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Oral health care for adult inpatients: Recommendations

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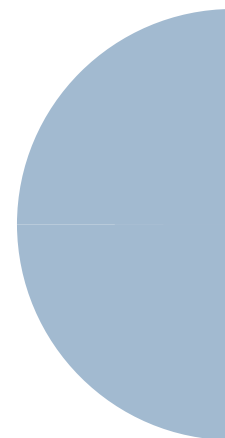
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Importance of oral health

Healthcare professionals can optimise their patients' health outcomes, reduce the risk of hospital acquired infections (such as aspiration pneumonia) and promote comprehensive patient care by including oral health into general health and daily care.

Burden of oral disease

Oral conditions and diseases are amongst the costliest health problems experienced by Australians and are a common cause of potentially preventable hospitalisations (PPH).^{1,2}

The major oral diseases that cause poor oral health in adults are tooth decay (dental caries), gum disease (periodontal disease) and oral cancers.¹

Unlike previous generations, more people retain their natural teeth well into old age. They may however have extensively restored teeth aided by dental crowns and bridgework, partial dentures, and implants (including implant retained-dentures). If they have natural teeth, tooth decay and gum disease are risks. If they wear dentures, oral infections such as oral thrush can occur.

Many people also take numerous medications (polypharmacy) that contribute to oral conditions such as dry mouth (Xerostomia), which can have a profound impact on the oral environment. When saliva is reduced, oral infections and disease can quickly develop and progress.

Oral cancer is more common among older age groups, men (two thirds higher than women), as well as heavy smokers and people with long term high alcohol intake. Aboriginal and Torres Strait Islander peoples have a threefold increased risk compared to the rest of the Australian population.¹

Missed oral health care

Patients report oral care as one of the most missed aspects of care during a hospital stay.³⁻⁵

Missed oral health care includes:

- Daily oral care to keep the mouth clean
- Oral health assessment
- Therapeutic treatment of oral conditions
- Prophylactic care to reduce oral health risk.

Reasons for missed oral health care (in no specific order):

- Perception oral health care is a low priority
- Low level of evidence-based oral health care knowledge, skills and confidence
- Appropriate oral health care aids and products not available
- Oral health assessment is not included in a comprehensive health assessment at admission
- Validated oral health assessment tools and/or protocols are not available and/or not used
- Limited multidisciplinary team engagement on oral health
- Oral health is not routinely incorporated into validated malnutrition assessment tools, such as the Malnutrition Screening Tool (MST) or Malnutrition Universal Screening Tool (MUST)
- Failure to consider oral health when a person displays changed behaviours, delirium, bacteraemia, or hospital acquired pneumonias
- Dental referral pathways not clear and timely dental treatment not accessible.^{8,9,10}

Oral health risk factors

Research indicates many people experience increased oral health risk during hospitalisation (see **Box 1**).¹⁰ Patients with pre-existing poor oral health are at much greater risk, including Aboriginal and Torres Strait Islander peoples, older people, people with physical and intellectual disabilities, people with mental health conditions, people from socially disadvantaged backgrounds and culturally and linguistically diverse peoples.^{1,10}

All patients admitted for surgical procedures under general anaesthetic should receive an oral health assessment to check for loose teeth, crowns or dentures before intubation, and oral care to reduce the risk of postoperative respiratory tract infections. This is particularly important for patients undergoing oropharyngeal, maxillo-facial, cardiac, and/or thoracic surgery.^{11,12}

Box 1: Increased oral health risk factors during hospitalisation

There is an increased oral health risk associated with hospitalisation. These are associated with:¹⁰

- Fasting
- Nil by mouth
- Enteral feeding – gastrostomy and nasogastric tube (NG tube)
- Oxygen therapy
- Mouth breathing
- Stroke
- Communication barriers
- Swallowing difficulties
- Vomiting
- Gastric reflux
- Palliative care
- End-of-life care
- Drowsiness
- Semi-consciousness
- Delirium
- Dementia
- Frailty
- Immobility
- Diabetes
- Head and neck radiation
- fixed oral devices
- Halitosis
- Chemotherapy
- Being immunocompromised
- Coagulation disorders (congenital or acquired)
- Mechanical ventilation
- General anaesthetic
- Polypharmacy
- Dehydration
- Malnutrition.

