

# The use of a nursing oral and nutritional assessment tool to improve patient outcomes — one centre's experience

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## Abstract

### Background

Oral hygiene and nutritional screening for acutely ill and debilitated patients, although recognised by nurses as an important aspect of care, can be overlooked in a busy acute care ward due to the increasing complexity of the nursing role.

### Aims and objectives

Our unit took a multidisciplinary approach to overcoming this and, in consultation with our nursing staff, aimed to introduce a screening and assessment tool for nurses to improve oral and nutritional assessment and care.

### Design and methods

We formed a multidisciplinary research team inclusive of the unit's dedicated dietitian and speech pathologist and using a participatory action research method with multiple focus group consultations, the oral and nutritional assessment tool was designed and implemented for a six-month trial.

### Results

Evaluation occurred in a number of ways and on completion of the study we were able to demonstrate a significant improvement in patient care and a good level of acceptance amongst nursing staff.

### Conclusion

When introducing any change, particularly one that involves the introduction of an assessment tool, it is recommended to take a multidisciplinary approach and to fully involve the nursing staff in the process. This creates a sense of ownership that is a key element of practice improvement and change sustainability. The introduction of a systematic assessment process enables nursing staff to ensure that patients are appropriately assessed and their care needs are fully met.

## Keywords

Nutrition, oral care, nursing assessment, renal.

## Introduction

Our acute care unit resides in a major metropolitan public teaching hospital and caters for a complex array of acutely ill renal patients and long-term debilitated medical patients, many of whom have recently stepped down from the intensive and critical care unit (ICCU). In our endeavours to continuously improve outcomes for patients, our unit has an active clinical improvement program; however, as a team another way we address areas of concern is by conducting multidisciplinary

research. In 2011 we asked our nursing staff what they perceived as an area of practice that could be improved through a nursing research project and 39% of the responses related to mouth care and/or nutritional risk. The identification of a high-risk patient in relation to mouth care requirements and/or malnutrition is an area that can be overlooked or performed poorly, especially for renal patients who are generally prone to under-nutrition, loss of appetite and chronically dry oral mucosa and decreased saliva production as a result of dietary and fluid restrictions (Gonyea, 2009). Referrals to dietetics and speech pathology for inpatients requiring nutritional support and/or assessment of oral cavity and swallowing ability are made predominantly by nursing staff;

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however, our unit had no formal system for identifying patients at risk. Documentation of mouth assessment and mouth care and the process/equipment used varied widely according to individual nurse practice and limited resources. A survey of nursing staff within the unit identified that the majority were not aware that a hospital oral hygiene procedure existed. The use of an alcohol-based mouth wash was widespread practice in our unit with the product being diluted prior to use, which tended to exacerbate dry oral mucosa. With regard to nutritional assessment the Malnutrition Universal Screening Tool (MUST) (Bapen, UK) was available on the organisation intranet for screening but its use was not commonplace with nursing staff ordering either a soft diet or regular ward diet for patients at nutritional risk. Malnutrition in dialysis patients is a powerful predictor of morbidity and mortality (Shumaker, 2009) and the complexity of patients with chronic kidney disease reinforces the need for interdisciplinary collaboration (Blue *et al.*, 2008). Our patients were not routinely screened on admission or on transfer from ICCU to identify those requiring referral to speech pathology or dietetics and this practice had the potential to overlook or delay care for patients at risk.

## Background and rationale

Empirical evidence shows that daily oral care interventions, although recognised as important by nurses, are not always given the same priority as other care practices (Coleman, 2002). This is supported by the opinions of our nursing staff who agreed that although the care is important it is not necessarily performed as required or in a standardised way and has not been well supported with documentation. Additionally, our dedicated ward speech pathologist was able to demonstrate in many cases inadequate oral hygiene and poor or absent documentation. Mouth assessment is formalised in the aged care setting but there is little evidence on collaborative approaches in acute care (Berry & Davidson, 2006) and there appears to be no consensus on the validity of oral assessment tools for nurses and the sensitivity and specificity of screening for nutritional risk (Chima *et al.*, 2008). We reviewed a number of assessment tools for nurses of which there are over 50 and almost all were specific to a given population such as paediatrics or oncology, and many were multiple pages of very detailed assessment, which we considered unnecessary for our patient population.

