fluoride supplements: mouth rinse/high fluoride paste
- Alcohol free Chlorhexidine Gluconate mouth rinse may be prescribed by a dentist.
- Regular dental appointments

People with xerostomia are more susceptible to dental caries, and should therefore avoid frequent intake of sugary / sugar free / fizzy or acidic foods & beverages. Foods that are dry, spicy, astringent or excessively hot or cold may also cause some irritation

To lubricate and hydrate the mouth, frequent sipping of plain water or sucking on crushed ice is recommended (always check with a speech and language therapist if there are any swallowing problems – dysphagia). Atomised water sprays may be helpful. Chewing sugar free chewing gum may also help to stimulate saliva flow when functional salivary glands remain.
Saliva substitute
Artificial saliva or saliva substitutes can be used to replace moisture and lubricate the mouth. These substitutes are available commercially, but they can also be prescribed. Artificial saliva products are formulated to mimic natural saliva, but they do not stimulate salivary gland production. They are a replacement therapy rather than a cure.

Commercially available products come in a variety of formulations including solutions, sprays, gels and lozenges. Some saliva substitutes contain citric acid and are not suitable for people with natural teeth, whilst others are derived from animal products and may not be suitable for vegetarians or people with religious / cultural beliefs.

**Glandosane is not suitable for people with natural teeth.**
**Saliva Orthana contains animal products and may not be suitable for vegetarians.**

A properly balanced artificial saliva should have a neutral pH balance and include fluoride for people with natural teeth.
A dental health professional can advise on products that are most suitable. Flavourless salad oil/olive oil or unsalted butter applied at night may help lubricate the mouth in an urgent situation. 25, 26

Saliva stimulants – systemic treatment
Prescribed saliva stimulants stimulate functional salivary glands, so are not appropriate for patients whose salivary gland function has been lost. In addition they may over stimulate other glands in the body, so need to be given under the direction of the medical team.

Dentifrices and gels
These products contain salivary enzymes, specifically formulated to activate intra-oral bacterial systems which may help relieve symptoms. They come in a variety of forms including toothpaste, gels and mouth rinses, for example: Biotene, Bioxtra, Xerotin etc.
Some gels are not suitable for patients with a milk or egg allergy—refer to ingredients list. This list is not exhaustive and a medical team may prescribe alternative products.

Medications that contain sugar may further increase the risk of dental decay in an individual with a dry mouth. Always ask a doctor for a sugar-free medicine to be prescribed if it is available.

**Excess saliva/drooling**

Patients may drool saliva. This can result from:

- being unable to swallow due to a very sore mouth or blocked alimentary canal
- problems with posture and muscle control, which means that saliva is not swallowed but drools out of the mouth
- more rarely; excessive saliva production.

Patients may be prescribed medication such as hyoscine patches to control drooling.

**Candida Infections - THRUSH**

Oral candidiasis is an opportunistic infection of the oral cavity. It is common and often under diagnosed among the elderly, particularly in those who wear dentures. In many cases it is avoidable with a good mouth care regime.

Oral candidiasis can also be a mark of systemic disease, such as diabetes and is a common problem among the immunocompromised and those with poor nutrition.

Oral candidiasis is caused by an overgrowth or infection of the oral cavity by a yeast-like fungus: candida.

The mouth with a warm moist environment provides the perfect host.
Oral thrush can compromise the ability to swallow and may reduce nutrition and fluid intake. It can be painless and people may be unaware of the infection.

White, yellow or sometimes red patches, most often appear on the roof of the mouth and on top of the tongue. If they are rubbed off (e.g. when eating or cleaning teeth) they leave a painful raw area that may bleed.

Candida infections occur most commonly in those who are:
- Very young or elderly
- Poorly nourished
- Sick or on long term antibiotics
- Or have an impaired immune systems.

**Mouth care**

- Gently massage the tongue, gums and soft tissues of the mouth with a soft toothbrush brush 3 – 4 times daily to keep the mouth as clean as possible
- The medical team or dentist may prescribe a mouth rinse: Chlorhexidine Gluconate or Benzydamine Hydrochloride
- Explore possible causes e.g. malnutrition or antibiotic use
- An antifungal medication may be required. Refer to the medical team.
- The simultaneous use of topical Nystatin / Fluconazole suspension and Chlorhexidine should be avoided, as there is some evidence to suggest that these drugs inhibit each others action. It is preferable to separate administration by one hour. Seek further advice from a dental health professional or the medical team

**Stomatitis**

**Denture Stomatitis** is an inflammation of the mucous lining of any of the structures in the mouth, which may include the cheeks, gums, tongue, lips, throat, and roof or floor of the mouth.
Denture wearers are more likely to develop the infection due to the warm damp environment created underneath a denture. It is not transferable from person to person.

**Signs and symptoms**
Red inflamed areas in the palate (roof) of the mouth. Usually painless. The area will often mirror the shape of a denture and people may well be completely unaware of the infection.

**Causes**
Denture stomatitis is caused by Candida Albicans, mainly due to poor oral hygiene and wearing dentures at night time. The inflammation can be caused by conditions in the mouth itself, such as poor oral hygiene, dietary protein deficiency, poorly fitted dentures, or from mouth burns from hot food or drinks, toxic plants, or by conditions that affect the entire body, such as medications, allergic reactions, radiation therapy, or infections. People with Diabetes or those on Steroid therapy (inhalers or tablets) or antibiotics may be particularly vulnerable.

**Prevention and management**
- Improve oral hygiene – people who are edentulous (no natural teeth) should be advised to cleanse the mouth (gums and soft tissues) twice daily with a soft small toothbrush. Toothpaste is optional.
- Dentures should be taken out at night or left out of the mouth for at least six hours. They should be soaked in diluted sodium hypochlorite - 3 minutes for acrylic dentures and 1 minute for dentures with metal parts or Chlorhexidine Gluconate 0.2% for 15 minutes twice a day (allowed to air dry). This kills adherent Candida on the denture. Dentures have irregular and porous surfaces to which Candida easily adheres and brushing alone cannot remove them.
• Long term storage of dentures should always be in liquid (cold tap water) to help prevent distortion of the denture - see basic denture care guidelines
• Anti fungal medication – systemic/topical may need to be prescribed
• When rinsing the mouth with the topical antifungal, dentures should be removed to allow contact between the mucosa and the antifungal
• Smoking promotes the growth of fungal infections and people should be advised on the importance of quitting smoking\textsuperscript{16}

\textbf{Angular Cheilitis}

Angular cheilitis is a chronic infection which occurs at the corners of the mouth and manifests as deep cracks or splits. In severe cases, the splits can bleed when the mouth is opened and shallow ulcers or a crust may form. It can be very painful. The sores of angular cheilitis may become infected by the fungus \textit{Candida albicans} (thrush), or other pathogens. The onset of angular cheilitis may be linked with nutritional deficiencies, such as riboflavin (vitamin B\textsubscript{2}) and iron deficiency anemia, which in turn may be evidence of poor diet or malnutrition. Angular cheilitis may also be infected by Staphylococci including MRSA so effective cross infection control is imperative.\textsuperscript{16}

\textbf{Signs and symptoms}

Redness and cracking of the skin at the angles (corners) of the mouth
Chronic ulceration
Persistent wetness at the corners of the mouth

Treatment of angular cheilitis varies depending on the cause. For minor cases caused by bacterial infection, applying a topical antibiotic to the area for several days is sufficient to treat the infection and heal the lesions. Minor cases caused by a fungal infection can be treated by antifungal creams.
**Oral health for patients with specific medical conditions**

**Dementia**

Dementia is a marked loss of cognitive ability in a previously unimpaired person, beyond what might be expected from normal aging. It may be static, the result of a unique global brain injury, or progressive, resulting in long-term decline due to damage or disease in the body. Although dementia is far more common in older people, it may occur in any stage of adulthood and requires comprehensive nursing and oral care.

