

Oral Cares: The Implementation of Standardised Oral Hygiene Management to Reduce the Incidence of Nosocomial Infection

And Implications for Further Research and Improved Client Outcomes

PRESENTERS

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Researcher
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Co-Researcher



Ursula Monsiegnur Inger Kwiecien

Acknowledgements

- Anne Coccetti (Speech Pathologist) – Development of research theory/concept brief
- Speech Pathology Australia Conference 2015 Presentation Anne Coccetti - Hydration Management in Dysphagia: Development of a Free Water Protocol for use in a Public Health Inpatient Rehabilitation Setting
- Elizabeth Cardell – Menzies Health Institute Queensland (Griffith University School of Allied Health Sciences)
- And invaluable assistance from the Logan Hospital Rehabilitation Unit Multi-Disciplinary Team

Speech Pathology Planning Team – Risk Identification Prior to Rehabilitation Opening

Common complications associated with persons with dysphagia:

1. Aspiration Pneumonia

- >35% of deaths after an acute stroke are secondary to pneumonia
- Significant financial costs to the organisation include:
 - increased LOS
 - antibiotics
 - medical imaging
 - increased nursing & physician time

2. Dehydration

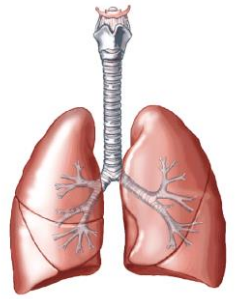
- Dehydration can lead to multiple complications including:
 - exacerbated ischaemia of stroke
 - increased risk of recurring stroke
 - infection
 - altered cardiac function/orthostatic hypotension
 - poor wound healing/pressure injuries
 - falls
 - acute renal failure
 - constipation
 - exacerbated state of confusion
 - prolonged hospital stays
 - increased dependence
 - increased nursing care requirements

Review of the Literature

Pace & McCullough (2010)	Marik & Kaplan (2003)	Low et al (2001)	Bellissimo-Rodrigues et al (2014)
Marik & Kaplan (2003)	Pace & McCullogh (2010)	Martino et al (2005)	Weening-Verbree et al (2012)
Sarin et al (2008)	Clinical Guidelines for Stroke Management (2010)	Perry & Love (2001)	Chalmers et al (2004)
Tada & Miura (2012)	Copeman (2000)	Chouinard et al (1998)	Chalmers et al (2005)
Langmore et al, (1998)	Finiels et al (2001)	Dietitians Association of Australia and Speech Pathology Australia (2007)	Hearn et al (2015)
El-Solh (2011)	Chadwick et al (2002)	Odderson et al (1995)	McNally et al (2015)
Marik & Kaplan (2003)	Whelan (2001)	Katzan et al (2003)	Stout et al (2009)
Scannapieco (2006)	Cichero (2013)	Hinchley et al (2005)	Coyer et al (2015)
Scannapieco, Bush & Paju (2003)	Rowat et al (2012)	Prendergast et al (2013)	Dale et al (2013)
Marik & Kaplan (2003)	Bhalla et al (2000)	Coker et al (2013)	Oshodi et al (2013)
Pace & McCullough (2010)	Brandstater (2002)	Dyck et al (2012)	Robertson et al (2013)
Sarin, Balasubramaniam, Corcoran, Laudenbach & Stoopler (2008)	Vivanti et al (2009)	Miegel et al (2008)	Ganz et al (2013)
Scannapieco (2006)	Sharpe et al (2007)	Sloane et al (2013)	Johnson et al (2013)
Scannapieco & Mylotte (1996)	Yasaka et al (1993)	Pettit et al (2012)	
Tada & Miura (2012)	Harrison (1989)		

What are the risk factors for aspiration pneumonia?

A review of the literature



3/7 most common causes for the development of pneumonia are:

1. Dependency for oral care
2. Number of decayed teeth
3. Dependency for feeding or tube feeding

3 requirements for aspiration pneumonia to develop:

1. Aspiration must be present
2. Aspirated material must be pathogenic to the lungs
3. Resistance to the aspirated material must be compromised

Poor oral care results in the presence of bacterial pathogens which can then be aspirated into the lungs

How do we mitigate the risk of aspiration pneumonia?

A review of the literature

***Joint Nursing [Rigorous/effective oral care] + Speech Pathology
[Swallowing Rehabilitation] = Reduced Risk of Pneumonia***

- Oral hygiene regimes which utilise oral decontamination, rinses and/or mechanical cleaning have been shown to reduce the occurrence of pneumonia and mortality

National Stroke Foundation Clinical Guidelines for Stroke Management (2010):

- Staff involved in patient care should be trained to assess and manage oral hygiene.

What are the risk factors for dehydration?

A review of the literature



- *A common sequelae post-stroke due to dysphagia*
- *Rowat et al (2012): approximately 62% of stroke patients are dehydrated at some point during their admission.*

Thickened fluids (used in dysphagia management to assist in bolus control and prevent aspiration) **can** be less palatable and **result in:**

1. Poor intake of fluids
2. Increased need for supplementary fluids
3. Failure to meet daily fluid requirements

How do we mitigate the risk of dehydration?

A review of the literature

Multiple **options** are available to support increased **hydration** including:

1. Supplementary fluids
2. Fluid dense foods
3. Optimised access to foods/fluids

*Water is pH neutral. **IF** only small amounts of water are taken into the lungs and absorbed, and **IF** the water and immediate environment it comes into contact with is free of bacteria and other contaminants, water is considered a safe oral option for hydration.*

But how do we ensure this?


What are the Challenges in Applying the Literature to Practice?

1. How do you **ensure** that routine, effective **oral hygiene** is occurring within the **rehabilitation** unit?
2. **Limited research exists** which discusses how you implement a sustainable, standardised **oral hygiene** regime within a **rehabilitation** unit.
3. **Without** a documented, effective **oral care** regimen, any **water** coming into contact with the patients mouth **will be contaminated with bacterial pathogens** which can be aspirated into the lungs.
4. **No research** currently exists advising how to **practically implement a formalised hydration policy** including the safe use of water, within a **rehabilitation** unit.

Logan Hospital Rehabilitation Unit Research – Addressing the Challenges as a Multidisciplinary Team

Pre-Implementation Phase: Speech Pathology Development of Theoretical Guiding Documents

- Further literature review regarding best practice in oral hygiene assessment and management.
- Benchmarking with other facilities regarding current practice management.
- Development of overarching procedural document regarding the management of oral hygiene.
- Included selection of the Oral Health Assessment Tool as the most appropriate assessment tool option on review of the literature.