We discovered that mouth care is managed well in our oncology unit with a systematic assessment and management approach; however, this care is often overlooked in groups that are not considered high risk. Debilitated renal and medical patients are indeed high risk and poor oral hygiene can be a contributing risk factor to hospital-acquired pneumonia (Shay *et al.*, 2005). Additionally, a systematic review of 15 studies found that the implementation of an oral hygiene protocol (including tooth brushing and the use of appropriate cleaning solutions) reduces the incidence of respiratory tract infection and pneumonia in both nursing home and hospital patients (Sjogren *et al.*, 2008).

Our review of the literature on oral care demonstrated that other units apart from ours raise concerns that providing and documenting mouth care can vary from one to eight hours, indicating a wide variance in nursing practice and the provision of suboptimal care (Goss *et al.*, 2011). Education for nurses on oral assessment and mouth care is considered to be inadequate and a literature review conducted in 2010 recommends the development of an evidence base that defines nursing interventions to improve oral hygiene (Kelly *et al.*, 2010). Some studies have suggested that to attract appropriate attention from nursing staff, the patients' oral hygiene has to be visibly poor (Yoon & Steele, 2012).

We decided to propose a research project that would introduce a systematic process whereby patients are screened for oral hygiene and nutritional risk on admission to the ward and a process introduced to implement a standardised mouth care regimen and a standardised nutrition support pathway. In Australia, the recently published Dietitians Association of Australia *Best Practice Guidelines* (2009) further strengthens the argument for the implementation of routine nutrition screening, especially in the acute hospital setting where substantial evidence indicates a high burden of malnutrition. However, screening alone is only part of the solution. The Dietitians Association recommends that a clear nutrition care pathway should indicate the action required based on the screening result. We believed that poor oral hygiene can affect not only a patient's wellbeing and comfort but also safety and adequacy of nutritional intake and that each one has a dependent relationship with the other. Therefore, we required a tool that assessed both categories at the same time. This project had the potential to not only improve outcomes for our patients but also to foster a collaborative approach to care.

## Methods

### Aims

The aims of this research project were to introduce a systematic screening and assessment process for nutritional risk and oral hygiene requirements for all patients within our clinical unit. Subsequently, our aim was to evaluate the acceptance of the assessment tool, usefulness and impact on patient outcomes, and limitations.

### Methodology

This clinical practice improvement was achieved by participatory action research. McNiff and Whitehead (2006) describe action research as practitioners themselves creating new ideas about how to improve practice and putting those ideas forward as their personal theories of practice. The methodology is the process itself which enables practitioners to investigate and evaluate their work. They are not doing research on others; they are doing it "on themselves in the company of others in a participatory and collaborative way" (McNiff & Whitehead, 2006).

An essential element of adapting this research process is ownership, which is given to the nurses practising in the unit to

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ensure acceptance and sustainability. One of the most significant challenges in any practice improvement, particularly the introduction of a new way of doing something 'old' is resistance and negativity. We believed that we could overcome this by a participatory action research approach that included the key stakeholders in each and every step. A series of focus groups was held with the nursing staff to identify a way forward. The research team was established and included the clinical nurse for renal research, the nurse manager of the unit and the dedicated speech pathologist and dietitian for the unit. The project was approved by the hospital's research ethics committee. The early focus groups led the design of a nursing assessment tool, which was then created and implemented by the research team. The assessment tool was kept very simple and is a single A4 page with oral assessment on the front and nutritional assessment on the rear (Appendix 1). This assessment tool is based on our understanding of clinical need within our unit and has not been drawn from a previously validated tool. Although specifically designed to meet our needs, it is highly likely to be replicable in other clinical units. A significant barrier identified by the staff was a dearth of oral care equipment. Hence the research team, in lengthy consultation with other units, disciplines and the medical products advisory committee, commissioned a trial of Biotene