**Managing mouth care for people with Dementia**

In the early stages of dementia, most individuals will still be able to clean their own teeth. They may simply need prompting or supervision to carry out the task. If they need help, follow the guidelines on ‘Oral hygiene for self caring individuals’.

As manual dexterity decreases, an electric toothbrush or manual brush with an adapted handle may help maintain independence.

**Later stages of dementia**

As dementia progresses, individuals may become less able to:

- clean their teeth effectively
- understand that their teeth need to be kept clean
- express the need for dental treatment
- explain dental symptoms, including pain
- take part in the decision-making process about treatment
- give their informed consent for dental treatment
- feel comfortable with dental treatment.

Individuals may lose the ability to clean their own teeth, or recognised the need to do so. Health and care professionals will need to oversee their oral care. Follow the guidelines on ‘Oral hygiene for dependent individuals’.
Drugs, dementia and dental disease
People with dementia are sometimes prescribed antidepressants, antipsychotics and sedatives. One of the side-effects of all these drugs is a dry mouth. Follow the guidelines on ‘dry mouth’.

Mouth checks
People with dementia are not always able to recognise or express their dental needs, including when they are in pain. It is therefore important to have regular mouth care risk assessments, whether the person has teeth, dentures or no teeth at all. Regular mouth assessments can highlight any problems so that they can be treated as soon as possible.

How to tell if someone has dental problems
There may come a time when the person with dementia is unable to say that they are experiencing pain or discomfort. They will need to rely on other people to interpret their behaviour and to initiate visiting the dentist. Behavioural changes may indicate when someone with dementia is experiencing dental problems. These may include:

- refusal to eat (particularly hard or cold foods)
- frequent pulling at the face or mouth
- leaving previously-worn dentures out of the mouth
- increased restlessness, moaning or shouting
- disturbed sleep
- refusal to take part in daily activities
- aggressive behaviour
- biting the hands or arms – self harming

If any of the above occur always consider whether it could be a sign of dental pain.
**Huntington’s Disease**

Huntington's Disease is a hereditary, degenerating brain disorder that causes involuntary, rapid muscle movements such as jerking and twitching. There is loss of cognitive process and memory. Huntington's Disease can affect oral health. Uncontrollable jerky movement and severe involuntary muscle spasms can make brushing the teeth and gums almost impossible.

The earliest symptoms of the disease are the uncontrollable muscle movements. Secondary symptoms are short and long term memory loss, decline in abstract thinking and psychomotor functions that essentially control the muscles.

People with this disease are understandably at high risk of developing poor oral health, primarily due to uncontrollable muscle movements which makes self care virtually impossible.

In addition muscle twitching and facial spasms make brushing even more difficult.

People with more advanced disease require assistance to maintain oral hygiene.

It should be noted that the teeth, gums and soft tissues of the mouth of people with Huntington's disease are no different from the general population. They are not innately more susceptible to dental decay or gum disease. However people with Huntington’s disease do present clinically with more dental problems as a result of poor oral hygiene.

See also guidelines on the management of ‘dental caries’ and ‘gum disease’. As the disease progresses the guidelines on ‘oral care for dependent individuals’ may be helpful.
Mouth care can be a challenge for those who have impairments as a consequence of Stroke, Motor Neurone Disease, Parkinsons Disease, Multiple Sclerosis etc.

Oral Complications include:
- Xerostomia (dry mouth)
- Ulcers
- Stomatitis
- Halitosis
- Gingivitis/Periodontitis
- Problem with denture retention
- Parotitis (inflammation of salivary gland)

Some of which may be worsened by medication, which further impact on oral health.

Clinical presentations of stroke may include:
- Weakness or clumsiness on one side of the body (Hemiparesis)
- Simultaneous bilateral weakness (Paraparesis)
- Difficulty in swallowing (Dysphagia)
- Imbalance
- Difficulty in expressing language and communication
- Slurred speech
- Loss of vision
- Double vision
- Loss of consciousness

Complexities due to spatial problems, cognitive impairment, poor balance, physical upper limb weakness, lack of coordination and the cognitive problems that can accompany Stroke, MND, MS, Parkinsons etc; may prevent a person from maintaining good oral hygiene on their own.

Individuals with swallowing difficulties and/or facial weakness who are taking food orally should be supervised at mealtimes, as poor lip seal and loss of oro
- facial muscle control can lead to food pouching or pooling in the cheek, and risk of choking.

With reduced food clearance from the mouth the risk of dental caries increases for dentate individuals. Therefore they need to be taught or helped to clean their mouth, teeth/gums or dentures after each meal. Following a meal it is imperative the mouth is checked for retained food. A toothbrush may be used to remove retained food.

Rehabilitation goals that aim to maintain or regain independent oral care skills and oral health promotion are appropriate for some patients.32, 33

The following steps are an example of a simple rehabilitation task:-
1. Prepare everything you need: toothbrush, toothpaste, mirror etc
2. Ask the person to prop their elbows onto the sides of a wheelchair or sink
3. Place a dry toothbrush (with smear of non foaming paste) onto the teeth and ask the person to clean their teeth. Moving their head from side to side is helpful if manual dexterity (arm movement) is limited
4. Try to ensure the bristles of the brush reach where the gum meets the tooth, and all parts of the mouth
5. A nurse or carer may need to provide additional assistance to ensure effective oral hygiene is achieved
6. If facial muscle weakness is a problem the mouth needs to be checked for retained toothpaste. A damp soft toothbrush dipped in water, fluoride mouth rinse or Chlorhexidine Gluconate and swept along the sulcus region inside the cheeks will remove any debris. Adapted toothbrush handles may be necessary
7. Patients may find a toothpaste pump easier to use than a tube
Key Points

- Health and care professionals responsible for the care of these patients should provide extra attention to oral hygiene
- Modified / adapted oral hygiene utensils (adapted toothbrush / electric toothbrush / aspiration toothbrush) may be required
- Recognition and management of oral health for dysphagic individuals: a dry toothbrush, smear of toothpaste if assessed by SALT
- Additional fluoride supplements for dentate individuals may be required
- Oral Nutritional Supplements (see guidelines)
- Xerostomia – (see guidelines)
- Temporary use of denture adhesive for early rehabilitation but long term care advice from a dentist must be sought if dentures continue to rub or are ill fitting
- Management of oral health should be integrated into post rehabilitation care plans

Dysphagia

Dysphagia is the medical term for the symptom of difficulty in swallowing, with associated risk of choking.

Some people have limited awareness of their dysphagia.

When dysphagia is undiagnosed or untreated, people are at a high risk of aspiration and subsequent aspiration pneumonia as food or liquids enter the lungs and airway.

Some people present with "silent aspiration" and do not cough or show outward signs of aspiration. Undiagnosed dysphagia can also result in dehydration, malnutrition, and renal failure. Good oral hygiene is imperative in the prevention of Aspiration Pneumonia.\(^{30,31}\)
Oral Care for patients who have problems swallowing (dysphagia)

Posture is important to aid swallowing and protect the airway.

Avoid tilting the head backwards as this hinders swallowing.