METRO SOUTH HOSPITAL AND HEALTH SERVICE

Logan and Beaudesert Hospitals

Procedure Title:

Mouth Care for Dependent Adult Patients

1-2110000-1

PROCEDURE

Applies to:

Logan Hospital Nursing Staff

Logan Hospital Speech Pathology Department

Logan Hospital Medical Staff

Approved:

Replaces:

- LNH2546 Mouth Care for Dependent Adult Patients

Due for Review:

9/7/2016

Related Links:

[Clinical Form: Modified Oral Health Assessment Tool](#)

[Clinical Form: Oral Care Completion Record - Usual Care and Low Risk](#)

[Clinical Form: Oral Care Completion Record - Medium and High Risk](#)

PURPOSE

To maintain oral hygiene in the hospitalised adult patient to reduce the risk of hospital acquired infections, improve discharge outcomes, maximise patient comfort, and enhance the patient's quality of life.

- Patients able to self care should be encouraged to clean their teeth using a toothbrush and toothpaste twice a day.
- Patients who wear dentures should be encouraged to clean their dentures with a mild detergent or saline, not toothpaste. Their dentures should be removed at night and stored in clean water or denture solution when not in the mouth for a length of time.
- Patients unable to self care should have their oral care needs assessed using the Modified Oral Health Assessment Tool and the appropriate mouth care regimen applied.
- For patients with significant oral hygiene issues or issues relating to pain, an individualised mouth care regime should be developed in conjunction with medical staff and other relevant members of the multidisciplinary team.

BACKGROUND

The oral hygiene of ICU and medical patients is significantly poorer than their outpatient peers (Scannapieco & Mylotte, 1996). A direct link exists between poor oral hygiene, dysphagia and subsequent development of pneumonia (El-Solh, 2011; Mark & Kaplan, 2003; Scannapieco, 2006; Scannapieco, Bush, & Paju, 2003). Poor oral care leads to the presence of bacterial pathogens in the mouth and if these are aspirated, infective pneumonitis or pneumonia may result (Mark & Kaplan, 2003; Pace & McCullough, 2010; Scannapieco, 2006; Scannapieco & Mylotte, 1996; Tada & Miura, 2012).

Pneumonia or pneumonitis is a significant cause of morbidity and mortality in the elderly (Mark & Kaplan, 2003; Pace & McCullough, 2010; Tada & Miura, 2012). Dependency on others for the provision of oral care, poor dentition status, and dependency on others for feeding or tube feeding is associated with increased likelihood of developing pneumonia (Langmore et al., 1998).

Rigorous/effective oral care and swallowing rehabilitation may prevent pneumonia in vulnerable patients (Mark & Kaplan, 2003; Pace & McCullough, 2010; Scannapieco, 2006; Tada & Miura, 2012). Oral hygiene regimes which utilise oral decontamination/rinses, or oral decontamination and mechanical cleaning have been shown to reduce the occurrence of pneumonia and mortality (Mark & Kaplan, 2003).

Printed Versions are Uncontrolled

1/11

Oral Health Assessment Tool (OHAT)				
Category	Healthy = 0	Changes = 1	Unhealthy = 2	Category Score
<i>Lips</i>	Smooth, pink, moist	Dry, chapped, or red at corners	Swelling or lump, white/red/ulcerated patch; bleeding/ulcerated at corners	
<i>Tongue</i>	Normal, moist, roughness, pink	Patchy, fissured, red, coated	Patch that is red and/or white, ulcerated, swollen	
<i>Gums and tissues</i>	Pink, moist, smooth, no bleeding	Dry, shiny, rough, red, swollen, one ulcer/sore spot under dentures	Swollen, bleeding, ulcers, white/red patches, generalised redness under dentures	
<i>Saliva</i>	Moist tissues, watery and free flowing saliva	Dry, sticky tissues, little saliva present, patient thinks they have a dry mouth	Tissues parched and red, very little/no saliva present, thick saliva, patient thinks they have a dry mouth	
<i>Natural Teeth Yes / No</i>	No decayed or broken teeth/roots	1-3 decayed or broken teeth/roots or very worn down teeth	4+ decayed or broken teeth/roots, or very worn down teeth, or less than 4 teeth	
<i>Dentures Yes / No</i>	No broken areas or teeth, dentures regularly worn, and named	1 broken area/tooth or dentures only worn for 1-2hrs daily, or dentures not named, or loose	More than 1 broken area/tooth, denture missing or not worn, loose and needs denture adhesive, or not named	
<i>Oral cleanliness</i>	Clean and no food particles or tartar in mouth or dentures	Food particles / tartar / plaque in 1-2 areas of the mouth or on small area of dentures or halitosis (bad breath)	Food particles / tartar / plaque in most areas of mouth or on most of dentures or severe halitosis (bad breath)	
<i>Dental pain</i>	No behavioural, verbal, or physical signs of dental pain	Verbal and/or physical signs of pain such as pulling at face, chewing lips, not eating, aggression	Physical pain signs (swelling of cheek or gum, broken teeth, ulcers), as well as verbal and/or behavioural signs (pulling at face, not eating, aggression)	
Logan Hospital	(Chalmers, J., Johnson, V., Tang, J. H., & Titler, M. G., 2004.)			Metro South Health

Including an Associated Management Plan

- OHAT does not include clear oral care plan for oral hygiene frequency or care products based on oral hygiene score.
- Literature regarding frequency of care and products for use predominantly from intensive care populations, with some literature from residential care.
- Introduction of a standardised oral hygiene regimen, following oral hygiene assessment, based on literature and benchmarking.

Management Plan:	TOTAL OHAT SCORE:
<input type="checkbox"/> Mouth care regime determined <ul style="list-style-type: none">○ Low Risk (Score of 0) Mouth Care as per regime. Complete OHAT 2nd to 3rd daily.○ Medium risk (Score=1-8) – Mouth cares as per regime. Complete OHAT 2nd daily.○ High risk (Score=9-16) - Mouth cares as per regime. Complete OHAT daily.	
<input type="checkbox"/> Mouth care regime documented in patient's medical chart	
<input type="checkbox"/> Referral to relevant health professionals completed <ul style="list-style-type: none">○ Medical officer○ Dentist○ Speech Pathologist	
	<hr/> 16

Implementation Phase 1:

Consultation with Nursing and Medical Staff

What are the potential barriers to successful nursing clinical implementation of a theoretical tool developed by non-nursing staff?

Research into successful care package implementation in pressure injury prevention included clear nursing documentation, clinical assessment, hygiene measures, strategies, and training including both in-servicing and 1:1 support.

