



**Peter MacCallum Cancer Institute**

**Oral Health Promotion Grants  
Program**

**Consensus Guidelines for the  
Prevention and Early Detection of  
Complications of Oral Mucositis**

**Final Report April 2002**



Department of  
Human Services

**Oral Health Promotion Grants Program April 2002  
Final Report - Executive Summary**

**Executive Summary (one page)**

**Title:** Consensus Guidelines for the Prevention and Early Detection of Complications of Oral Mucositis

**Organisation:** Peter MacCallum Cancer Institute

**Aims of the project:**

- To improve the oral hygiene of cancer patients at Peter Mac with a view to reducing the incidence and severity of oral mucositis (inflammation of the lining of the mouth and throat).

**Objectives:**

- To develop an evidence-based standardised mouth care program for use by health care professionals (HCP's)
- To develop best practice guidelines for prevention and early detection of complications of oral mucositis
- To disseminate the program to other cancer care agencies and the community

**Sustainable outcomes:**

**1. Patient outcomes**

- Development of Consensus Guidelines to provide systematic and standardised oral care interventions
- Use of a standardised assessment tool now forms the basis for future evaluation and research

**2. Outcomes for health care professionals**

- Increased standardisation of assessment by HCP's
- Increased knowledge amongst nurses about oral mucositis assessment and prevention
- Increased standardisation of interventions by HCP's

**3. Cost savings:** Significant changes to prescribing patterns have led to: Decreased use of multiple oral agents with associated significant cost savings (~\$80,000/annum) with no apparent negative patients outcomes.

**Dissemination of findings.**

- Dissemination of the mouth care program has occurred to other cancer care agencies
- Presentation of the literature review, project implementation and project outcomes has occurred at both national and international cancer conferences.



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Final Report April 2002

**Project Title: Consensus Guidelines for the Prevention and Early Detection of Complications of Oral Mucositis**

**Organisation:** Peter MacCallum Cancer Institute

**Rationale:**

Extensive research has indicated that oral mucositis is a common and distressing complication of cancer and cancer treatments. For example oral mucositis affects approximately 400,000 patients with cancer each year in the United States. Approximately 30-90% of patients receiving radiotherapy to the head and neck, those patients with haematological malignancies and those having complex high doses of chemotherapy with bone marrow transplantation are most at risk of developing oral mucositis (Dibble, Shiba, MacPhail, & Dodd, 1996; Goodman et al., 1997). When oral mucositis is severe enough, cancer treatment may need to be postponed or ceased, jeopardising the effectiveness of treatment for the patient. It is also known from the literature that there are many oral health and dental hygiene factors that place patients at an increased risk of developing oral mucositis and resulting serious complications.

A literature review of oral care interventions used to prevent or manage signs and symptoms of oral mucositis showed that, despite the testing of many oral care agents, most were not rigorously evaluated or lacked scientific evidence for their use. Incidental findings from some studies comparing oral care agents identified that a systematic regime of good oral hygiene practices was attributed to a reduction in the incidence of oral mucositis, rather than a specific oral care agent. In addition, studies have suggested that patients were more compliant with oral hygiene when nurses performed frequent and systematic oral assessments, and reinforced oral care instructions (Dacfler, 1980a; Dudjak, 1987; Kenny, 1990).

Studies have also indicated that introduction of early oral care interventions in the pre-cancer treatment phase were associated with less severe oral mucositis, these results were attributed to the development of consistent and efficient oral self-care skills (Dudjak, 1987). Dental research evidence has also suggested that patients who have dental evaluation, preventative care and treatment of pre-existing oral disease have fewer problems with treatments that may involve the mouth.

**Aims of the project:**

- To improve the oral hygiene of all cancer patients at Peter Mac with a view to reducing the incidence and severity of oral mucositis (inflammation of the lining of the mouth and throat).

**Objectives:**

- To develop an evidence-based standardised mouth care program for use by health professionals
- To develop best practice guidelines for prevention and early detection of complications of oral mucositis
- To disseminate the program to other cancer care agencies and the community

**Methods:** The mouth care program consisted of:

- Development of a mouth care brochure with specific instructions including diagrams on tooth and gum brushing and flossing, care of dentures and patient self-assessment of oral cavity.
- Introduction of an oral assessment tool for nurses to detect and manage early signs and symptoms of oral mucositis
- Restrictions on the prophylactic use of oral care agents
- Introduction of nurse initiated dental referrals.
- Development and implementation of staff education program.
- Development and dissemination of best practice guidelines for the prevention and early detection of complications of oral mucositis.