- If possible sit the patient in a suitable chair with their feet firmly on the ground
- If the patient is bed bound raise the bed to an incline and use pillows to support the back, head, neck and shoulders. Tilt the head forward and to one side to assist drainage
- For patients in bed with unilateral facial paralysis, the head should be tilted away from the affected side
- A smear of non foaming toothpaste on a dry toothbrush is advisable. OraNurse, Bioxtra, Pronamel are a few examples. This list is not exhaustive and the medical team or dentist may provide another type.
- Chlorhexidine Gluconate gel (does not foam) may be used as an alternative to toothpaste. It will also help to control plaque bacteria
- A Superbrush or Collis Curve brush can be useful for patients who exhibit challenging behaviour.
- Encourage the patient to spit into a bowl or basin to remove any excess toothpaste
- An aspirating toothbrush can be used for individuals who are totally ‘nil by mouth’. These are specialised products and must be fitted to a suction unit at the bedside or to a portable unit
- Suction will be required to aspirate oral fluids and debris.

(Aspirating tooth brush connected to a manual pump)

For medically compromised individuals or those with complex needs you may need to modify your approach.
**Oral sprays**

**Chlorhexidine Gluconate** sprays are effective in reducing plaque bacteria and are beneficial for plaque control in people who are medically compromised or find tooth brushing difficult. It may help control plaque in individuals who are unable to cooperate with toothbrushing, and for areas requiring localised treatment provided there is no risk of aspiration (inhaling). However they should only be used under the direction of a Dentist or Speech and Language Therapist who specialises in Dysphagia.

**Mouth rinses are unsuitable if swallowing is impaired.**

**HIV/AIDS**

People with HIV whose condition is not well controlled by medication, are likely to have more oral problems because of their impaired immune system, including ulceration, sores and infections. HIV-related oral conditions include:

- Xerostomia
- Candidiasis
- Oral hairy leukoplakia
- Kaposi’s sarcoma
- Periodontal diseases such as linear gingival erythema and necrotizing ulcerative periodontitis
- Human papilloma virus-associated warts, and ulcerative conditions including herpes simplex virus lesions, recurrent aphthous ulcers, and neutropenic ulcers.
- ARV’s (Anti Retro Viral drugs) can cause ‘dry mouth’ or sore mouth. See guidelines on ‘Xerostomia’ dry mouth.

HIV does not directly affect the teeth but can result in more severe and rapid destructive disease. Therefore people with HIV should seek more regular care from the dental team.  

Poor oral health, can undermine the success of treatment by exacerbating existing medical conditions, compromising adherence to an antiretroviral treatment regimen, and diminishing quality of life.
Mouth care for people with HIV/AIDS

Good oral hygiene is essential for people with HIV/AIDS. Advice should always be sought from a dental professional on the management of oral care. However depending on the stages of the disease, guidelines on:

Oral Hygiene for Self-Caring Individuals
Oral Hygiene for Dependent Individuals

Oral hygiene and dry mouth may be helpful.

Key points

- Twice daily thorough removal of plaque from the teeth and gum margins
- If toothbrushing cannot be tolerated due to a sore mouth, an oral irrigator may be helpful
- Additional fluoride supplements: mouth rinse/high fluoride paste may be recommended by dental professionals
- Toothpaste containing sodium lauryl sulphate may contribute to the formation of ulcers, so a dentist may advise to avoid these products
- Chlorhexidine Gluconate products may be prescribed by the medical team or a dentist.

Ulcers

Small whitish painful sore on soft tissues in the mouth. Any shallow breach of the skin or mucous membrane is called an ulcer. There are numerous causes of oral ulceration including trauma, viral infection, anaemia and drug reactions.

Aphthous ulcers are associated with being ‘run down’, under stress, or suppressed immune system. Traumatic ulcers are caused by accidental damage e.g. biting side of mouth, using a toothbrush carelessly or eating food which is too hot. Ulcers can also be aggravated by acidic, spicy food, cigarette smoke and certain preservatives in foods and drinks.

Most common ulcers heal within 10 days and are usually painful.

If a painless ulcer has not healed after 3 weeks, this could be an early sign of cancer and people should be referred to a specialist.
Ulcers usually take much longer to heal in people with HIV. The sore area(s) may get enlarged, especially in people taking one of the medicines used to treat HIV e.g. AZT (zidovudine).

Keeping the mouth as clean as possible and the use of Chlorhexidine Gluconate or Benzydamine Hydrochloride may be recommended by the medical team or a dentist.

**Oral cancer**

Oral cancer takes different forms but the term is generally used to cover any abnormal malignant tissue growth in the mouth, often including tissue from the lips, tongue and cheek, throat, salivary glands, pharynx, larynx, sinus, and other sites located in the head and neck area.38,39

Smoking tobacco (cigarettes, cigars and pipes) and frequent drinking of alcohol are the main risk factors for mouth and oropharyngeal cancers. Smoking and tobacco use are associated with 70 – 80% of oral cancers. Mouth cancer is much more common in parts of the world where people chew tobacco or betel quid with tobacco (also called paan). Other factors include human papilloma virus (HPV) infection, having had cancer before, and sun exposure (lip cancer).

In its very early stages, mouth cancers can be almost invisible making it easy to ignore and remain undetected for a long time.

**Symptoms include:**

- A sore or ulcer in the mouth that does not heal within three weeks – usually painless
- A lump or overgrowth of tissue anywhere in the mouth
- A white or red patch on the gums, tongue, or lining of the mouth
- Difficulty in swallowing, chewing or moving the jaw or tongue
- Numbness of the tongue or other area of the mouth
- A feeling that something is caught in the throat
- A chronic sore throat or voice change (hoarseness) that persists more than six weeks, particularly smokers over 50 years old and heavy drinkers
- Swelling of the jaw that causes dentures to fit poorly or become uncomfortable
- Neck swelling present for more than three weeks
- Unexplained persistent earache\(^{38,39}\)

**Mouth care for people undergoing Chemotherapy/Radiotherapy**

People who undergo cancer treatment are sometimes unaware that it can affect the teeth, gums, salivary glands and other oral tissues. In some cases, cancer treatment has to be deferred because patients experience painful side effects in the mouths.

When possible, individuals should be advised to have a thorough dental check-up at least two weeks before treatment begins and inform their dentist of the proposed treatment.

- During cancer treatment, individuals should continue to gently brush teeth and gums (with a soft toothbrush) twice a day with fluoride toothpaste unless a dentist recommends otherwise
- Individuals who receive treatment for head and neck cancer sometimes cannot tolerate the flavour of their regular toothpaste. A mildly flavoured or unflavoured toothpaste may help, for example Oranurse
- It is important to clean the mouth thoroughly after each meal
- If there are no problems with the mouth, gentle flossing once a day is recommended. The use of an interdental brushes or an oral irrigator may be helpful for patients who cannot tolerate floss
- A dentist may recommend:
  - A mouth rinse in addition to daily brushing: Chlorhexidine Gluconate or Benzydamine Hydrochloride may be effective in alleviating mild to moderate mucositis for some individuals and can be used prior to meals.\(^ {26,27,38}\)
  - Additional fluoride supplements to reduce the likelihood of dental caries
- If xerostomia (dry mouth) develops, a dentist may recommend a saliva replacement. Taking frequent sips of water, sucking on crushed ice or
sugar-free confectionary may relieve symptoms. See guidelines on ‘Xerostomia’.

Continuing good oral hygiene during and after cancer treatment can reduce complications.

**Tooth brushing**
- Brush teeth and gums with a **soft** bristle brush 2 to 3 times a day, ideally for 2 to 3 minutes
- If necessary soften the bristles more by rinsing the toothbrush in hot water for 15 to 30 seconds
- Allow the toothbrush to air dry between brushings, this helps limit bacterial growth on the bristles
- Choose toothpaste with care:
  - Use mild-tasting or non flavoured toothpaste (flavourings may irritate the mouth)
  - Use fluoride toothpaste 1350 – 1500ppm.