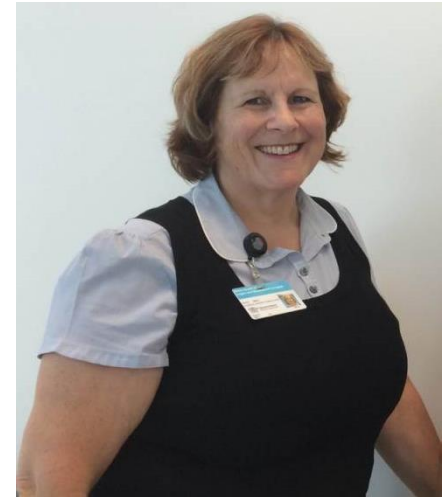
(Coyer et al, 2015)

RACF research indicates common barriers to oral hygiene provision includes time restrictions, lack of training, inadequate awareness of institutional protocols and guidelines, lack of translation of institutional guidelines into practice at the ground level, lack of clinical nursing staff involvement in their development.

(Hearn et al, 2015)

Clinical Forms are a More Effective Method of Ensuring Daily Care Provision than Procedural Documents

1. **Stroke CNC** – Practical implementation of an assessment tool is not feasible in a procedural document alone. Adaptation of Oral Health Assessment Tool into an approved clinical form to improve daily use.
2. **Rehabilitation NE** – Ensuring regular oral hygiene is being completed requires daily care plan documentation to be developed. Further recommendation for development of an education and training package, including physical practice of tool use.



Nikki Hall- CNC Stroke Management

Day to Day Nursing Clinical Practice Barriers Need to be Considered and Clearly Addressed

- **Rehabilitation CNC & AIN** – Common barriers to completion of nursing tasks is poor access to equipment or supplies: Development of Oral Care Kits.
- **Geriatrician** – Standardised method for identification and risk management of allergies to oral hygiene products needs to be clearly included: Development of Chlorhexidine allergy testing protocol.
- **Rehabilitation NE and CF** – Nursing staff need to understand the rationale including the importance of achieving adequate assessment and completion on audit data. Nursing staff need to feel engaged in the process, and feel that their suggestions/concerns are important and actioned.



Sally Fraser –
CNC Rehabilitation &
Vivienne Murphy – AIN
developing the Logan
Hospital Rehabilitation Unit
Oral Care Kits



Implementation Phase 2: Pilot Trial



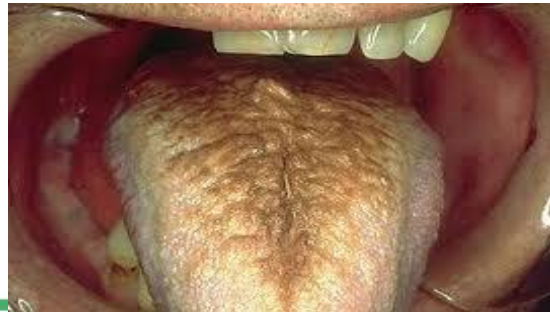
- Education and training
- First 10 new admissions following the introduction of the pilot received the assessment and commenced a care plan
- Supported completion of assessments (side-by-side)
- Staff and patient surveys
- Review of the tools following pilot trial

Education and Training

- Education regarding the rationale behind the introduction of the tool, including the larger research goals.
- Staff lead through the procedural document and its practical application.
- Group discussion through the elements of the assessment, management and documentation process.



Category	Healthy = 0	Changes = 1	Unhealthy = 2
<i>Tongue</i>	Normal, moist, roughness, pink	Patchy, fissured, red, coated	Patch that is red and/or white, ulcerated, swollen



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Staff and Patient Feedback

- Key barriers to oral hygiene completion –
 - Difficulty accessing oral hygiene equipment (mobility impaired)
 - Patient perception of guilt about the quantity of support they required for other hygiene or daily care tasks that they rated a higher priority, therefore they were not notifying staff of required assistance
- Patient choice regarding oral hygiene products and oral care frequency

Staff and Patient Feedback

- Nursing report of oversensitivity of 'Medium Risk' Category management plans resulting in a high percentage of patients refusing oral cares and frustration on the part of staff.
- Indications that categories developed for ICU patients require revision for rehabilitation population.
- Nursing report regarding challenges of reporting both high and low care frequencies on the same form (form not appropriate for both population).

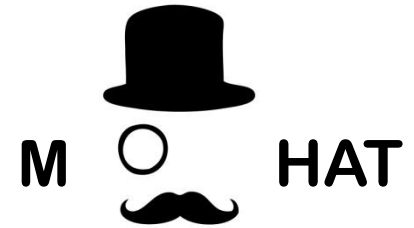
Post-Pilot Modifications

- Adaptation of Oral Health Assessment Tool to include rehabilitation unit appropriate management categories to facilitate practical implementation of oral hygiene care provision including frequency - 'Modified Oral Health Assessment Tool'.
- Management categories: Usual Care, Low Risk, Medium Risk, High Risk
- 2 Care Plan Forms linked to management categories: 'Usual Care and Low Risk', 'Medium Care and High Risk'
- Inclusion of patient feedback into further inservicing regarding awareness of patient preferences, facilitating mobility impaired adults as well as upper limb or cognitively impaired adults.

Implementation Phase 3:


Sustaining Practice with
Modified Care Documentation
and Reaching Minimum
Compliance Rates

**HAVE YOU
CHECKED
YOUR**



LATELY?

Modified Oral Health Assessment Tool (MOHAT)



Queensland Government
METRO SOUTH HEALTH

MODIFIED ORAL HEALTH ASSESSMENT TOOL

Facility: _____

This form is to be used in conjunction with the Logan Hospital Procedure: Mouth Care for Dependent Adult Patients

Scores – You can circle individual words as well as giving a score in each category (*If 1 or 2 scored in any category, please organise for a medical officer to examine the patient and determine if dentist referral is required)

(Affix identification label here)