mouthwash™ for oral care. Organisations have a role to play in promoting oral health and, despite financial considerations, the provision of effective care products should be a consultative process that delivers an appropriate result (Yoon & Steele, 2005). Educational sessions were held over a number of weeks. The dietitian provided information sessions on the use of the MUST and its associated nutrition care pathways and the speech pathologist provided sessions on oral care, focusing on providing both practical information (for example, equipment required and 'how' to perform mouth care) as well as demonstrating the importance of mouth care from a quality of life and medical perspective. A dedicated nurse within the unit was trained in best practice oral care by the speech pathologist and was then able to give practical demonstrations to the rest of the nursing group. The ward staff themselves 'championed' the introduction of the nursing oral and nutritional assessment tool with great fanfare.

### Procedure

All patients were screened on admission or transfer to the ward and stocks of mouth care equipment maintained. Following screening, mouth assessment was performed daily and a MUST inclusive of weight weekly.

### Results

Patient records were audited two months after the introduction of the assessment tool and 82% of assessments audited had a documented care plan and 89% had ongoing daily oral assessment and weekly nutritional assessment. Patient records were audited again after five months and 97% of assessments audited had an oral assessment complete with a care plan; however, there had been a significant reduction in the use of the MUST tool and recording of weight, with only 22% completed. We re-entered the education phase at this point with additional staff support on how to complete the MUST. The pathway for ordering a high-energy, high-protein diet was modified for our unit to account for renal patients requiring a low potassium and/or low phosphate diet with the addition of a prompt to refer renal patients with an at-risk MUST score to dietetics. After a six-month trial, the nursing staff on the unit were anonymously surveyed with overwhelmingly positive results.

The acceptance of the mouth care product was complete with the staff and the patients finding it very good, particularly for cleaning and moistening. The staff also responded largely positively to the assessment tool, with 74% agreeing that the assessment tool would assist them in the care of their patients. In addition, 82% of staff felt supported by dietetics in assessing their patient's dietary needs and 79% were confident to plan oral care needs independently. Anecdotal experience from our Speech pathologist also found that the mouth care of patients on the ward had significantly improved and that the nursing staff had begun to proactively describe care plans and seek support when providing mouth care for patients with dysphagia.



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## Discussion

Nurses are often motivated to attend oral care for social reasons whereas speech pathologists are motivated for medical reasons (Yoon & Steele, 2005). This certainly reflects our experience where we found that nursing staff can be motivated to be more actively involved in mouth care if they are aware of the association between poor mouth care, inadequate nutrition and pneumonia. Increasing this awareness enables nurses to place oral care as a priority in their day rather than care that is often missed due to competing demands in a busy work environment. By documenting progressive oral assessment the staff are then aware of any improvements and a sense of achievement, but, more importantly, alerted early to deteriorating oral health.

The use of the validated MUST scores for BMI, weight loss and acute disease can predict clinical outcomes in hospitalised elderly in whom malnutrition is common, and can be related significantly to length of hospital stay and mortality (Stratton *et al.*, 2006). In addition, nutritional status is commonly associated with oral health and malnutrition increases with oral health problems (Soini *et al.*, 2006). Our vulnerable patient group, who are often frequently hospitalised renal patients, long-stay medical admissions or those recovering from an ICCU admission are at high risk of malnutrition and many require additional support to ensure adequate calorie intake. These patients are thus further compromised if poor oral health contributes to lack of appetite and difficulty chewing and swallowing.