**Lip care**
- Dry and crusted lips may be bathed with saline and lubricated with an emollient
- A non petroleum based product is recommended: KY Jelly, Aquagel, E45 Cream (ensure the patient is not allergic to lanolin), mild olive oil or unsalted butter.\(^{21,27}\)

**Obturators**
Obturators are specially extended dentures which replace parts of the mouth which have been surgically removed. They:
- must be worn since wound contraction can occur within hours of removal. Follow advice given by the medical or dental team
- must be removed and cleaned thoroughly on a regular basis as advised by the medical or dental team. (For further advice on obturators contact your local Head & Neck cancer team.
Oral Mucositis

Mucositis is an inflammation of mucous membranes in the mouth. It usually appears as red, burn-like sores or as ulcer-like sores throughout the mouth. Mucositis may be caused by either radiation therapy or chemotherapy.

In people receiving chemotherapy, mucositis will heal by itself, usually in 2 to 4 weeks when there is no infection.

Acute Mucositis caused by radiation therapy usually lasts 33 days, but symptoms may well present up 6 to 8 weeks, depending on the duration of treatment.

In both cases the condition can be acutely painful and patients maybe unable to eat or swallow. Swishing small pieces of crushed ice around the mouth for 30 minutes may help prevent mucositis from developing in patients who are given fluorouracil. Always seek advice from a Speech and Language Therapist if the patient has Dysphagia.

Medication may be given to help minimise mucositis or keep it from lasting as long in patients who undergo high-dose chemotherapy and bone marrow transplant.

Treatment of mucositis caused by either radiation therapy or chemotherapy is generally the same.

The following are guidelines for treating mucositis during chemotherapy, stem cell transplantation, and radiation therapy:
Key Points

Cleaning the mouth

- Gently clean the teeth and mouth every 4 hours and at bedtime, more often if the mucositis becomes worse.
- Use a small soft bristle toothbrush. Foam swabs are not an effective substitute for removal of plaque bacteria from the mouth.
- Replace the toothbrush often and after any episode of Candida (Thrush).
- Use water-soluble lubricating jelly to moisturize the mouth: Optilube, Aquagel, Oral Balance, Bioxtra E45 Cream (ensure the person is not allergic to lanolin), flavourless olive oil, unsalted butter etc.
- Chlorhexidine Gluconate is effective; however it may not be tolerated for people receiving chemotherapy/radiotherapy. It may be diluted 1:1 with water following advice from a dentist or the medical team.
- Benzydamine hydrochloride 0.15% 15ml, 2-3 hourly for up to 7 days. It may also be diluted with water 1:1.
- Gelclair is a viscous gel specially formulated to aid in the management of lesions of the oral mucosa. It forms a protective film, by adhering to the mucosa of the oropharyngeal cavity. Swishing around the mouth with Gelclair 1 hour prior to a meal may prevent further irritation thus contributing to the rapid relief of pain and aiding nutrition intake. For more information contact a dentist, the medical or oncology team.
- If dentures are left out during the period of mucositis they should be brushed with un-perfumed soap, soaked in a solution of sodium hypochlorite for 3 minutes (1 minute for dentures with metal parts) and stored dry overnight. For long term storage – soak dentures in cold water
- If Candidal infection has been diagnosed, an antifungal oral gel or varnish, may be applied to the fit surface of a denture prior to reinsertion.\(^\text{26}\)

For further information contact your local Multi disciplinary head & neck cancer team.
Critical care patients: prevention of ventilator acquired pneumonia

Ventilator-associated pneumonia (VAP) is defined as pneumonia that occurs in patients receiving mechanical ventilation and that arises more than 48 to 72 hours after endotracheal intubation. VAP remains one of the most common nosocomial infections in the intensive / critical care unit (ICU) and has been associated with prolonged duration of mechanical ventilation, longer ICU stays, higher health-care costs and mortality. Prevention of VAP is of great importance and is a priority in ICU care. The mouth is a reservoir for bacteria and provides a habitat for microorganisms responsible for VAP. There is considerable evidence linking periodontal disease with increased risk of VAP.  

Ventilated patients must have mouth care to reduce levels of microorganisms.

Key Points:

- Undertake a daily mouth care risk assessment
- Patients at risk of inhaling fluids / choking require particular care with mouth care
- Follow appropriate care plans guidance for patients on CCU/ITU
- Ventilation equipment may hinder access to the mouth. So extra care needs to be taken when using small toothbrushes
- Aspirating toothbrushes, electric toothbrushes or inter space brushes may be helpful
- Use a smear of low foaming toothpaste or Chlorhexidine gel 1%, pressed well down into the bristles
- Use suction to remove any foam, debris or secretions: Pharyngeal suction, Subglottic suction (if available)
- Moist en lips / mouth
- **Endotracheal tube (ET)** - Assess mouth for pressure damage, reposition ET and secure as required, monitor cuff pressure 20 - 30 cm H₂O
**End of life patients**

Mouth care is a crucial aspect of all palliative care especially for end of life patients.40

The main function of oral care during this time is to keep the mouth pain free, hydrated and as comfortable as possible.

**Key Points**

**Keeping the mouth clean**

- Ensure privacy and dignity at all times
- Examine the mouth thoroughly using a torch and tongue depressor
- To improve oral comfort remove dentures (seek consent from patient or relatives)
- Avoid pain by lubricating cracked dry lips: - non petroleum based lip salve: E45 cream, Aquagel, Optilube, Oral Balance Gel, Bioxtra, KY Jelly or flavourless olive oil (ensure the person is not allergic to lanolin)
- Keep mouth and lips clean, by removing any plaque or sticky caked saliva. A **toothbrush** is the first line tool for managing mouth care
  - Use a **small soft bristled** toothbrush to cleanse the inside of the mouth (teeth, gums, cheeks, tongue and soft tissues)
  - Toothpaste is optional. However if it is used apply a smear of paste pressed down well into the bristles of the brush. If too much paste is applied this may cause a drying effect in the mouth and cause some discomfort. Biotene, Bioxtra etc paste for ‘Dry Mouth’ may help to avoid this.
  - Cleansing the mouth with water hourly helps keep the area moist and hydrated. In some case this will need to be done more frequently – every 30 minutes for people who mouth breathe. An oral atomizer is very helpful in moisturising the mouth safely.
Foam Swabs
In the past many health and care professionals preferred foam swabs to a tooth brush when managing mouth care.

*In Wales they been removed from clinical practice and therefore should not be used for any type of mouth care*

They are not effective in the removal of plaque and food debris. Evidence indicates there is a danger of the sponge becoming detached from the stick in less compliant patients.

A small soft bristled toothbrush is the first line tool for cleansing the mouth. For patients with severe mouth pain/gingival bleeding or providing comfort in terminal stages of illness, atomization devices or the use of a syringe dropper are preferable in order to provide hydration and to keep the mouth moist.\(^{41,42,43}\)

Lemon and glycerine swabs
The use of Lemon and Glycerin swabs has been a popular choice for moistening the mouth.
In fact the use of these swabs results in decreased salivary amylase, a much drier mouth, and erosion of tooth enamel. They should not be used for mouth care and tap water is an alternative agent for providing oral moisture.