URN: _____

Family name: _____

Given name(s): _____

Address: _____

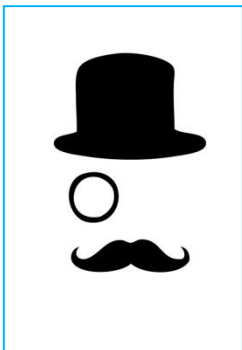
Date of birth: _____ Sex: ☐ M ☐ F ☐ IA


Category	Healthy = 0	Changes = 1	Unhealthy = 2	Date	Date	Date	Date	Date	Date	Date	
				Time	Time	Time	Time	Time	Time	Time	Time
				SCORE	SCORE	SCORE	SCORE	SCORE	SCORE	SCORE	
Lips	Smooth, pink, moist	Dry, chapped, or red at corners	Swelling or lump, white/red ulcerated patch; bleeding/ulcerated at corners								
Tongue	Normal, moist, roughness, pink	Patchy, fissured, red, coated	Patch that is red and/or white, ulcerated, swollen								
Gums and tissues	Pink, moist, smooth, no bleeding	Dry, shiny, rough, red, swollen, one ulcer/sore spot under dentures	Swollen, bleeding, ulcers, white/red patches, generalised redness under dentures								
Saliva	Moist tissues, water and free flowing saliva	Dry, sticky tissues, little saliva present, patient thinks they have a dry mouth	Tissues parched and red, very little/no saliva present, thick saliva, patient thinks they have a dry mouth								
Natural Teeth	No decayed or broken teeth/roots	1-3 decayed or broken teeth/roots or very worn down teeth	4+ decayed or broken teeth/roots, or very worn down teeth, or less than 4 teeth								
Dentures	No broken areas or teeth, dentures regularly worn, and named	1 broken area/tooth or dentures only worn for 1-2hrs daily, or dentures not named, or loose	More than 1 broken area/tooth, denture missing or not worn, loose and needs denture adhesive, or not named								
Oral cleanliness	Clean and no food particles or tartar in mouth or dentures	Food particles/tartar/plaque in 1-2 areas of the mouth or on small area of dentures or halitosis (bad breath)	Food particles/tartar/plaque in most areas of mouth or on most of dentures or severe halitosis (bad breath)								
Dental pain	No behavioural, verbal, or physical signs of dental pain	Verbal and/or physical signs of pain such as pulling at face, chewing lips, not eating, aggression	Physical pain signs (swelling of cheek or gum, broken teeth, ulcers), as well as verbal and/or behavioural signs (pulling at face, not eating, aggression)								
Management Plan: Mouth care regime determined: o Usual care (Score=0) BD mouth cares. Weekly MOHAT completion. o Low risk (Score=1-2) – Usual care plus additional below. o Medium risk (Score=3-8) – Mouth cares as per regime. Complete MOHAT 2nd daily. o High risk (Score=9-16) – Mouth cares as per regime. Complete MOHAT daily.				Mouth care regime documented in patient's medical chart. Referral to relevant health professionals completed: o Medical officer o Dentist o Speech Pathologist				TOTAL 16 Initials		TOTAL 16 Initials	

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MODIFIED ORAL HEALTH ASSESSMENT TOOL

Inclusion of Oral Care Score and Recommended Management Guidelines- (MOHAT p2)




 Queensland Government METRO SOUTH HEALTH MODIFIED ORAL HEALTH ASSESSMENT TOOL			This guide is to be used to formulate a score to use in conjunction with the mouth care regimen. Each category is to be given a score of 0, 1 or 2. These category scores are then added together to gain the total score and the corresponding mouth care regimen is commenced. The minimum score is 0 (nil oral cavity issues) whilst the maximum score is 16 (significant oral cavity issues).			(Affix identification label here) URN: Family name: Given name(s): Address: Date of birth: Sex: <input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> I		
Facility: _____								
Mouth Care Schedule Patients with higher scores on the Modified Oral Health Assessment Tool will require oral cares at a higher frequency than those with lower scores. However, the frequency of mouth care required will be dependent on the individual and should consider the patient's condition, including medical conditions and treatment.								
The following mouth care schedule would be appropriate for patients in each category:								
'USUAL CARE' category (MOHAT score 0):				'MEDIUM RISK' category (MOHAT score 3-8):		'HIGH RISK' category (MOHAT score 9-16):		
Time	Mouth Care Schedule			Time	Mouth Care Schedule		Time	Mouth Care Schedule
0800	Clean teeth, gums and tongue			0800	Clean teeth, gums and tongue		0200	Apply Biotene Oral Balance Mouth Moisturising Gel
2000	Clean teeth, gums and tongue			0900	Apply chlorhexidine mouthwash Apply Biotene Oral Balance Mouth Moisturising Gel Apply soft paraffin to lips		0600	Clean teeth, gums and tongue, and rinse mouth Apply Biotene Oral Balance Mouth Moisturising Gel Apply soft paraffin to lips
'LOW RISK' category (MOHAT score 1-2): Complete Usual Care above plus additional care indicated:				1300	Brush teeth, gums and tongue		0900	Apply chlorhexidine mouthwash
Indicate Identified Concern on MOHAT	Time	Mouth Care Schedule		1400	Apply Biotene Oral Balance Mouth Moisturising Gel		1200	Clean teeth, gums and tongue, and rinse mouth Apply Biotene Oral Balance Mouth Moisturising Gel Apply soft paraffin to lips
<input type="checkbox"/> Increased frequency of cares required	Before Lunch	Clean teeth, gums and tongue		1700	Apply Biotene Oral Balance Mouth Moisturising Gel		1500	Apply Biotene Oral Balance Mouth Moisturising Gel
<input type="checkbox"/> Reduced awareness of oral residue post-meals	After All Meals and Medications	Check oral cavity for residue Clear/mouthwash as needed		2000	Clean teeth, gums and tongue Apply soft paraffin wax to the patient's lips		1800	Clean teeth, gums and tongue, and rinse mouth Apply soft paraffin to lips
<input type="checkbox"/> Dry lips	As required	Apply soft paraffin wax to lips		2100	Apply chlorhexidine mouthwash Apply Biotene Oral Balance Mouth Moisturising Gel Apply soft paraffin to lips		2200	Apply chlorhexidine mouthwash Apply Biotene Oral Balance Mouth Moisturising Gel
<input type="checkbox"/> Oral Candidiasis	As prescribed	Administer topical medication as per MO direction					2400	Apply Biotene Oral Balance Mouth Moisturising Gel (if pt awake or as required)
<input type="checkbox"/> Impaired mobility	As per Usual Care	Ensure patient able to access oral care equipment						
Other Requirements Identified (Please indicate)				NAME	DESIGNATION	SIGNATURE		INITIALS
<input type="checkbox"/>								
<input type="checkbox"/>								

Page 2 of 2

DO NOT WRITE IN THIS BINDING MARGIN

Oral Hygiene Care Plan: Usual Care and Low Risk Patients

DO NOT WRITE IN THIS BINDING MARGIN



Queensland Government
METRO SOUTH HEALTH

Oral Care Completion Record – Usual Care & Low Risk

Facility: _____

New regimes for medium and high risk patients which involve the use of chlorhexidine should not be commenced overnight or on weekends. **Adverse Drug Reaction (ADR) to Chlorhexidine**
Screen for ADR to Chlorhexidine- Yes ☐ No ☐
Was there an Adverse Drug Reaction-- Yes ☐ No ☐
Alternative Mouth wash to be used if adverse reaction noted. _____
Alternative Mouth wash is _____
Print Name _____ Signature _____
Designation _____ Date _____

(Affix identification label here)

URN: _____
Family name: _____
Given name(s): _____
Address: _____
Date of birth: _____ Sex: ☐ M ☐ F ☐ A

Modified Oral Health Assessment Tool (MOHAT) Categories	Score (tick)	Legend
Usual Care (Score =0) (BD mouth Cares, Weekly MOHAT completion)	a	C - Clean teeth, gums & tongue G - <u>Biotene</u> Oral Balance Mouth Moisturising Gel
Low Risk (Score =1-2) (BD mouth Cares, Additional care required (please record additional care required), Weekly MOHAT completion)	a	P - Apply Soft <u>Paraffin</u> to lips M - Apply <u>chlorhexidine</u> mouthwash
Additional Care Required: (please indicate)		BF - Breakfast L - Lunch D - Dinner

Please indicate all oral cares completed during the 24 hour period. Frequency of oral cares is dependent on Modified Oral Health Assessment Tool Score (See MOHAT Form). Complete the date for each column, then circle the cares completed, record any extra provided and indicate the time and initial. Please indicate © if the patient declines cares.

