Oral Care for Chemotherapy and Radiation Therapy Patients

Objective

Education and monitoring of patients receiving chemotherapy and radiation therapy to maintain appropriate oral hygiene thus reducing the risk of oral complications and opportunistic infection via damaged mucosa.

Personnel Authorised to Perform Procedure

Registered Nurse,
Enrolled Nurse under Registered Nurse supervision,
Student Nurse under direct supervision of Registered Nurse,
Medical Officers
Radiation Therapist

Associated Documents

Head and Neck Radiation Therapy Patient Information, ref: 0968
General Mouth Care for Oncology Patients, ref: 1279

Scope

Oncology Service, Christchurch Hospital

Equipment for assessment

Gloves
Tongue depressor
Torch
Mirror for patient education (if applicable)

Rationale

Patients receiving chemotherapy and radiation therapy require information and education on maintaining good oral hygiene. Patients receiving chemotherapy and radiation therapy are at risk of oral problems as a treatment related side effect.
Oral complications include

- pain
- ulceration
- bleeding
- xerostomia
- partial or absent taste sensation
- dysphagia
- infection

Methodical attention to basic oral hygiene at the commencement of treatment reduces the risk of oral complications and infection.

Factors increasing risk to oral complications include:

- cancer of the head and neck
- elderly and children
- deficits in self care ability
- altered fluid or nutritional status (dehydration, malnutrition)
- certain medications, particularly steroids
- exposure to additional stressors (alcohol, tobacco, drugs, oxygen therapy)
- liver/renal impairment
- previous experience of mucositis
- receiving stomatotoxic drugs: doxorubicin, bleomycin, platinum compounds

Patients at High Risk of Oral Complications include:

- head and neck radiation or chemoradiation patients
- patients receiving methotrexate or fluoropyrimidines e.g. 5FU

ASSESSMENT

Patients at high risk have the condition of their mouths assessed prior to commencement of treatment.

Radiation patients are assessed at oral health care centre if dentate and teeth are in the high-dose region.

Chemotherapy patients are assessed at a chemotherapy education session

- to identify usual oral care routine
- to identify the advice/care required to maintain or promote individual
oral hygiene

- to identify potential barriers (e.g. understanding & perception of condition, medications etc)

Regular assessment should be implemented for patients identified with problems or at high risk of oral complications.

If an in-patient, assessment of high risk patients is daily and documented in clinical record.

If an outpatient, assessment is at treatment reviews for radiation patients and as regularly as applicable for other oncology patients.

Assess and address hydration & pain requirements

Review the assessment with the patient

Oral Care education should be given to each patient prior to commencing treatment or on presentation of symptoms

A plan of care should be documented within hospital documentation for patients with compromised oral mucosa

Plans should be reviewed and changed when assessment indicates change is required.

Patients will be assisted to develop a self-care regimen for all levels of oral care.

All patient education will be documented within appropriate hospital documentation

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**ASSESSMENT CRITERIA - Include only what is appropriate for the individual patient**

- Assess nutritional status i.e. able to tolerate diet, what type of diet, appetite.
- Assess degree of pain/oral discomfort i.e. how mouth feels, mucosal dryness, taste function
- Assess patient’s saliva production i.e. normal, thickened or absent.

- Physically assess the oral cavity
  - Inspect mouth for mucosal hydration, saliva, erythema, bleeding, plaques, ulcers

- Consult other staff as required

- Document findings and plan of care, including education given to patient as appropriate to patient and setting
BASIC ORAL CARE ROUTINE

Basic Oral Care routine:

Rinse mouth after food with water

Floss teeth gently every day - if gums bleed or are sore avoid those areas but keep flossing other teeth

Gently brush teeth, gums and tongue with soft toothbrush and fluoride toothpaste 2-3 times a day

Dentures should be:

- Removed a minimum of twice a day, cleaned with a brush and rinsed with water
- Soaked overnight in water or the patient’s usual solution, cleaned with a brush and rinsed prior to putting back into patient’s mouth.
- Left out as long as possible

Ensure lips are kept supple and free from dryness

Avoid tobacco products or alcohol, assess for smoking cessation

Maintain adequate oral fluid intake

Regular mouth inspections

Ensure medical staff are aware of any redness, tenderness or sores on the lips or in the mouth

Encourage patient to report symptoms of mucositis and oral infection promptly

Some people may find chewing sugarless gum helpful

Oral Candidiasis

Candidiasis is typically caused by opportunistic overgrowth of Candida albicans. Mucosal injury, myelosuppression and salivary compromise may contribute.