Adverse oral health outcomes

Adverse oral health outcomes include:

- Increased risk of hospital acquired pneumonia (such as aspiration pneumonia) for non-ventilated and ventilated patients
- Localised oral infections (oral thrush, glossitis, gingivitis, denture stomatitis, angular cheilitis)
- Malnutrition with or without the need for a highly processed diet
- Orally derived systemic infections (bacteraemia)
- Systemic inflammatory responses (exacerbation of cardiovascular disease including infective endocarditis and/or cerebrovascular conditions)
- Compromised immune system
- Reduced diabetes management Decreased quality of life
- For pregnant women increased risk of premature labour.^{8,9,10}

Collectively these contribute to:

- Increased patient morbidity and mortality
- Prolonged hospitalisation (including transfer to intensive and critical care units)
- Increased healthcare costs
- Unsatisfactory patient healthcare experience.⁷⁻¹⁰

Impact on function

Poor oral health outcomes may impact on a patient's functioning, including:

Delirium

Chronic infection from poor oral health contribute to systemic inflammatory responses.

This, in conjunction with dental pain, may exacerbate a change in behaviour, especially for older people with dementia. Dementia may also compromise a person's ability to reliably report their experience of oral health problems and dental pain.

Depression

Poor oral health may cause dental pain and discomfort and affect a person's ability to speak and sleep well.

Disfigurement may have an impact on a person's appearance causing embarrassment, a lowering of self-esteem and self-confidence which collectively affect a person's ability to laugh, smile, talk and socialise effectively.

Nutrition

Tooth loss, poorly fitting dentures, dry mouth and oral infections, dental pain and discomfort can affect appetite, interrupt meals, food enjoyment and ability to chew which impacts on food intake and food selection. Deteriorating dietary intake and reduced nutrition status contributes to weight loss and increases the risk of **malnutrition**. Dental pain, poor function from missing teeth and higher sugar diets can also exacerbate poor dental health.

Contenance

Poor oral health affects food selection and the ability to chew foods with high fibre content. This can affect continence management.

Mobility

Poor oral health may impact on nutritional status, affecting weight, muscle mass and strength. There is also increased risk of sub-clinical micro-aspiration of oral microorganisms due to immobility.

Skin integrity

Poor oral health and nutritional status has a detrimental impact on maintaining skin integrity and compromises wound healing.

Multidisciplinary team input

Greater multidisciplinary team (MDT) participation can improve oral health care practice and mitigate the high-risk consequences of poor oral health.⁸⁻¹⁰

- **Nurses** play a significant role in coordinating, delivering, and assessing overall patient care. They are well placed to initiate MDT consultation and dental referral due to their involvement in ongoing assessment and care planning, assisting patients with daily oral care, and evaluating care outcomes.
- **Medical review** to assist with diagnosis and prescribing of treatments for oral conditions such as ulcers/cancers, oral thrush, angular cheilitis, oral pain, as well as the need for a dental referral and/or medication review for saliva management and relief of dry mouth.
- **Dentists or dental practitioners** can provide a comprehensive oral health examination, preventive and/or therapeutic dental treatment including management of other conditions such as dry mouth, mucositis, oral ulcers and angular Cheilitis. The dental practitioner may not be on site.
- **Dental referral** when indicated, where there is identified unmet oral health need or condition.
- **Pharmacist** to review medications associated with saliva management and relief of dry mouth.
- **Speech pathologist** to provide assessment, education and recommendations on most appropriate diet and fluids textures to avoid aspiration, optimise nutrition and assist with assessment and management of swallowing difficulties. They can also provide support with complex oral hygiene, for example secretion management strategies.
- **Occupational therapist** to provide advice on and/or provide aids such as toothbrush grips to support oral health self-care activities and reablement.
- **Physiotherapist** to provide advice on mobility and/or strengthening exercises to support oral health self-care activities and reablement.
- **Dietitian** to provide assessment, education and advice on nutrition and dietary intake.

Relevance to National Safety and Quality Health Service Standards

The Australian Commission on Safety and Quality in Health Care (the Commission) has developed the **National Safety and Quality Health Service (NSQHS) Standards**. The NSQHS Standards provide a quality assurance mechanism that tests whether relevant systems are in place to ensure that expected standards of safety and quality are met.

All hospitals are required to implement the NSQHS Standards. Importantly, the NSQHS Standards provided a nationally consistent statement about the standard of care consumers can expect from their health service organisations.

The **Clinical Governance Standard** and **Partnering with Consumers Standard** set the requirements for health service organisations to implement strategies to improve processes for partnering with consumers; for critical information to be communicated between multidisciplinary teams; and for screening processes to be implemented to identify risks and develop a comprehensive care plan in partnership with consumers. When implemented, these actions can provide the mechanisms for establishing processes to improve oral health care based upon the best available evidence.

The NSQHS standards where specific strategies may be required to support oral health care for adult inpatients include:

Clinical Governance

The intention of the **Clinical Governance Standard** is to ensure that there are safety and quality systems in place to maintain and improve the reliability, safety and quality of health care. This includes requirements for clinical performance and effectiveness (Actions **1.23 and 1.24**) and support for clinicians to use the best available evidence (Actions **1.27 and 1.28**).