Schedules

Date: / / a	Initials	Date: / / a	Initials	Date: / / a	Initials	Date: / / a	Initials
Pre BF a	a	C a	a	C a	a	C a	a
Additional If Required a	a	a	a	a	a	a	a
Post D a	a	C a	a	C a	a	C a	a

Schedules

Date: / / a	Initials	Date: / / a	Initials	Date: / / a	Initials	Date: / / a	Initials
Pre BF a	a	C a	a	C a	a	C a	a
Additional If Required a	a	a	a	a	a	a	a
Post D a	a	C a	a	C a	a	C a	a


Signature Log

Name	Designation	Signature	Name	Designation	Signature
a	a	a	a	a	a
a	a	a	a	a	a



Oral Hygiene Care Plan: Medium and High Risk Patients

DO NOT WRITE IN THIS BINDING MARGIN

 <p>Queensland Government METRO SOUTH HEALTH</p> <p>Oral Care Completion Record – Medium & High Risk</p> <p>Facility: _____</p>	<p>New regimes for medium and high risk patients which involve the use of <u>chlorhexidine</u> should not be commenced overnight or on weekends. Adverse Drug Reaction (ADR) to Chlorhexidine</p> <p>Screen for ADR to Chlorhexidine- Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Was there an Adverse Drug Reaction-- Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>Alternative Mouth <u>wash</u> to be used if adverse reaction noted. <input type="checkbox"/></p> <p>Alternative Mouth wash is _____</p> <p>Print Name _____ Signature _____</p> <p>Designation _____ Date _____</p>	<p>(Affix identification label here)</p> <p>URN: _____</p> <p>Family name: _____</p> <p>Given name(s): _____</p> <p>Address: _____</p> <p>Date of birth: _____ Sex: <input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> JA</p>
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Modified Oral Health Assessment Tool (MOHAT) Categories	Score (tick)	Legend
Medium Risk (OHAT Score = 3-8) [7x daily mouth care, MOHAT 2 nd daily]	<input type="checkbox"/>	C - Clean teeth, gums & tongue G - Biotene Oral Balance Mouth Moisturising Gel
High Risk (OHAT Score = 9-16) [Mouth cares 8x daily Complete MOHAT daily]	<input type="checkbox"/>	P - Apply Soft Paraffin to lips M - Apply chlorhexidine mouthwash BF - Breakfast L - Lunch D - Dinner

Signature Log					
Name	Designation	Signature	Name	Designation	Signature

Please indicate all oral cares completed during the 24 hour period. Frequency of oral cares is dependent on Modified Oral Health Assessment Tool Score (See MOHAT Form). Complete the date for each column, then circle the cares completed, record any extra provided and indicate the time and initial. Please indicate ⊗ if the patient declines cares.

Schedule	Date: / /	Initials	Date: / /	Initials	Date: / /	Initials
Overnight	G	: hrs	G	: hrs	G	: hrs
Pre BF	C	: hrs	C	: hrs	C	: hrs
Post BF	M, G, P	: hrs	M, G, P	: hrs	M, G, P	: hrs
Pre L	C	: hrs	C	: hrs	C	: hrs
Post L	C, M, G	: hrs	C, M, G	: hrs	C, M, G	: hrs
Between L & D	G	: hrs	G	: hrs	G	: hrs
Pre D	C, P	: hrs	C, P	: hrs	C, P	: hrs
Post D	C, M, G, P	: hrs	C, M, G, P	: hrs	C, M, G, P	: hrs
Post D/Pre-Sleep	M, G, P	: hrs	M, G, P	: hrs	M, G, P	: hrs
Overnight	G	: hrs	G	: hrs	G	: hrs



Managing Oral Hygiene: Equipment

- Non-sterile disposable gloves

Mouth Care Equipment

- Kidney dish
- Toothette Oral Swabs (long handle white tipped, green sponge tipped)
- Toothbrush (small, soft bristled toothbrush with narrow head)
- Low foaming toothpaste
- Aqueous-based chlorhexidine mouthwash (1:1 dilution with water) or other appropriate mouth washes for example biotene mouthwash or sodibic.
- Biotène Oral Balance Mouth Moisturizing Gel
- Soft paraffin
- Plastic blunt ended tweezers

Additional equipment which may be required for specific populations:

- Bite block
- Suction catheter and machine
- Dental/Yankauer sucker or suction toothbrush
- Saline

Managing Oral Hygiene: Prior to Commencing Mouth Cares

Due to the risk of ADR to chlorhexidine mouthwash:

- Ensure you check the patients allergy status to chlorhexidine before commencing medium or high risk MOHAT score regimes.
- Do not commence new oral hygiene regimes for medium and high risk MOHAT scores overnight or during weekend services.
- If concerns are identified, please source another appropriate mouthwash option, eg. Sodibic or Biotene.

Steps for screening allergy to chlorhexidine:

- 1. A review of patient allergy history*
- 2. A skin test. A sample of the chlorhexidine mouthwash is soaked onto a swab and wiped over the skin on the back of the hand or sensitive inner arm. The area of skin must be monitored for a minimum of 2-5 minutes. The sample is then wiped clean from the area and the skin is reviewed for any reactions, including (but not limited to) irritation (or patient report of irritation), redness, itching, rash, hives, oedema, difficulty breathing.*

Managing Oral Hygiene:

Cleaning the Patient's Mouth and own Teeth

- Brush the teeth, gums and tongue with a toothbrush that has been dipped in water and contains a small amount of toothpaste.
- Ensure that the toothpaste is pushed on to the surface of the brush.
- Dentists recommend that teeth should be cleaned twice a day. However, increased frequency of cleaning may be indicated depending on the individual's condition.
- Teeth should be brushed at least ½ an hour before using chlorhexidine mouthwash as components of toothpaste inactivate chlorhexidine.

CONTRAINDICATIONS

- Low platelet count
- Significant mouth ulceration
- Patient has received thrombolysis in the past 24 hours.

ALERTS

- If the patient is unable to use a toothbrush due to oral pain, use mouth swabs or gauze swabs, and provide gentle mouth rinses. Consider discussion with the patient's medical officer for oral pain management.