Dentures are often forgotten. They should be removed before mouth care. Dentures should be cleaned thoroughly and soaked overnight in cold water in a named lidded container.
Summary

When people present early to the health care system, there may be a greater chance that their disease is curable. For those whose conditions are complex or terminal a more comprehensive approach to their care that integrates good mouth care throughout their illness experience is required.\(^{43}\)

The anticipated final outcome of this resource is to provide appropriate oral health knowledge and skills to health care professionals in the relief of suffering and improvement of quality of life for all people living with complex medical conditions and advancing illness. Medical conditions and the relationships to oral health discussed throughout this document is not exhaustive and health care professionals that require more information are welcome to contact a member of the oral health team in their Local Health Board area. Local contact details are the front of this resource.
References


10. Essence of care, Department of Health 2010
11A. All Wales Special Interest Group: Oral Nutritional Supplements 2009. [www.sigwales.org][2]


29. The importance of mouth care for people with Huntington’s Disease. [www.hda.org.uk](http://www.hda.org.uk) [accessed 06/08/2010]

30. Evidence based Mouth Care policy [www.dbh.nhs.uk](http://www.dbh.nhs.uk) [accessed 12/08/2010]


32. *Guidelines for the Oral health Care of Stroke Survivors*. British Society of Gerodontontology


34. Marian C. Brady, Denise L.C. Furlanetto, Romana V. Hunter, Steff C. Lewis and Vikki Milne. Improving Oral Hygiene in Patients After Stroke [http://stroke.ahajournals.org/content/38/3/1115](http://stroke.ahajournals.org/content/38/3/1115) [accessed 13/12/2011]


42. Mouth Care in Palliative Care: www.nhslothian.scot.nhs.uk/ourservices/palliative [accessed 13/08/2010]


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Photograph demonstrating tooth brushing techniques have been photocopied with kind permission from the Caring for Smiles Guide for Trainers – Better oral health for dependent older people – Scottish Government - http://www.healthscotland.com/documents/4169.aspx
Guidelines For Denture Marking
(Naming Dentures)

It is vital to ensure that dentures are kept safe when a patient is in hospital or in long term care. Lost dentures affect self esteem and dignity, and are often a cause for complaints.

To prevent loss of dentures, it is imperative for any organisation that provides care for vulnerable individuals to have a denture care policy. Lost dentures can have significant emotional and physical impact on an individual.

Replacement of lost dentures is not only costly but involves complex treatment which many people find distressing. It can be very difficult for a patient to adapt to a new complete set of dentures. This can cause anxiety, failure to eat properly and can cause malnutrition.

A policy on the safe keeping and care of dentures should include:

- Appropriate denture care training for all staff
- Up to date denture cleaning guidelines
- Up to date denture marking guidelines
- New dentures to be named at the point of fabrication
- Denture pots to be labelled and kept in a safe place
- As part of an oral health assessment, dentures to be checked and any non labelled denture to be named with the patients consent
- Lost dentures: an incident form must be completed.

If dentures are lost or misplaced they are easier to locate if they are named. It takes about 15 minutes and can be carried out by any member of the dental team or a carer/nurse who has been trained how to do it.

**Guidelines for denture marking**

*Suggested equipment:*

- Disposable gloves/apron
- Denture brush/toothbrush *per patient*
- Denture bath
- Antibacterial wipes
- Un-perfumed liquid soap
Denture marking kit (to include single use equipment - Dentoid [www.dentoid.co.uk](http://www.dentoid.co.uk)) or a kitchen scourer, a pencil or (alcohol based pen) and clear nail varnish.

UnoGuard or Haz Tabs (check which concentration of Haz Tabs are routinely used on the ward, and follow the instructions for dilution. HAZ Tabs are on the Welsh Contract. You can obtain further information from the following website: [www.guest-medical.co.uk](http://www.guest-medical.co.uk) and search for Haz-Tabs).

**Before naming any denture ensure consent has been sought**

<table>
<thead>
<tr>
<th>Whichever method is used, dentures must be CLEANED and DISINFECTED to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevent cross-infection by contaminating the denture marking kit.</td>
</tr>
<tr>
<td>Gloves and eye protection should be worn throughout the procedure</td>
</tr>
</tbody>
</table>

**Steps for naming dentures**

*Wash hands as per Hand Washing Policy*

*Always wear well fitting disposable gloves for any type of denture care*

**DISINFECTION OF DENTURES BEFORE MARKING**

Dentures MUST BE DISINFECTED using a solution that contains 10,000 ppm available Chlorine.

The solution should be made up as follows using the correct number of HAZ Tabs and the correct volume of cold water:

**PREPARATION:** Make up a fresh solution in a rigid container.

- **HAZ TABS H8801** (non-effervescent tablets) 4.5g 1 tablet in 250ml water
- **HAZ TABS H8811** (effervescing tablets) 2.5g 3 tablets in 400ml water
- **HAZ TABS H8818** (effervescing tablets) 1.8g 3 tablets in 300ml water
- UNOGUARD (suitable for acrylic or chrome cobalt (metal) dentures)

The solution will last for 24 hours if kept in a closed container.

*Wear gloves and eye protection when making up and disposing of solutions, and during the disinfection process.*

*The solution will damage clothing so take care not to splash solution during handling*
### Naming dentures

1. After disinfection, rinse and pat dry dentures thoroughly with gauze
2. Use abrasive pads to abrade and clean an area about twice the size of the area to be marked on the cheek side near the back of the denture
   - The sandpaper is single use only and should be discarded after use
3. Using the pencil, mark the denture with the patient’s name.
   - Remember to mark both upper and lower dentures
4. Break the lead from the pencil and clean the pencil with soap and water and an antibacterial wipe
   - The pencil must be re-sharpened for another denture
5. Using a micro brush, dip once into the bottle of sealant; paint the sealant over the named area, being careful not to smudge the pencil mark. The micro brush is single use only and should not be re-dipped into the sealant. Discard all micro brushes after single use
6. Allow 1-2 minutes to dry. Apply a second coat over the first coat
   - Dentures will be dry after about 10 minutes
7. Dentures may be returned to the mouth when the second coat is dry – in approximately 15 minutes
8. Dentures should be checked regularly to make sure that the name can be read. If not, rename the dentures.

#### Acknowledgment:
Dr Janet Griffiths, Specialist in Special Care Dentistry and Honorary Senior Lecturer, Medical and Dental Postgraduate Department, Cardiff University, Cardiff (2008)
Information for nurses and health care support workers

The tools consist of:
- Mouth Care Practice and Resource Guide (MCR)
- Mouth Care Risk Assessment Form (MAF)
- Care Plans A, B, C (MCP)
- Mouth Care Monitoring Form (MCM)

This is an example. The format is optional and other monitoring systems can be used.

- **Mouth Care Practice and Resource Guide** (provides information on resources required to support practice)
  - Ensure all staff have access to a copy. Can be laminated.
  - Depending on area of nursing this may be placed at the foot of the bed, in the patient nursing notes or in a visible place near the Patient Status At A Glance Board - PSAAG

- **Mouth Care Risk Assessment**
  - A registered nurse or student nurse (supervised and countersigned by a RN) is responsible for completing the risk assessment form.
  - All patients admitted to hospital for longer than 24 hours will have a mouth care assessment.
  - Patients who are critically ill/complex needs/Integrated Care Priorities Last Days of Life must have a mouth care assessment within 4 - 6 hours of admission, or in line with local policy.
  - Patients oral status is highlighted into 3 areas of need

<table>
<thead>
<tr>
<th>Healthy = Score 0</th>
<th>Plan A = mouth care 2 x day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient scored 0 for each category</td>
<td>As a minimum health care standard all patients will require Care Plan A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Changes = Score 1</th>
<th>Plan A and</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient scored 1 for any category</td>
<td>Elements from plan B - additional resources maybe required and or nurse intervention, support or advice</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unhealthy = Score 2</th>
<th>Plan A and</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient scored 2 for any category</td>
<td>Elements from Plan C - more intense nursing intervention and or referral to the medical / dental team</td>
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</tbody>
</table>

The aim of effective mouth care is to ensure the delivery of relevant evidence based mouth care.
Scores
The total score at the bottom of the table demonstrates oral health needs. For example a score of 10 on admission and 2 on discharge indicates mouth care needs are largely being met. There may well in some specialist areas of nursing care be an increase to the total score due to medical treatment/therapy. What you would expect to see in these circumstances is an increase in mouth care delivery, for example patients moving from care plan A to care plan B or even to care plan C.