Partnering with Consumers

The **Partnering with Consumer Standard** includes actions intended to improve communication and support effective partnerships. The Partnering with Consumers Standard recognises the importance of involving patients in their own care (Actions **2.06 and 2.07**), improving communication between clinicians, patient and their carers, and providing information in a format that is easy to understand and act on (Actions **2.08 and 2.10**).



Preventing and Controlling Infection

The **Preventing and Controlling Infection Standard** refers to the development of clinical risk mitigation strategies to reduce the incidence of aspiration pneumonia.¹³

Maintaining a patient's oral health is an essential infection control activity important for good oral health and wellbeing.

Adherence to evidence-based oral health care is a recognised clinical risk mitigation strategy to reduce the incidence of hospital acquired infections (HAIs) such as aspiration pneumonia.^{8,9,13}



Comprehensive Care

The **Comprehensive Care Standard** aims to ensure that patients receive comprehensive health care that meets their individual needs and considers the impact of their health issues on their life and wellbeing. It also aims to ensure that risks of harm for patients during health care are prevented and managed through targeted strategies. Risk screening is a critical part of delivering comprehensive care (Action **5.10**). It helps identify patients who may be at higher risk of poorer health outcomes or adverse events, which informs comprehensive care planning and delivery. Using an MDT approach to integrate oral health evidence-based practice into models of care for general health promotes comprehensive care and optimises patient healthcare outcomes.^{10,13}



Communicating for Safety

The **Communicating for Safety Standard** supports a structured, multidisciplinary approach to communicating identified critical information, alerts and risks (Actions **6.07 to 6.10**). The actions emphasise a culture where patients and their families are partners in care and that they be involved in clinical handover, in line with the wishes of the patient. Consumers and their families should be encouraged and supported to participate in care and shared decision-making at the level they choose. They should be provided with access to appropriate resources, language support and advocacy when required (Action **6.08**).

Oral health care

Oral health assessment

An initial base-line assessment of the mouth should take place during a patient's initial admission assessments and no later than 24 hours following admission.^{10,14}

For planned admissions, an oral health assessment should be included in general pre-admission assessments.

Oral health assessment does not replace the need for a comprehensive examination by a dental professional but is used to:

- Establish and monitor a patient's oral health status
- Plan and evaluate oral care
- Initiate multidisciplinary input
- Trigger a dental referral.¹⁴⁻¹⁶

A recommended evidence-based clinical tool designed for use by non- dental healthcare professionals is the Oral Health Assessment Tool (OHAT).¹⁴⁻¹⁶

The OHAT consists of a visual clinical inspection of eight categories of oral health (see **Box 2**)¹⁴⁻¹⁶ The tool rates each category 'healthy', 'changes' or 'unhealthy'. An unhealthy assessment indicates the need for a dental referral.¹⁴⁻¹⁶

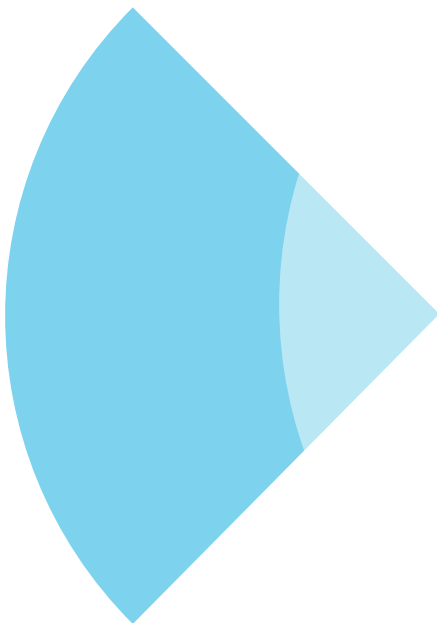
Box 2: The OHAT

1. Lips
2. Tongue
3. Gums and soft tissues
4. Saliva
5. Natural teeth
6. Dentures
7. Oral cleanliness
8. Dental pain.

Oral Health Assessment Tool (OHAT) SA Health available at: www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet

When identified, the following oral conditions require **immediate action** as they can quickly escalate into a **medical emergency**:


- Facial swelling
- Uncontrollable dental bleeding
- Significant trauma to face, teeth and/jaw.