Managing Oral Hygiene: Cleaning the Patient's Mouth and Dentures

- After each meal, remove the patient's dentures and rinse thoroughly in cold water to remove any food debris.
- Clean dentures with a dry/damp toothbrush (without toothpaste).
- Brush the patient's gums with a small, soft bristled toothbrush with a narrow head.
- Dentures should be left to soak in the individual's preferred denture solution for 20 minutes or 10 minutes if there is metal in the dentures.
- Before bed, remove the patient's dentures and soak in a denture solution or water.

ALERTS

- **Remove dentures before completing the Modified Oral Health Assessment Tool or performing oral cares.**
- If dentures are ill-fitting, remove them during the day, clean and store in clean water and if possible seek to have them relined/re-fitted when able.
- Toothpaste and other abrasives can scratch denture surfaces.
- Dentures should not be allowed to dry out as this can alter their shape.

Managing Oral Hygiene: Rinsing the Mouth

- Rinse the patient's mouth with warm water to remove debris and toothpaste.
- If the patient is unable to rinse their own mouth, remove any remaining debris with a moist foam swab with the patient leaning forward.
- Continuous suctioning may be required to reduce the risk of aspiration if the patients who have a reduced level of consciousness or significant swallowing difficulties.

CONTRAINDICATIONS

- If the patient is unable to swallow or is on a modified diet/fluid as per Speech Pathologist, ensure a dental/Yanker sucker or suction toothbrush is available to remove fluids from the mouth during oral cares. It is not appropriate to allow the patient to rinse or spit if their swallow is impaired as this may result in aspiration. It is also vital to ensure that the toothbrush/swab is damp only, as excess moisture may increase the risk of aspiration.

Managing Oral Hygiene: Mouthwash

CHLORHEXIDINE MOUTHWASH

- Coat the patient's tongue with chlorhexidine solution on a foam stick.
- Teeth should be brushed at least ½ an hour before using chlorhexidine as components of toothpaste inactivate chlorhexidine.
- Chlorhexidine mouthwash (1:1 chlorhexidine/water dilution) should only be used once every twelve hours.
- Chlorhexidine use should be reviewed after four weeks due to potential for side effects (e.g., brown staining of teeth).

CONTRAINDICATIONS

- Patients receiving radiotherapy or immediately following radiotherapy.
- Patients with a history of allergies, especially those with a history of multiple drug reactions.
- Monitor for pain, discomfort or any adverse reaction. Cease and discuss with medical team/utilise MET Call Criteria if appropriate.

SODIUM BICARBONATE OR SALINE MOUTHWASH

- Substitute for chlorhexidine mouthwash for people with head and neck cancer during and immediately following surgery and radiotherapy, or if adverse reactions to chlorhexidine are a concern.
- Sodium bicarbonate and saline solutions can be alternated.

Mouth wash recipes:

- Saline mouthwash: 1 teaspoon (5ml) of salt mixed with 500ms of lukewarm water
- Sodium bicarbonate mouthwash: 2 teaspoons of sodium bicarbonate in 500mls of water

Managing Oral Hygiene: Biotene Oral Balance Mouth Moisturising Gel, Paraffin Lip Moisturiser

BIOTENE ORAL BALANCE MOUTH MOISTURISING GEL

- Contains Bio-Active enzymes that have been found to inhibit odour-causing bacteria, help maintain the oral environment, and help prevent a dry mouth.
- Should be applied at least three times a day.
- Increased frequency of application may be indicated with palliative care patients or patients who have received radiotherapy for head and neck cancer.
- Coat the mouth and tongue with Biotene Oral Balance Mouth Moisturising Gel using a gloved finger.

SOFT PARAFFIN LIP MOISTURISER

- Apply paraffin to the lips.
- If the patient has other lip balm products these can be used as an alternative.

Managing Oral Hygiene: Other Available Products

TOOTHETTE ORAL SWABS

- Should be used with individuals who have a bite reflex or behavioural issues.
- A bite block should also be used to assist in these cases.

BITE BLOCKS

- A protective device that can be used to hold the mouth open during mouth care.
- Recommended for use with patients who are confused and/or uncooperative, have an altered state of consciousness, or have primitive oral reflexes such as the bite reflex (e.g., patients with dementia, stroke, brain injury).

Managing Oral Hygiene: Other Available Products

Products requiring Medical Officer Prescription

NILSTAT ORAL DROPS

- Topical antifungal medication used to treat candida infections in the oral cavity (oral thrush).
- Should be used four times a day.
- If a dosing time is close to a mouth care procedure time, the Nilstat Oral Drops should be used after completion of the chlorhexidine solution stage and approximately 15 minutes before the application of the Biotène Oral Balance Mouth Moisturizing Gel.
- Nilstat requires a Medical Officer' order on the patient's medication chart to be dispensed.
- Some gel form products are also available for patients with severe dysphagia.

SALIVA SUBSTITUTE 'ORALUBE'

- Beneficial in the treatment of xerostomia and for oral comfort particularly if the patient has been Nil By Mouth.

Managing Oral Hygiene: Other Available Products

Products requiring Medical Officer Prescription

PAIN RELIEF:

Gel Clair

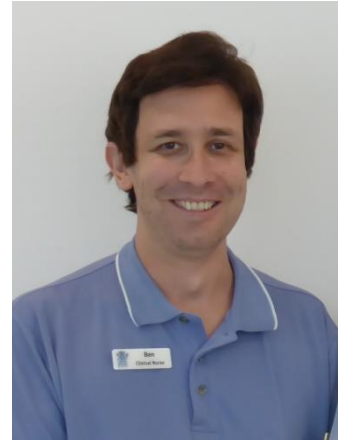
- A prescription mouthwash to assist in the management and relief of pain caused by mouth lesions, ulcers and mucositis within the oral cavity.
- Use at least three times per day or as needed.
- Patient should not eat or drink for at least one hour following treatment and applied before brushing teeth.
- Should be used before other topic agents such as analgesic or anti-infective, as the barrier it forms may prevent other topical agents from reaching the oral mucosa.
- Recommended to be used before the consumption of food or drinks, to reduce the irritation caused by consuming solid food and fluids.
- Patients are to rinse the solution around their mouth for at least a minute or as long as possible. Gargle and spit out.

Xylocaine Viscous

- A topical anaesthetic used particularly for mucosistis.
- May be brushed either directly on mouth ulcers, diluted in 1 teaspoon of ¼ cup warm water for gargle and swallow or 1 teaspoon placed in mouth and allowed to disperse.
- Xylocaine viscous should be taken directly before meals (Speech Pathology Department TPCH Metro North 2009).

Implementation Phase 4: Compliance Auditing and Quality Review

- Are oral health assessments and cares completed at the appropriate frequency?
- Are oral health assessments and cares completed as per the procedure?



Benjamin Tickle
Clinical Facilitator
Rehabilitation Unit

Clinical Documentation Audit

Was oral health

- assessment
- re-assessment,
- and oral hygiene care completed at the appropriate frequency?