Each category indicates if the nursing intervention is or is not meeting the desired outcome.

The total score at the bottom of the table does not indicate which care plan to follow

❖ Resources: Record if the patient has their own toothbrush/toothpaste/denture care items etc. Where appropriate relatives/carers are responsible for ensuring the patient has these items with them. Patients without a toothbrush after 24 hours will be provided with a toothbrush.

❖ Risk: Record if patient refuses an oral assessment or poses a risk because of tendency to bite staff when performing mouth care. Patients who refuse or pose a risk should be reassessed daily or weekly in line with general health status = R or RS

❖ Re-assessment: Record the re-assessment date

❖ SIGN: Sign the Mouth Care Risk Assessment (black pen)

❖ Care Plan: State which care plan to follow
  • Score 0 for all categories = Care Plan A and re-assess weekly unless patient condition changes (monthly for long stay patients)
  • Score 1 for any category = Care Plan B and re-assess weekly unless patient condition changes (monthly for long stay patients)
  • Score 2 for any category = Care Plan C and re-assess daily (weekly for long stay patients)

❖ Mouth Care: Record who will carry out mouth care i.e. patient carer/relative/staff

Care Plans
1. The registered nurse or student nurse (under supervision from a registered nurse) will complete the care plan. This reflects the level of care to be delivered and ensures Health Care Support Workers have clear guidance
2. It may be helpful to document the findings from the initial Mouth Care Risk Assessment in the column “patient response to care” to further inform the plan of care. Document significant changes that require additional or less intervention
3. The registered/student nurse will document the mouth care status and highlight any changes
4. All patients will have the minimum of Care Plan A

Monitoring Mouth Care
It is important to document the delivery of mouth care for all patients. This may be recorded on existing forms, for example, an intentional rounding form. This form is an example and can be used if other monitoring systems are not in place.

❖ Action – MC = Mouth Care OM = Oral Mucosa hourly lubrication
  o Record if the patient refuses or if mouth care is not performed

❖ Sign/Date - Black pen

Frequency of mouth care may change depending on health status. For example a patient on the Integrated Care Priorities Last Days of Life requires hourly oral lubrication.
**Mouth Care Practice**

Mouth to be assessed by a registered nurse or student nurse under supervision.
Always wear gloves for Mouth & Denture Care.
More than 1 nurse may be required to carry out assessment and mouth care for patients who are unable to cooperate.
Patients should be seated. If this is not possible raise bed to a 45 – 90 degree angle. Position patients head to the side.
Visually assess the mouth in good light – a torch will be helpful.
Follow the mouth care plan - take particular care for patients with dysphagia or who are at risk of choking.
Refer to medical team or follow local procedure for dental referral if oral conditions do not respond to local measures.

**Mouth Care Resources**

This gives information on resources needed for mouth care.
Contact supplies or pharmacy for advice on mouth care products that are available in your organisation.

### Resources for Care Plan A

<table>
<thead>
<tr>
<th>Patient with natural teeth</th>
<th>Small head, medium bristle toothbrush / smear of fluoride toothpaste (at least 1450ppm of fluoride).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care of Dentures Acrylic – plastic or Dentures with metal parts</td>
<td>Medium bristle toothbrush or denture brush and liquid soap or non abrasive denture cream to clean dentures.</td>
</tr>
<tr>
<td>Lost dentures must be reported on DATIX (Incident reporting form)</td>
<td>Patients with partial dentures will have some natural teeth and require a toothbrush and fluoride toothpaste. Patients with full dentures will require a soft bristle toothbrush to clean the inside of the mouth. Toothpaste is optional.</td>
</tr>
</tbody>
</table>

### Resources for Care Plan B

1). **Health Status**
- Dysphagia (risk of choking)
  - Patient on Nutritional Support (risk of tooth decay)
    - Dry Small head, medium bristle toothbrush / smear of non foaming fluoride toothpaste or Chlorhexidine Gluconate Gel 1%. Do not use mouth rinse.
    - For severe dysphagia an aspirating brush and or suction may be required.
    - Small head medium bristle toothbrush / non foaming fluoride toothpaste or Chlorhexidine Gluconate Gel 1%.
    - Fluoride supplements e.g. mouth rinse or high fluoride level toothpaste may be needed for patients with their own teeth (refer to medical team as some are prescription only).

2). **Support for mouth care** (risk of poor oral hygiene)
  - A Superbrush may be useful for patients who are unable to cooperate.

3 + 4) **Lips, tongue, soft tissue & saliva**
  - Plan A plus water based gel, unsweetened fluids or crushed ice to lubricate inside the mouth. Chlorhexidine Gluconate 0.2% rinse / gel 1% / spray 0.2%. If patient wears dentures water based gel can aid denture retention.

5) **Gums / Oral Cleanliness - bleeding** (risk of gum disease)
  - Plan A plus Chlorhexidine Gluconate 0.2% rinse / gel 1% / spray 0.2% if bleeding gums persist for longer than 7 days

6) **Natural Teeth**
  - Plan A plus advise patient to seek dentist on discharge.

7). **Dentures**
  - Plan A plus advise patient to seek dentist on discharge.
### Resources for Care Plan C

**1) Health Status**  
Unconscious, intubated, enteral feeding

| Dry small head medium bristle toothbrush and smear of non foaming fluoride toothpaste or Chlorhexidine Gluconate gel 1%.  
Aspirating toothbrush and suction if appropriate.  
Water or Chlorhexidine Gluconate 0.2% to wipe oral mucosa.  
Increase mouth care up to 4-time a day or as tolerated.  
If safe, offer sips of water & or lightly spray inside the mouth with tap water using laryngo-tracheal mucosal atomization device.  
CCU/ITU use sterile water.  
Water based gel and a soft toothbrush to lubricate the outside and inside of the lips, soft gum tissue and tongue. **Initiate hourly oral mucosa lubrication / moisten.** |

**2) Support for mouth care**  
As plan B plus  
Patient is likely to need more than I nurse or HCSW for effective mouth care.

**3) Lips, tongue & soft tissue**  
Lump/white/red area/painless ulcer present longer than 3 weeks  
Multiple ulceration / very sore mouth, Mucositis, Candida infection (Thrush)

| Small head **soft** bristle toothbrush / non foaming fluoride toothpaste or Chlorhexidine Gluconate Gel 1%.  
Chlorhexidine Gluconate 0.2% rinse / Benzydamine Hydrochloride – (diluted 50:50 with water if not tolerated).  
Refer to medical team for Antimicrobials / or concentrated oral gel (e.g. Gelclair) for multiple ulceration.  
Candida / Fungal infections (e.g. thrush) can be treated with systemic or topical antifungal medication – refer to medical team.  
**Refer to medical team or follow local procedure for dental referral** |

**4) Saliva**  
No saliva / tenacious secretions / dry mouth

| Water based gel and small soft bristle toothbrush to lubricate the mouth.  
Sips of water & / or lightly spray inside the mouth with tap water using laryngo-tracheal mucosal atomization device. Inter-space brush (in severe cases) to remove tenacious secretions safely. |

**5) Gums / Oral Cleanliness**  
Pain, constant bad breath, loose teeth, visible food/plaque/tarter in most areas of the mouth or on denture(s).

| As plan B plus aspirating toothbrush and or suction  
Water based gel and a soft toothbrush to lubricate the outside and inside of the lips, soft gum tissue and tongue.  
**Refer to medical team or follow local procedure for dental referral** |

**6) Natural Teeth**  
Refer to medical team or follow local procedure for urgent dental referral. Give prescribed analgesia.