Infection control considerations^{10,15}

Rationale	Oral health care
<p>Keeping the mouth clean reduces localised oral infections, orally derived general infections, and systemic inflammatory responses.</p> <p>Using evidence-based oral health care can reduce the incidence of hospital acquired infections (HAIs) such as aspiration pneumonia.</p> <p>Other infection prevention and control strategies include:</p> <ul style="list-style-type: none">■ Assessing personal risk of body fluid exposure from saliva■ Reducing cross-contamination from infected toothbrushes and dentures.	<p>Effective cleaning</p> <p>The key universal infection control principle of oral care is effective cleaning.</p> <p>This involves mechanically brushing natural teeth and/or dentures, the tongue and gums a minimum of twice a day (morning and night), and/or more frequently as indicated, to remove dental plaque and food debris.</p> <p>In some instances, such as post oral surgery procedures or for immunocompromised/transplant patients, toothbrushing can be contraindicated for a period of time. In these cases, modified care practices (described below) should be implemented until such time as standard oral care practice can recommence.</p> <p>Standard precautions</p> <p>Follow the 5 moments of hand hygiene regimen.</p> <p>Undertake a personal risk assessment of the oral care activity to be performed and choose appropriate PPE.</p> <p>Toothbrush care</p> <ul style="list-style-type: none">■ Thoroughly rinse the toothbrush and/or denture brush under running water (or chlorhexidine) after every use■ Tap the toothbrush on the sink to remove excess water and dry after every use■ Toothbrushes should not be left to soak in solution■ In hospitals, cleaned toothbrushes should be stored in a covered container for air circulation rather than a plastic bag and stored separate to other toiletries or brushes■ Denture brushes and denture containers should also be thoroughly cleaned and dried after use■ If a toothbrush grip is used, remove the grip and wash, and dry both items after each use <p>Replace toothbrushes:</p> <ul style="list-style-type: none">■ When bristles become frayed■ Every three months■ Following an illness such as a cold or oral thrush <p>Fungal infections</p> <p>When treating fungal infection such as oral thrush, replace the toothbrush when the treatment starts and again when the treatment finishes.</p> <p>Dentures and denture containers should be disinfected daily until the fungal treatment is complete.</p>

Care of natural teeth^{10,15}

Rationale	Oral health care
<p>Fluoride is the principal chemical agent used to remineralise natural teeth. Using fluoride toothpaste twice a day combined with the practice of ‘spit but don’t rinse’ allows fluoride to combine with the calcium in saliva and rehardens tooth enamel in the early stages of tooth decay.</p> <p>Consider the use of high fluoride toothpaste for high risk clients.</p> <p>Bleeding gums or gingivitis are a sign of dental plaque build-up or more serious gum (periodontal) disease.</p> <p>Refer to a dentist or oral health professional to manage bleeding gums and tooth decay.</p> <p>Refer to occupational therapy and/or physiotherapy for reablement support with oral health self-care activities.</p> <p>Brushing teeth and gums:</p> <ul style="list-style-type: none"> ■ Is the easiest and most effective way to remove dental plaque build-up ■ Reduces the risk of tooth decay and gum disease ■ Using a soft bristled toothbrush reduces the risk of trauma to the gums <p>Brushing the tongue</p> <ul style="list-style-type: none"> ■ Removes bacteria largely responsible for producing bad breath ■ Reduces the build-up of yeast decreasing the risk of oral thrush ■ Improves the sense of taste 	<p>Encourage and support patients to:</p> <ul style="list-style-type: none"> ■ Brush their teeth, gums, and tongue twice a day ■ Use a soft bristled toothbrush and a gentle brushing motion ■ Pay attention to where the tooth meets the gum ■ Use a pea-sized amount of fluoride toothpaste ■ Spit but don’t rinse after brushing ■ Replace toothbrush every three months or earlier if bristles are frayed or following an infection such as cold or thrush ■ Continue to gently brush bleeding gums to remove dental plaque build-up and heal the gums. If not resolved within seven days, seek dental and/or medical follow up. <div data-bbox="826 943 1461 1317" style="border: 1px solid #00a0e3; border-radius: 15px; padding: 10px; margin-top: 20px;"> <p> Practice point</p> <p>Until recently, it was recommended not to use toothpaste (containing sodium lauryl sulphate [SLS]) and oral chlorhexidine within two hours of each other, as it reduced each product’s effectiveness.</p> <p>Current therapeutic guidelines now advise that these products can be safely used together.¹⁷</p> </div>