Clinical and Bedside Chart Audits – Modified Oral Health Assessment Tool (MOHAT)

Purpose: These audits are designed to determine the level of compliance with oral care completion based on clinical documentation.

Method: Aim to capture all patients on the unit/ward within the designated time period (1 week). Audit copies of all Modified Oral Health Assessment Tools, Usual Care and Low Risk Oral Care Completion Records and Medium and High Risk Oral Care Completion Records contained within the medical and bedside charts for a single patient according to the criteria below.

Expected Compliance: All patients should be assessed for oral hygiene on admission using the Modified Oral Health Assessment Tool. Oral Care should then be provided daily at the frequency recommended by the assessment. This should be documented on the appropriate Oral Care Completion Record. Patients identified as Medium or High Risk should have a repeat MOHAT completed after 7 days to determine whether their oral hygiene has improved and they can return to a Usual Care or Low Risk oral care frequency.

AUDIT DURATION	Commencing: / /20	Finishing: / /20
Date: / /20	Auditor:	Auditor Role:
Unit: Rehabilitation Unit, Logan Hospital	Bed No:	Collected only to ensure all current admissions have been captured without identifying consumers involved

Audit Question	Compliance	
1. Was a MOHAT completed within 48 hours of admission?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
2. Was the corresponding Oral Care Completion Record selected? (eg, if the patient scored 'High Risk' on the MOHAT, was there a Medium and High Risk Oral Care Completion Record in the chart?)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
3. If the patient has a MOHAT risk rating of Medium or High, and the patient has a LOS >7 days, was a repeat MOHAT completed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Not Applicable	
4. Was the Oral Care Completion Record completed daily for the patient?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
4a. # NO, how frequently was it completed on average?	<input type="checkbox"/> 2 nd -3 rd daily	<input type="checkbox"/> 1-2 weekly
	<input type="checkbox"/> Start of the admission only	
	<input type="checkbox"/> Sporadically	<input type="checkbox"/> Not completed
5. Were oral cares on the Oral Care Completion Record recorded at the frequency indicated on the MOHAT form?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
5a. # NO, was the frequency less or more than the indicated frequency?	<input type="checkbox"/> More	<input type="checkbox"/> Less
	<input type="checkbox"/> Not Applicable	
5b. # LESS, was it documented if the patient was refusing or declining oral cares on the Oral Care Completion Record?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<input type="checkbox"/> Not Applicable	

Clinical Documentation Audit - Outcomes

Successes

- MOHAT in 48 hours of admission improved from 12.5% to 50% throughout implementation
- Almost all patients now receiving oral health assessment during their admission
- All patients in medium and high risk categories are receiving repeat oral health assessment within the recommended timeframes.

Ongoing Challenges

- Sustaining engagement throughout the process of implementation and auditing to reach minimum compliance standards
- Managing staff turnover
- Gaining the consistent care documentation required to reach minimum compliance to allow progression to hydration policy implementation

SIDE-BY-SIDE MOHAT ASSESSMENT Bed No.:

Collected only to ensure all new admissions have been captured without identifying consumers involved



Unit: Rehabilitation Unit, Logan Hospital

Date: / / 20

Patient Consent to be Observed: ☐ Yes ☐ No

AUDITOR RATING

Category	Healthy = 0	Changes = 1	Unhealthy = 2
Lips	Smooth, pink, moist	Dry, chapped, or red at corners	Swelling or lump, white/red/ulcerated patch; bleeding/ulcerated at corners
Tongue	Normal, moist, roughness, pink	Patchy, fissured, red, coated	Patch that is red and/or white, ulcerated, swollen
Gums and tissues	Pink, moist, smooth, no bleeding	Dry, shiny, rough, red, swollen, one ulcer/sore spot under dentures	Swollen, bleeding, ulcers, white/red patches, generalised redness under dentures
Saliva	Moist tissues, watery and free flowing saliva	Dry, sticky tissues, little saliva present, patient thinks they have a dry mouth	Tissues parched and red, very little/no saliva present, thick saliva, patient thinks they have a dry mouth
Natural Teeth Yes/No	No decayed or broken teeth/roots	1-3 decayed or broken teeth/roots or very worn down teeth	4+ decayed or broken teeth/roots, or very worn down teeth, or less than 4 teeth
Dentures Yes/No	No broken areas or teeth, dentures regularly worn, and named	1 broken area/tooth or dentures only worn for 1-2hrs daily, or dentures not named, or loose	More than 1 broken area/tooth, denture missing or not worn, loose and needs denture adhesive, or not named
Oral cleanliness	Clean and no food particles or tartar in mouth or dentures	Food particles / tartar / plaque in 1-2 areas of the mouth or on small area of dentures or halitosis (bad breath)	Food particles / tartar / plaque in most areas of mouth or on most of dentures or severe halitosis (bad breath)
Dental pain	No behavioural, verbal, or physical signs of dental pain	Verbal and/or physical signs of pain such as pulling at face, chewing lips, not eating, aggression	Physical pain signs (swelling of cheek or gum, broken teeth, ulcers), as well as verbal and/or behavioural signs (pulling at face, not eating, aggression)

STAFF MEMBER RATING

Category	Healthy = 0	Changes = 1	Unhealthy = 2
Lips	Smooth, pink, moist	Dry, chapped, or red at corners	Swelling or lump, white/red/ulcerated patch; bleeding/ulcerated at corners
Tongue	Normal, moist, roughness, pink	Patchy, fissured, red, coated	Patch that is red and/or white, ulcerated, swollen
Gums and tissues	Pink, moist, smooth, no bleeding	Dry, shiny, rough, red, swollen, one ulcer/sore spot under dentures	Swollen, bleeding, ulcers, white/red patches, generalised redness under dentures
Saliva	Moist tissues, watery and free flowing saliva	Dry, sticky tissues, little saliva present, patient thinks they have a dry mouth	Tissues parched and red, very little/no saliva present, thick saliva, patient thinks they have a dry mouth
Natural Teeth Yes/No	No decayed or broken teeth/roots	1-3 decayed or broken teeth/roots or very worn down teeth	4+ decayed or broken teeth/roots, or very worn down teeth, or less than 4 teeth
Dentures Yes/No	No broken areas or teeth, dentures regularly worn, and named	1 broken area/tooth or dentures only worn for 1-2hrs daily, or dentures not named, or loose	More than 1 broken area/tooth, denture missing or not worn, loose and needs denture adhesive, or not named
Oral cleanliness	Clean and no food particles or tartar in mouth or dentures	Food particles / tartar / plaque in 1-2 areas of the mouth or on small area of dentures or halitosis (bad breath)	Food particles / tartar / plaque in most areas of mouth or on most of dentures or severe halitosis (bad breath)
Dental pain	No behavioural, verbal, or physical signs of dental pain	Verbal and/or physical signs of pain such as pulling at face, chewing lips, not eating, aggression	Physical pain signs (swelling of cheek or gum, broken teeth, ulcers), as well as verbal and/or behavioural signs (pulling at face, not eating, aggression)

1. Were there any discrepancies between the Auditors Rating and the Staff Member's Rating?

☐ Yes ☐ No

1a. If yes, what was the difference in rating? _____ [(Auditor Rating) - (Staff Member Rating) = Difference]

2. Did the auditor identify any concerns in the way the assessment was completed?

☐ Yes ☐ No

2a. If yes, what were the concerns?