**7) Dentures**  
As plan A for denture care. Labelled lidded denture pot.  
**Refer to medical team or follow local procedure for dental referral.**  
For long term storage - soak denture overnight in cold tap water in a labelled lidded denture pot.
Mouth Care Risk Assessment Form
To Be Completed within 24 Hours of Admission
(or according to local policy)

<table>
<thead>
<tr>
<th>Category</th>
<th>Healthy Score 0 Care Plan A</th>
<th>Changes Score 1 Care Plan B</th>
<th>Unhealthy Score 2 Care Plan C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Health Status</td>
<td>Alert, able to eat &amp; drink unaided.</td>
<td>Apathetic, intermittent systemic pain / dysphagia. Requires nutritional support e.g. supplements or tube fed.</td>
<td>Unable to cooperate, unconscious, intubated, severe pain, no nutritional or fluid intake, oxygen therapy, mouth breathing.</td>
</tr>
<tr>
<td>2) Level of support required for mouth care</td>
<td>No assistance required</td>
<td>Requires assistance with mouth care: - verbal / physical prompting / hand on hand support.</td>
<td>Dependant on others for mouth care &amp; may require more than 1 person to assist.</td>
</tr>
<tr>
<td>3) Lips, Tongue &amp; Soft Tissues (inside the mouth)</td>
<td>Smooth, intact, moist. Tongue not coated.</td>
<td>Lips dry, chapped, coated, or broken at corners of mouth. Localised ulcer. Tongue dry, patchy, fissured, inflamed, coated.</td>
<td>Bleeding / blistered lips. Lump / white or red area / painless ulcer longer than 3 weeks. Multiple ulcers, very sore mouth. Mucositis. Candida infection (Thrush)</td>
</tr>
<tr>
<td>4) Saliva</td>
<td>Soft tissues moist, watery and free flowing saliva.</td>
<td>Soft tissues dry &amp; sticky, little saliva present, patient reports occasional dry mouth.</td>
<td>Soft tissues very dry, little or no saliva present: saliva is thick, ropy, tenacious secretions, patient complains of dry mouth.</td>
</tr>
<tr>
<td>5) Gums Oral Cleanliness</td>
<td>Gums firm, moist, no bleeding. Mouth clean no food or visible plaque on teeth or dentures.</td>
<td>Gums bleed on brushing, shiny, swollen. One ulcer or sore spot under denture. Visible food/plaque/tartar in 1 or 2 areas or on small area of denture(s). occasional bad breath.</td>
<td>Pain, constant bad breath, loose teeth, Visible food/plaque/tartar, in most areas of the mouth or on denture(s).</td>
</tr>
<tr>
<td>6) Natural Teeth Y N</td>
<td>No decayed or broken teeth / roots or No natural teeth</td>
<td>Decayed or broken teeth / roots - No verbal, physical or behavioural signs of pain.</td>
<td>Decayed or broken teeth / roots / continuous pain &amp; affecting health. Physical signs such as swelling of cheek or gum, ulcers, ‘gum boil’, as well as verbal &amp; or behavioural signs.</td>
</tr>
<tr>
<td>7) Dentures Y N</td>
<td>Dentures clean &amp; intact or No Dentures</td>
<td>Dentures not clean / 1 broken area / tooth. Patient reports some problem but not affecting health.</td>
<td>Dentures very loose or painful. Patient unable to cope with dentures due to health problem e.g. stroke.</td>
</tr>
</tbody>
</table>

Record if patient has:
- Toothbrush ☐ Toothpaste ☐ Denture Pot ☐
- None ☐ Relatives to supply ☐ Ward to supply within 24hrs ☐

Date when equipment supplied: Comment:

Plan A + B: - Assess weekly (monthly for long stay patients - or sooner if condition changes)
Plan C: - Assess daily (weekly for long stay patients – or sooner if condition changes)

Who will do mouth care: Patient ☐ Carer/Relative ☐ Staff ☐

APPENDIX 4
Mouth Care Plans A B C
Always wear gloves for Mouth Care.
Patients who are able to carry out their own mouth & denture care should be encouraged to do so.
Carer / Relative involvement should be encouraged if appropriate.

<table>
<thead>
<tr>
<th>Care Plan A HEALTHY (All patients will have as a minimum standard of care - plan A)</th>
<th>Provide patient leaflet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient with natural teeth</strong></td>
<td>Brush teeth &amp; gums <strong>thoroughly</strong> with fluoride toothpaste to remove plaque: - 2 – 3 minutes am &amp; pm. Encourage patient to spit out excess paste and avoid rinsing with water. Ensure adequate fluid intake.</td>
</tr>
<tr>
<td><strong>Patient with dentures:</strong></td>
<td>Dentures should not be worn at night AM Rinse denture in cold water and brush fit surface with liquid soap &amp; water or denture cream. Rinse in cold water. Check for any cracks or chips. Brush tongue and inside of mouth / use fluoride toothpaste if any natural teeth. Insert denture. PM Remove denture from mouth. Rinse in cold water. Clean as above and store overnight in a named lidded pot. Patient with full dentures (no natural teeth) clean the inside of the mouth, tongue &amp; soft tissues with a soft bristle toothbrush twice daily -- toothpaste is optional.</td>
</tr>
<tr>
<td><strong>Chrome Cobalt (metal)</strong></td>
<td>As above Patient with partial dentures &amp; natural teeth use fluoride toothpaste to brush teeth, gums and tongue thoroughly.</td>
</tr>
</tbody>
</table>

**Care Plan B CHANGES - Ensure patient is not allergic to Chlorhexidine Gluconate and take particular care with patients at risk of choking**

1) **Health status**

**Dysphagia**

Patient has nutritional support

Use a **dry** toothbrush and a **smear** of non foaming fluoride toothpaste or Chlorhexidine Gluconate gel 1% to brush teeth & gums twice a day. Do not use mouth rinse. For severe dysphagia an aspirating brush and or suction may be required. Ensure head & neck are supported and head is tilted slightly forward to aid self drainage. If patient is bed bound incline to a sitting position - if possible 90° angle. If tongue is coated gently brush tongue. Patient on oral nutritional supplements may need prescribed additional fluoride to reduce risk of tooth decay - refer to medical team. Nutritional supplement should be taken through a straw to minimise contact with teeth. Rinse with water after using supplement.

Advise patient to seek dental advice on discharge.

**NB:** Straw not appropriate for patients with swallowing difficulties.

2) **Support required for mouth care**

Verbal / physical prompting / hand on hand support may be required.

A **Superbrush** may be helpful if patient is unable to cooperate.

3 + 4) **Lips, Tongue, Soft Tissue & Saliva**

**Localised ulcer / mouth dry**

As **A plus** ensure adequate fluid intake. Offer 2-hourly unsweetened fluids, crushed ice for a dry mouth. Apply water based gel to lips, gums, soft tissue and to aid denture retention. Ensure any dentures are moist when inserted in the mouth. Localised painful ulcer present for less than 3 wks use Chlorhexidine Gluconate rinse 0.2% / Gel 1% / or Spray 0.2% **twice a day**. If tongue is coated gently brush patient to gently brush tongue. For **dry mouth advise, patient to seek dentist on discharge**.