Management of acid attack on natural teeth^{10,15}


Rationale	Oral health care
<p>Bacteria in the dental plaque convert sugars and starches from food and drinks into acids. This acid erodes or weakens tooth enamel and over time results in tooth decay and/or dental erosion.</p> <p>Frequently consumed foods and drinks with a low pH, regardless of the sugar content can also cause tooth decay and dental erosion.</p> <p>In a healthy mouth it takes approximately 20 minutes for saliva to wash away the acid and return the mouth to neutral state.</p> <p>In a dry mouth it takes about 40 minutes for the mouth to return to a neutral state.</p> <p>Vomiting and acid reflux also cause sharp increases in oral acidity.</p>	<p>Encourage and support patients to reduce acid attack by providing information.</p> <p>Caution is required for patients with swallowing difficulties and fluid restrictions.</p> <p>Keeping the mouth clean</p> <ul style="list-style-type: none"> ■ Maintaining twice daily tooth brushing to remove dental plaque <p>Tooth friendly eating</p> <ul style="list-style-type: none"> ■ Enjoy a variety of tooth friendly foods such as vegetables, fruit and plain milk, plain yoghurt, and cheese ■ For patients not a risk of malnutrition, limit snacking and avoid continual sipping of sugary or acidic drinks and sucking of sugary or acidic lollies ■ Where frequent sipping of liquids is required avoid holding acidic liquids in the mouth for long periods and consider the use of a straw so that the low pH liquid has less contact with teeth ■ Make it a habit to drink or rinse the mouth with plain tap water to clean the mouth and neutralise acidity after meals, snacks, other drinks, and medications ■ Chewing sugar free gum can stimulate saliva and decrease the time it takes to return a neutral pH <p>Vomiting and acid reflux</p> <ul style="list-style-type: none"> ■ Brushing natural teeth while the mouth is in an acidic state can damage tooth enamel ■ Rinse the mouth with plain tap water to neutralise the acidity ■ Wait at least 30 minutes to an hour before brushing with a fluoridated toothpaste and adopt a 'spit but don't rinse' approach ■ Consider use of fluoride products such as mouth rinses

Care of dentures^{10,14,18,19}

Rationale	Oral health care
<p>Patients who wear dentures are at increased risk of fungal infections such as oral thrush and denture stomatitis.</p> <p>Oral infections can be caused by:</p> <ul style="list-style-type: none"> ■ Wearing dentures overnight ■ Poor cleanliness of dentures ■ Plaque build-up and calculus on dentures ■ The permeability of acrylic denture resin ■ Diet ■ Pre-existing general health factors such as diabetes. 	<p>Encourage and support patients to:</p> <ul style="list-style-type: none"> ■ Brush dentures twice a day ■ Use mild liquid soap and water and denture brush to clean then rinse dentures well ■ Use a moist soft bristled toothbrush to clean gums, tongue and or implant studs ■ Rinse dentures following oral intake to remove food debris ■ Remove dentures overnight. <p>Cleaned dentures may be stored:</p> <ul style="list-style-type: none"> ■ In a dry denture container (labelled with patient's name).¹⁷ <div style="border: 1px solid #00AEEF; border-radius: 15px; padding: 10px; margin-top: 10px;"> <p>i Practice point</p> <p>Do not use toothpaste to clean dentures as it may be abrasive and over time will scratch the denture increasing the risk of fungal infections. Mild liquid soap and water should be used.</p> </div>



Relief of dry mouth^{10,14}

Rationale	Oral health care
<ul style="list-style-type: none">■ Identify whether dry mouth is a result of reduced fluid intake or a side effect of medications■ Refer for a medical or pharmacy review of medications■ Refer to speech pathology for saliva management■ Refer to dietitian for nutrition management■ A number of medications have been identified as a common cause of dry mouth. This can be exacerbated when a person takes multiple medicines (polypharmacy)■ Reduced fluid intake can also result in dry mouth■ Dry mouth may have a detrimental impact on a patient's oral health■ When the quantity and quality of saliva is reduced, oral infections and diseases may develop very quickly■ Dry mouth may also affect a patient's ability to speak, chew and swallow food, and wear dentures comfortably■ Keeping the mouth moist provides relief from dry mouth■ Some toothpastes that contain SLS may irritate the oral mucosa and further exacerbate dry mouth symptoms	<p>Encourage and support patients to:</p> <ul style="list-style-type: none">■ Apply preventative measures to treat dental carries and their progression■ Keep their mouth moist with frequent rinsing and sipping of water, or sucking on ice chips (caution with swallowing difficulties and fluid restriction)■ Use a non-foaming fluoride toothpaste to brush natural teeth■ Limit the quantity and frequency of sugary food or drinks, juice, tea, and coffee■ Avoid foods that are dry, salty or spicy■ Use a water-based lip moisturiser■ Using dry mouth relieving products gel, mouthwash, or spray for longer lasting relief. <div data-bbox="826 943 1461 1279"><p> Practice point</p><p>For patients with high oral health risk, oil-based moisturisers may increase the risk of pulmonary inflammation and/or aspiration pneumonia.</p><p>Moisturisers containing petroleum derivatives are contraindicated during oxygen therapy.²²</p></div>