**Process and Impact Evaluation Methods and Findings**

<b>Process &amp; Impact</b>	<b>Evaluation and Findings</b>
Education packages were insufficient to meet demands of shift work and busy clinical areas.	The teaching program was expanded and more sessions were scheduled to meet demands of clinical areas to ensure maximum exposure of staff to the program.
Staff feedback and evaluation of the program concluded that the teaching program required greater detail.	The teaching program was modified to include additional information and to emphasise clinical assessment, additional demonstration assessments were scheduled
Concerns raised by areas of special interest that patient brochure was not specific enough	Additional brochures were created - adaptation of the original mouth care brochure to meet the needs of specialist groups - eg radiotherapy to the head and neck

Insufficient clinical support in the wards/depts to facilitate learning and practice change	Target nurses were identified to assist with supporting the project at a local level via the Nursing Practice and Research Committee uptake
Acute nursing staff shortages over the period of the education and implementation of the program	Nil action
Ongoing concerns expressed by clinical staff (medical and nursing) about the perceived "withdrawal" of "treatment"	Further discussion with key stakeholders to obtain "buy in" was required and conducted. Emphasis on prevention rather than treatment as preferable outcome for patients Targeting key staff as change agents
Evaluation of education program	There were not enough opportunities for oral assessment skill acquisition by nurses Not enough provision put into the teaching time provision of more formal demonstrations would have worked better

#### Sustainable outcomes:

##### Patient outcomes

It is too early to determine significant outcomes for patients from this program but it is now possible to collect data for future evaluation and research on best practice standards for the management of oral mucositis.

- Increased patient compliance eg patients now receive a standardised mouth care protocol (except for high risk groups) and additional information about self management of mouth care
- Consensus guidelines standardise and systematise oral care interventions
- Use of a standardised tool now forms the basis for future evaluation and research

##### Outcomes for health care professionals

This program has been well supported by Peter Mac staff including medical and nursing (clinical and academic staff), dental oncology, pharmacy and nutrition departments.

- Increased standardisation of assessment by HCP's eg all wards and departments are accessing the new assessment tool
- Increased knowledge amongst nurses about oral mucositis assessment and prevention
- Improved communication about mucositis problems
- Increased standardisation of interventions by HCP's

##### Cost savings:

Significant changes to prescribing patterns have led to:

- Decreased use of multiple oral agents with associated significant cost savings (~ \$80,000/annum) with no apparent negative patients outcomes.

### **Dissemination of findings.**

- The knowledge gained from this project has included a significant review of the literature that has formed the basis of the development and implementation of a mouth care program at Peter Mac which has since been published and made available to other cancer care agencies nationally and internationally
- Dissemination of the mouth care program has occurred to other cancer care agencies via a package of information and the intention is to place the program on the PMCI website and Better Health Channel.
- Presentation of the literature review, project implementation and project outcomes has occurred at both national and international cancer conferences

### **Conclusions**

The systematic performance of oral care, the use of an oral assessment tool (for early detection and measurement mucositis) and the correction of pre-existing dental problems have been shown to reduce the incidence and severity of mucositis and other oral complications. Based on the results of an extensive literature review this project aimed to develop: a) An evidence-based standardised mouth care program for use by health professionals and patients; b) Best practice guidelines for prevention and early detection of complications of oral mucositis; and c) To disseminate the program to other cancer care agencies and the community.

This project was administered and delivered successfully within the constraints of the funding. Changing established practice within the context of the overall cancer care continuum was a challenge. Uptake by health professionals (medical and pharmacy staff) was acceptable. Pharmaceutical cost savings arising from the reduction in prophylactic prescribing have been a significant outcome of the project. Findings have been disseminated to other health care institutions and presentations have been made at national and international conferences. The project team has successfully applied for a follow up grant to enable the continued development of this project.

However the greatest burden of the change process fell on the nursing staff who were required to attend education sessions, assimilate new information, change established practices and care interventions, and re-educate peers and patients alike. Take up of the practice change remains mixed and continued efforts are required to reinforce the need for change and to assess ongoing compliance. Attitudes of staff were a core component of the resistance experienced during the implementation process. Greater uptake by nursing staff would have been preferable however we recognise that this project would have benefited from greater clinical support for this process (see next section for details). However practice change amongst nursing staff continues to develop.

The success of the project has largely rested on the fact that established practice at local and potentially national level could be improved by utilising an evidence-based approach. This approach: literature review, evaluation of scientific evidence, design and implementation of practice based on scientific evidence, provided opportunities to improve patient outcomes through review and dissemination of existing research evidence rather than attempting to recreate yet more research (Muir Gray, 1997). In fact this evidence-based approach was extremely beneficial in the context of oral mucositis, due the plethora of scientific research that has been

generated in the past, and the absence of accompanying systematic and consistent practice change in clinical settings.

#### **Extension of learning's to future projects**

1. Sustainability efforts in the mucositis project continue. In hindsight our approach did not fully acknowledge the need for nurses to move to a more pro-active prevention/education role in order to promote patient self-care. Future projects would emphasize the importance of self-care in the context of decreased inpatient stays. Also, our approach required a greater *peer-peer* focus. Including a staff member from each unit as part of the project team with responsibility and authority for education and implementation process would ensure local facilitation of the change process but would have required additional funding.
2. Other key success factors for our work included access to a supportive library service to minimise effort in tracking and obtaining relevant literature and supportive management.
3. In future projects we would begin with more emphasis on a multi-disciplinary project and put more effort into communicating with clinicians about progress.

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