The combination of oral health assessment and nutritional assessment by nurses is not aimed to detract from the essential input of a dietitian and speech pathologist in caring for patients. The aim of increasing nursing assessment and surveillance is to facilitate early and complete recognition of the need for additional supports and to improve communication between nursing and allied health practitioners.

## Study limitations

The limitations of this study are the introduction of a nursing assessment tool that has not been previously validated. However, we anticipate that as part of our ongoing commitment to improving patient outcomes this will be planned in the future. A further limitation is the short duration of the trial (six months) and the need to establish sustainability into the future.

## Conclusion

Nursing staff are subject to an increasingly complex role and the need to master new technologies and advances in medical care. However, as a group we have questioned if the somewhat basic but essential aspects of daily patient care such as oral hygiene and nutritional surveillance are a casualty of this advancement. Our research highlights the importance of patient assessment from a multidisciplinary perspective and addresses a common concern regarding good patient care.

Oral hygiene and nutritional screening are now accepted as a nurse-led initiative with additional support being sought when

necessary. Our nurses believed that time constraints were a barrier to provision of care but we have demonstrated this could be a default position taken by busy staff and that the introduction of a systematic process improves the provision of care. It is clear from our findings that a key principle to introducing change, particularly in the form of an assessment tool, is to encourage collaboration and consultation with the nursing staff that will eventually be performing the activity. In addition, the long-term acceptance of inferior oral care products is unnecessary and nurses can play an advocacy role for their patients in lobbying for their institution to consider introducing more suitable equipment despite a modest increase in cost. Overall product cost could potentially be outweighed by improved patient outcomes and decreased length of stay.

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## Appendix 1

### ORAL HEALTH AND NUTRITIONAL ASSESSMENT TOOL

#### ORAL HEALTH ASSESSMENT: (score 0 or 1 or 2)

A. Lips/tongue				
(0) Smooth, moist	(1) Dry, chapped	(2) Swelling, bleeding, ulcerated		<input type="checkbox"/>
B. Gums				
(0) Pink, moist	(1) Dry, swollen	(2) Bleeding, ulcerated		<input type="checkbox"/>
C. Pain				
(0) None	(1) Slight	(2) Very painful		<input type="checkbox"/>
D. Oral cleanliness				
(0) Clean	(1) Food/plaque	(2) Severe coating		<input type="checkbox"/>

INITIAL ORAL ASSESSMENT SCORE (total)

IS THE PATIENT CURRENTLY UNDER THE CARE OF SPEECH PATHOLOGY?

Yes/No

TEETH (Comment):

<p><b>CURRENT ORAL HYGIENE CARE PLAN</b></p> <p>— refer to oral hygiene policy when documenting plan (in pencil please)</p>
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Self-care ability: (circle one)

SELF with prompt

NEEDS ASSISTANCE

NURSE ATTENDED

Denture care (if applicable):

Products in use/method/brushing aid:

Frequency:

Plan documented by:

#### NUTRITIONAL ASSESSMENT

Is patient usually on a special diet?

#### NO:

- Code on ATS
- Initial assessment:** — weight and M.U.S.T (Malnutrition Universal Screening Tool) *you will find this on the intranet under ‘fast find’*
- Weigh weekly** and assess weekly using M.U.S.T.

#### YES:

- If dietary requirements can be met by a nursing diet code (e.g. LP, GF, NC, HEP) then code on ATS
- If dietary requirements **cannot** be met by a nursing diet code (e.g. allergies, more than one restriction) refer to unit dietitian
- Initial assessment:** — weight and M.U.S.T. (Malnutrition Universal Screening Tool)

**Note:** If on a special diet and M.U.S.T. score of 1 or 2 refer to dietitian (do not code HEP)

- Weigh weekly** and assess weekly using M.U.S.T.

DIET CODE

MUST SCORE

WEIGHT

#### Progressive oral screen during admission:

Date	Oral Ax Score						

Weekly weight and M.U.S.T

Date	Weight	M.U.S.T.