Mouth ulcers, sore spots, mucositis^{10,14}

Rationale	Oral health care
<p>Mouth ulcers and sore spots can be caused by chronic general health conditions, inflammation, poorly fitting dentures and/or trauma.</p> <p>Generally, ulcers are sore and painful. Ulcers that present as either not painful or non-healing (lasting more than 7–14 days) suggest referral to dental or medical practitioner who can provide oral pathology and follow up as soon as possible.</p> <p>A dental referral is recommended for patients undergoing chemotherapy and/or head and neck radiotherapy due to the high risk of oral health complications.</p> <p>Mucositis is an extremely painful side-effect of chemotherapy and head and neck radiotherapy, and it is very important to maintain a clean mouth to reduce the risk of secondary infections.</p>	<p>Mouth ulcers and sore spots</p> <ul style="list-style-type: none"> ■ Treat with warm normal saline mouth washes and/or mouth swabs, three to four times a day with pain relief as prescribed until healed ■ Continue with routine tooth brushing twice a day with a soft toothbrush to keep the mouth clean ■ Remove dentures if they are assessed as the cause of the problem until the ulcer is healed ■ Seek a medical review if the ulcer has not healed after seven days ■ Avoid acidic or spicy foods and foods with sharp edges until the oral tissue is healed ■ Dietetic referral when a patient’s food choices become severely limited due to painful eating <p>Mucositis</p> <ul style="list-style-type: none"> ■ Hospitals providing chemotherapy and/or radiotherapy should have a policy or procedure for the management of mucositis ■ In the absence of a hospital procedure, refer to the Multinational Association of Supportive Care in Cancer Mucositis Guidelines²⁰ ■ Provide systemic analgesia prior to gently cleaning the mouth with a soft bristled toothbrush using non-foaming (SLS free) toothpaste ■ In severe cases modified daily oral hygiene (as described below) should be implemented ■ Dry mouth relieving products may be used to keep the mouth moist ■ Chlorhexidine (alcohol-free and non-teeth staining) oral care products may be used to prophylactically reduce the risk of infection ■ Encourage a soft bland diet

Treatment of fungal infections^{10,14}

Rationale	Oral health care
<p>Oral health screening and assessment should be performed in consideration of factors that may increase the risks of fungal infections. Where identified, seek medical review for diagnosis and treatment.</p> <p>Risk of fungal infections may be increased for patients:</p> <ul style="list-style-type: none">■ Taking antibiotics, steroids and/or for those who are immunocompromised■ With dry mouth■ That are nil by mouth (NBM)■ With pre-existing poor oral health■ That face additional barriers accessing health care■ That wear dentures. The acrylic surface of dentures may act as a reservoir for oral thrush, aggravating oral infections and causing reinfection following the completion of treatment. <p>It is important to treat the fungal infections and prevent re-infection for conditions such as glossitis, thrush, denture stomatitis, and angular cheilitis.</p> <ul style="list-style-type: none">■ Angular cheilitis is common in those that wear dentures, have swallowing difficulties, are immunocompromised and/or have diabetes■ Angular cheilitis is also commonly associated with nutritional deficiencies (such as vitamin B deficiency, iron, and zinc).	<p>Strategies to reduce risks and treat fungal infections include:</p> <ul style="list-style-type: none">■ Continuing to maintain a clean mouth by brushing natural teeth/dentures, gums, and tongue twice a day■ Using a tongue scraper where the tongue is heavily coated■ Removal of dentures while applying antifungal gel to affected area■ Application of antifungal gel to the fitting surface of a clean denture■ Removal of dentures overnight and where possible, for several hours throughout the day■ Replacement of toothbrushes before treatment commences and again when treatment is completed■ Disinfecting dentures and denture containers daily using a chlorhexidine solution until treatment is completed■ Applying an antifungal gel as prescribed to corners of the mouth, when treating angular cheilitis■ Maintaining health of the corners of the mouth by regularly applying a water-based lip moisturiser■ Consider the need for a dietitian referral if the condition appears to be resistant to treatment.²¹ <div data-bbox="671 1160 1461 1503"><p>i Practice point</p><ul style="list-style-type: none">■ Refer to clinical support tools to check drug interactions■ Excessive soaking of dentures in chlorhexidine may cause discolouration. Soak dentures no longer than 10 minutes■ Petroleum-based lip moisturisers may increase the risk of inflammation and aspiration pneumonia and are contraindicated during oxygen therapy.</div>

Patients with swallowing difficulties¹⁰

Rationale	Oral health care
<ul style="list-style-type: none"> Refer patients with swallowing difficulties for swallowing and nutritional assessment Maintain a clean mouth Mitigate the risk of aspiration pneumonia Avoid toothpastes containing SLS because this ingredient acts as a foaming agent 	<p>Hospitals with Intensive and Critical Care Units (ICCU) should apply an oral care protocol. that cover:</p> <ul style="list-style-type: none"> Patients with swallowing difficulties to use a non-foaming (sodium lauryl sulfate free) fluoride toothpaste and a suction toothbrush (or a small headed toothbrush and Yankauer sucker) to mechanically brush natural teeth, gums, and tongue The use of mouth props and/or a second toothbrush for patients who clench or bite down and/or who have difficulty keeping their mouth open.