☐ Incomplete or cursory inspection☐ Inaccurate use of the MOHAT rating scale☐ Failure to ensure both oral cavity and dentures were assessed separately☐ Other: _____

Time in Motion Study - MOHAT

Time in Motion Study – Oral Hygiene Cares

Metro South

OBSERVATION OF ORAL CARE PROVISION Bed No.: _____ *Collected only to ensure a range of observations with different consumers took place.*

Unit: Rehabilitation Unit, Logan Hospital	Date: / / 20	Patient Consent to be Observed: <input type="checkbox"/> Yes <input type="checkbox"/> No
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PRIOR TO THE ORAL CARE

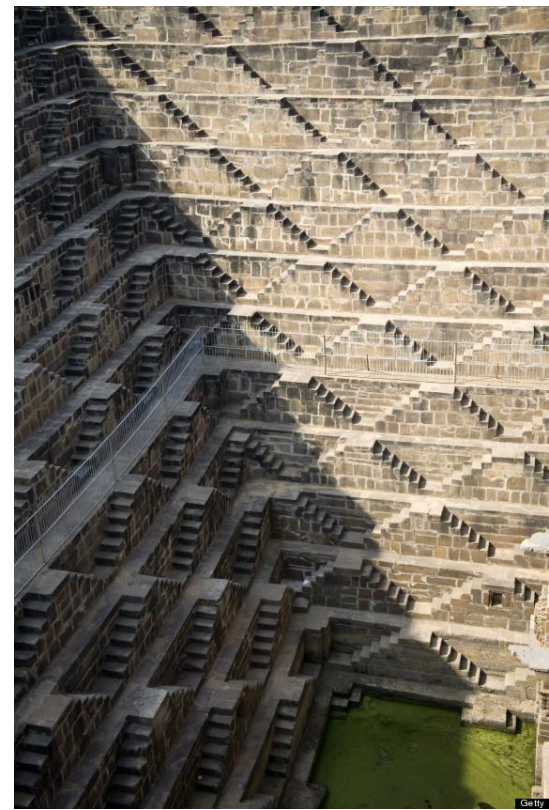
1. Were appropriate hand hygiene practices adhered to during oral care provision?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Was consent obtained?	<input type="checkbox"/> Yes <input type="checkbox"/> No
3. Was the oral care provided in accordance with the MOHAT schedule for the patients risk rating?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4. Was the patient offered the appropriate level of assistance to allow them to complete the oral care? <i>Eg 1. If the patient is mobility impaired, was assistance given to access the sink and their toothbrush/toothpaste?</i> <i>Eg 2. If the patient is unable to self care, was the care completed for them?</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable (patient able to independently access oral hygiene items in an appropriate location)

FOLLOWING THE ORAL CARE

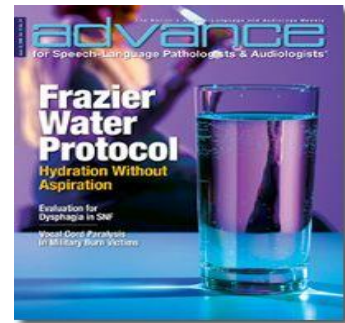
5. Complete a visual inspection of the oral cavity and observe the following:	
i. Was there any residual food matter or coagulated/dried secretions within the oral cavity?	<input type="checkbox"/> Yes <input type="checkbox"/> No
ii. Did the oral cavity appear clean on observation?	<input type="checkbox"/> Yes <input type="checkbox"/> No
iii. Did the oral cavity and lips appear moist on observation?	<input type="checkbox"/> Yes <input type="checkbox"/> No

The Next Steps

- Review residual barriers to minimum compliance rate acquisition
- Formal comparisons between nursing staff in oral health assessment and development of management plans to ensure that the process is consistent and replicable
- Introducing an integrated hydration policy....



Key Element: The Water Protocol



If all other risk factors for the development of aspiration pneumonia can be eliminated, a free water protocol can be considered for eligible patients

- Used in several USA facilities with nil reported increase in adverse events
- Frequency of aspiration pneumonia does not vary significantly between aspirators and non aspirators consuming thin free water (Feinberg et al, 1996)
- Recent RCT (Carlaw et al., 2012)
 - Used a water protocol in a rehabilitation setting
 - **Nil increase in adverse events** (included pneumonia)
 - **Fluid intake increased by 10% in free water group** compared with those on thickened fluids
 - **Patients reported increased QOL outcomes with free water**
 - However, limited participants (N = 16)

What does it involve?

- Patients otherwise recommended to consume thickened fluids can have unrestricted access to thin water before meals and 30 minutes post-meals.
- An oral care ***must*** occur following all meals and before water intake in the morning. The oral cavity must appear clean on visual inspection.
- Free water ***cannot*** be offered with meals, medications, mid meals or thickened fluids
- Close monitoring of chest status and temperature ***must*** occur for the first 72 hours following introduction
- **Indicators for cessation:** changes to temperature, chest/health, oral hygiene, impulsivity or other medical concerns

Can we eliminate thickened fluids altogether?

Free water protocols are not appropriate for all patients/ populations

- Mild or Moderate Dysphagia only identified on instrumental examination.
- Can be positioned upright and can self-feed
- Nil impulsivity/significant cognitive issues
- Sustained good oral hygiene
- Nil significant respiratory contra-indications
- Mobile
- Nil discomfort with water intake
- Medical clearance required



The next challenges

- Sustaining adequate levels of oral hygiene on auditing
- Developing a practical, sustainable method to introduce free water into a rehabilitation unit:
 - How to identify patients on free water?
 - Why can some patients have water and not others?
 - Why can they only have water at some times and not others?
 - How is it sustainable for all staff and visitors?

Future Research Implications

- Can the implementation of formal oral hygiene and hydration policies reduce the incidence of nosocomial infections in a rehabilitation population?
- Can a replicable, published process be developed for the implementation of a free water and hydration policy within a rehabilitation unit?
- Can the implementation of a free water protocol facilitate positive outcomes in dysphagia rehabilitation?
- If complications of aspiration and dehydration can be reduced, are there positive implications regarding nursing workflow and demand?

Thank you!

Questions?



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