**NB:** Straw not appropriate for patients with swallowing difficulties.

5) **Gums, Oral Cleanliness. Gums bleeding, swollen, one ulcer/sore spot under denture. Visible food / plaque**

As **A plus** ensure thorough brushing twice daily to remove plaque from teeth and gums. Use Chlorhexidine Gluconate rinse 0.2% / Gel 1%/ or Spray 0.2% (30 minutes after tooth brushing) twice a day **for persistent bleeding gums longer than 7 days**. Spray each quadrant of the mouth where the teeth and gums meet (12 sprays max for a patient with all their own teeth). For a single painful ulcer due to denture rubbing, remove dentures and apply Chlorhexidine to the ulcer. Do not replace dentures immediately after applying. Patient may prefer to leave denture out if they are rubbing.

**Advise patient to seek dentist on discharge**

6) **Natural teeth**

Decayed or broken teeth / roots, No pain. **Follow Plan A**

Advise patient to seek dentist on discharge.

7) **Dentures**

Denture not clean, 1 broken area / tooth. **Follow Plan A**

Advise patient to seek dentist on discharge.
### Care Plan C: UNHEALTHY - Take particular care if patient is at risk of choking

#### Ward

**1) Health status**
- Unconscious / intubated
- Enteral feeding (nil by mouth)

**Use a dry toothbrush and a smear of non foaming fluoride toothpaste or Chlorhexidine Gluconate gel 1% to remove plaque.**
- Bush teeth and gums twice a day and use an aspirating toothbrush and or suction if needed.
- Gently clean tongue and wipe oral mucosa with water or Chlorhexidine Gluconate 0.2% using a soft bristle toothbrush swept around the mouth. Increase mouth care up to 4-times a day or as tolerated.
- If safe for patient lightly spray inside the mouth with tap water using laryngo-tracheal mucosal atomization device. CCU/ITU use sterile water.
- Apply water based gel to lips, gums and soft tissue inside mouth with a soft bristle toothbrush.

**2) Support required for mouth care**

Patient is likely to need more than 1 nurse or HCSW for effective mouth care and a superbrush may be helpful

**3) Lips, Tongue, Soft Tissue**
- Lump / white / red area / painless ulcer present longer than 3 weeks
- Multiple ulceration / very sore mouth / mucositis

**Candida Infection**

- For topical anti fungal use as directed and review after 5 days. Rinse with Chlorhexidine Gluconate 0.2% 30mins after toothbrushing. When rinsing with topical antifungal, remove any dentures to maximise contact between mucosa and antifungal. Chlorhexidine Gluconate 0.2% mouth rinse & antifungal should be administered 1 hour apart due to interaction.
- Disinfected Toothbrush - wipe toothbrush clean & dry, rinse with Chlorhexidine Gluconate 0.2% & allow to air dry.
- If patient wears dentures - soak in Chlorhexidine Gluconate 0.2% for 15minutes twice daily and allow to air dry or soak in diluted Sodium Hypochlorite 1% - dilute 1:80 parts with water (3 min for acrylic and 1 min for metal denture) to kill thrush fungus (candida) on the denture.

**Lump / white / red area**

- Long term storage - soak denture overnight in cold tap water in a labelled lidded denture pot

For multiple ulceration use a soft bristle toothbrush & mild flavoured / unflavoured toothpaste. Soften toothbrush bristles in warm water. Refer to medical team for antimicrobials and or concentrated oral gel. For example Gelclair swished around the mouth 1 hour before eating or drinking can help soothe the soft tissues if the mouth is very sore. Use alcohol free Chlorhexidine Gluconate 0.2% or Benzydamine Hydrochloride - can be diluted 50:50 with water if not tolerated when mouth is severely ulcerated

Advise patient to seek dental advice on discharge

For long term patient refer to medical team or follow local procedure for dental referral

**4) Saliva**
- No saliva / tenacious secretions / constant dry mouth

Lubricate the outside, inside of the lips, soft gum tissue and tongue with water based gel with a soft bristle toothbrush hourly or as required. Self caring patients can apply gel with a finger. Offer sips of water & or lightly spray inside the mouth with tap water using laryngo-tracheal mucosal atomization device. Tenacious secretions can be safely removed with a small head soft bristle toothbrush or inter-space brush with suction if necessary. Very hard secretions can be softened with lubricating gel. Moisten and or lubricate the mucosa hourly

For a continuous dry mouth advise patient to seek dentist on discharge

**5) Gums / Oral Cleanliness**
- Pain, constant bad breath, loose teeth, visible food/plaque/tarter in most areas of the mouth or on denture(s).

As care plan B. Use aspirating brush & suction if needed. Take care with very loose teeth.
- Clean tongue & wipe oral mucosa with water or Chlorhexidine Gluconate 0.2% using a soft toothbrush swept around the mouth.
- Increase mouth care up to 4-times a day or as tolerated.
- Clean dentures as care plan A
- Apply water based gel to lips, gums and soft tissue inside mouth with a soft bristle toothbrush.
- Moisten and or lubricate the mucosa hourly if appropriate.

Advise patient to seek dental advice on discharge

For long term patient refer to medical team or follow local procedure for dental referral.

**6) Natural teeth**

Refer to medical team or follow local procedure for urgent dental referral.
- If continuous pain & affecting health give prescribed analgesia.

**7) Dentures**

Refer to medical team or follow local procedure for dental referral.
- Dentures retained in the mouth may cause obstruction if patient is unconscious / intubated. Remove from mouth, clean thoroughly and store in cold tap water in a labelled lidded denture pot. (change water twice a day).

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**APPENDIX**
**MONITORING MOUTH CARE – LOW RISK**
The mouth care monitoring form will need to be used for all patients.
Those who are medically compromised and / or who are:
Semi Conscious / Unconscious / Severe Dry Mouth /
Unable to Swallow or Drink Unaided / End of Life: Need minimum hourly oral mucosa care
**Take particular care if patients at risk of choking**
**Always wear gloves for mouth care**

Enter code and initial box when mouth care performed:

**ACTION: MC: Mouth Care 2 x day**  
**OM: Oral Mucosa hourly lubrication**

If mouth care is not performed:

- **A: Pt refused**  
- **B: Agitation/Distressed/Pain**  
- **C: Clinical decision not to disturb pt**  
- **D: Pt not at bed area**  
- **E: Other. (note reason on care plan)**

**DENTURES need to be removed at night and stored safely**

<table>
<thead>
<tr>
<th>DATE</th>
<th>ACTION</th>
<th>TIME</th>
<th>SIGN</th>
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Comments:


**MONITORING MOUTH CARE – HIGH RISK**
The mouth care monitoring form will need to be used for all patients.
Those who are medically compromised and / or who are:
Semi Conscious / Unconscious / Severe Dry Mouth / Unable to Swallow or Drink Unaided / End of Life: Need minimum hourly oral mucosa care
**Take particular care if patients at risk of choking**
**Always wear gloves for mouth care**

Enter code and initial box when mouth care performed:

<table>
<thead>
<tr>
<th>ACTION</th>
<th>SIGN</th>
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<tbody>
<tr>
<td>MC: Mouth Care 2 x day</td>
<td>OM: Oral Mucosa hourly lubrication</td>
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If mouth care is not performed: -
A: Pt refused   B: Agitation/Distressed/Pain   C: Clinical decision not to disturb pt
D: Pt not at bed area   E: Other. (note reason on care plan)
**DENTURES need to be removed at night and stored safely**

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