Use of antibacterial products^{10,14}

Rationale	Oral health care
<p>Chlorhexidine (alcohol-free and non-teeth staining) gels and mouthwashes reduce the bacteria load in dental plaque.</p> <p>Mouthwashes should be used with caution if the patient is NBM or requiring fluids to be thickened due to increased risk of aspirating</p> <p>In the hospital setting, for patients at high oral health risk such as those receiving intensive and critical care, patients displaying oral care resistant behaviours or those receiving end-of-life care, chlorhexidine products are used prophylactically.</p>	<p>Hospitals with Intensive and Critical Care Units (ICCU) should have an evidence-based oral care protocol that includes:</p> <ul style="list-style-type: none"> Appropriate use of Chlorhexidine mouthwashes and gels. These are adjunct treatments and do not replace the need for mechanical removal of dental plaque by brushing teeth and/or dentures Appropriate mechanisms for effectively cleaning teeth and reinforcing that mouth swabs do not effectively clean teeth and should only be used to moisten the mouth and/or apply oral care products Cautions around the use of mouth swabs (especially foam swabs) which can represent a choking hazard for patients who are likely to bite down on them, and recommendations for safer alternatives such as a toothbrush.^{8,11}

Managing oral care resistant behaviours¹⁴

Rationale	Oral health care
<p>Patients suffering from cognitive impairment, intellectual disability or mental health conditions may behave in a way that makes it difficult to provide oral care.</p> <p>Consider the need for a dental referral if oral care resistance is prolonged.</p> <p>Implementing the principles of person-centred care and effective communication can support patients with oral care resistant behaviours, reduce anxiety and encourage participation during oral care.</p> <p>Modified oral care can be implemented as a short-term temporary measure when a patient refuses oral care.</p>	<p>Modified oral care methods</p> <p>If the patient does not consent to have their teeth brushed, a short-term alternative to brushing is to apply oral care products including fluoride toothpaste or chlorhexidine with a mouth swab or a gloved finger.</p> <p>Provide oral health care education to patients who have manual dexterity issues. Large handled toothbrushes or powered tooth brushes may be useful and can improve effectiveness of oral hygiene activities.</p>

Palliative care considerations¹⁴

Rationale	Oral health care
<p>Discomfort from dry mouth is common at the end stage of life.</p> <p>Continue to maintain a clean mouth to reduce discomfort from secondary infections.</p>	<p>End-of-life care policies and/procedures should identify strategies to maintain oral comfort and reduce dry mouth. This may include:</p> <ul style="list-style-type: none"> ■ The use of Comfort Charts ■ The use of a soft bristled toothbrush to gently clean teeth using non-foaming (SLS free) fluoride toothpaste for as long as possible ■ A mouth prop or a second toothbrush to help access the mouth ■ Increasing oral care to two hourly and applying either <ul style="list-style-type: none"> – chlorhexidine (alcohol-free and non-teeth staining) gel or mouthwash – dry mouth relieving products can be particularly soothing ■ Regular application of a water-based moisturiser for the lips ■ Avoidance of pineapple, lemon, and other citric juices as they may irritate oral tissue and overstimulate salivary glands causing the dry mouth condition to worsen ■ Avoidance of mouthwashes and swabs containing alcohol, hydrogen peroxide, sodium bicarbonate, artificial salivary products, or lemon and glycerine as they may irritate oral tissues and increase the risk of infection ■ Removing of dentures to enable the gums to rest.

Discharge planning

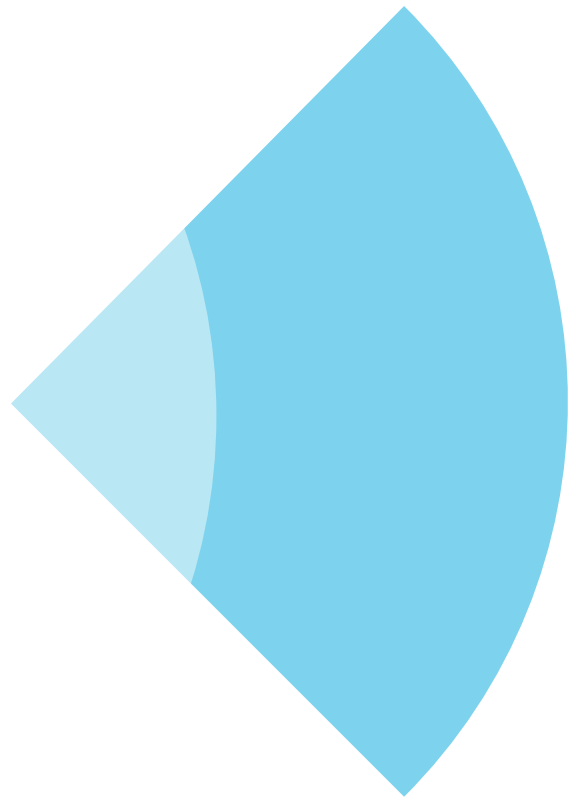
Based on the findings of the oral health assessment, discharge planning should identify:

- Problems or risks with the patient's oral health
- The oral health care strategies or interventions implemented to manage identified oral health conditions
- The patient support needs
- Requirements for follow-up dental examination.

When a patient is advised to see a dental professional, ensure they and/or their substitute decision maker understand the reason for the dental referral and how to access a dental service appropriate for their needs.

The patient should be provided with copies of medical summary information to take to the appointment. Patients should be made aware that they will need to provide:

- Medical summary
- Medication list
- Consent to treatment – self or substitute decision-maker.



Oral health care monitoring

Strategies for improvement and audit outcomes for quality improvement initiatives are outlined below:

Oral health assessment

- An oral health assessment has been completed and documented as part of the patient's admission assessments performed no later than 24 hours following admission
- An evidence-based assessment tool has been used to perform the oral health assessment
- If the oral health assessment has identified an oral health problem
 - is there a need for a dental referral for medically necessary, urgent oral health care (for example oral lesions or pathology)
 - has a dental referral taken place?
 - has the oral health assessment been linked to other relevant health assessments such as the Malnutrition Screening Tool (MST) or Malnutrition Universal Screening Tool (MUST) or other investigations such as changed behaviours, delirium, bacteraemia and/or hospital acquired pneumonia?
 - has the management of the oral health problem been documented in the patient's progress notes and care plan?

Oral health care planning and recording in patient progress notes

- Oral care instructions have been documented in the patient's care plan
- Oral care instructions include
 - presence of natural teeth or dentures (full, partial or implant over-dentures)
 - level of assistance required
 - frequency of oral care
 - type of oral care aids and products to be used
- Daily checking of oral health status has been undertaken during oral health care delivery to evaluate the effectiveness of the oral care provided and that this information is documented in the patient progress notes

Oral health care provision

- Oral care has been provided a minimum of twice a day
- Clinical staff have easy access to oral health care aids and products (such as soft toothbrushes, suction toothbrush, non-foaming [SLS free] toothpaste, dry mouth relieving products, oral chlorhexidine products)
- Clinical staff have access to contemporary evidence based oral health care protocols/guidelines
- Clinical staff have completed an evidence-based oral health care learning package as part of workforce orientation, training and ongoing education. Refer to [Additional resources](#)
- Clinical staff can demonstrate contemporary oral healthcare competencies
- Patients receive oral health care aids and products appropriate to their needs on admission especially in the absence of their own oral care resources
- Oral health care is documented as a required activity of daily care and is not documented as grooming
- Clinical staff have access to oral health care information to distribute to patients on an as-needs basis
- Oral care needs have been discussed with the patient/carer/family or substitute decision-maker

Multi-disciplinary team input and dental referral

- Multi-disciplinary team input and/or dental referral has been sought specifically for improving a patient's oral health and/or self-care ability as indicated by oral health assessment
- Oral health care information is included in the patient's discharge summary

Clinical governance

- An oral health care audit process is established
- The use of oral hygiene aids and product use and associated costs are monitored
- Oral health outcomes are monitored using the assessment criteria of eight categories of oral health (lips, tongue, gums and soft tissue, saliva, natural teeth, dentures, oral cleanliness, and dental pain) as a framework to identify the incidence of oral conditions and infections
- Oral health assessment is linked to other domains of functioning and is used with other relevant patient health assessments such as the Malnutrition Universal Screening Tool (MUST) including investigations into changed behaviours, delirium, bacteraemia and aspiration pneumonia
- The incidence of dentally derived local infections (such as glossitis, thrush, denture stomatitis, and angular cheilitis) and systemic infections (such as bacteraemia, aspiration pneumonia) are embedded as criteria in infection control monitoring.

Additional resources

- SA Dental [Oral Health Assessment Tool](#) (OHAT)
- Better oral health care in hospital online learning package in development (contact SA Dental Health via email HealthSADSServicePlanning@sa.gov.au for further information)



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