Candidiasis is characterized by redness, pain, dryness, cracking in the oral cavity and white/yellow plaques may be present.

- Perform oral assessment and document as appropriate to patient and setting
- Continue basic oral cares
- Encourage use of mouth rinses using cool water with salt or sodium bicarbonate after each meal and prior to administration of anti-fungal medication if prescribed
- Develop a plan of care in conjunction with the patient
- Nystatin oral drops may be used but are not indicated for prophylactic use.
- If systemic candida infection suspected consult with medical staff.
- Azole anti-fungals (e.g. fluconazole) are the agents of choice for systemic infection.

### Xerostomia
(‘dry mouth’)

Xerostomia is caused by marked reduction in salivary gland secretion and is characterized by dryness, burning sensation of the tongue, fissures at lip edges, difficulty in wearing dentures and increased thirst. It may be caused by chemotherapy, pharmacotherapy, surgery, smoking.

Patients undergoing treatment of the head and neck are at high risk. Radiation will induce xerostomia within 1 week of treatment commencement and is dose dependent. Maximum salivary gland recovery will occur within 12 months of finishing treatment but is usually incomplete; therefore this can be a long term side effect of treatment.

- Perform oral assessment and document as appropriate to patient and setting
- Continue basic oral cares
- Develop a plan of care in conjunction with the patient
- Encourage to maintain hydration
- Regular simple mouth washes using cool water with salt or sodium bicarbonate may be useful
- Chewing sugar free gum may be helpful
- Consider saliva substitutes

### Taste Dysfunction

Taste dysfunction may occur with chemotherapy or radiation therapy. Exposure of oral and pharyngeal mucosa to radiation damages taste receptors. After several weeks of treatment patients may lack taste sensation and recovery may take 6-8 weeks from completion of treatment.

- Reassure the patient they will regain taste sense with time
Mucositis

Mucositis is a multiphase process rather than a single event.

- Phase One - the inflammatory or vascular phase. Occurs shortly after administration of cancer treatment
- Phase Two - the epithelial phase. A generalized alteration in the mucosal environment occurs via a number of mechanisms which may not be visible in initial stages.
- Phase Three - the ulcerative phase. The most symptomatic time during which oral mucositis significantly affects the person’s well being. Risk for secondary infection increases.
- Phase Four - the healing phase. Rapidity of healing is influenced by factors that interfere with wound healing: infection, mechanical irritation, repeated cycles of chemotherapy.

<table>
<thead>
<tr>
<th>Grade of Mucositis</th>
<th>Clinical Exam of Oral Cavity</th>
<th>Functional/Symptomatic Exam of Upper Aerodigestive Tract Sites</th>
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<tbody>
<tr>
<td>Grade 1 - Erythema of mucosa</td>
<td>The National Cancer Institute’s Common Terminology Criteria for Adverse Events v4.0 (CTCAE) is an internationally recognized tool for grading of symptom severity. This is the grading scale for oral mucositis, which should be used for assessment and documentation of this symptom.</td>
<td>Grade 1 - A symptomatic or minimal symptoms, normal diet,</td>
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<tr>
<td>Grade 2 - Patchy ulcerations or pseudo-membranes</td>
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<td>Grade 2 - Moderate pain but can eat and swallow modified Diet indicated,</td>
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<td>Grade 3 - Confluent ulcerations or pseudo-membranes; bleeding with minor trauma</td>
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<td>Grade 3 - Severe pain and interfering with oral intake</td>
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<tr>
<td>Grade 4 - Tissue necrosis; significant spontaneous bleeding; life-threatening consequences</td>
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<td>Grade 4 - Symptoms associated with life-threatening consequences; urgent intervention required</td>
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### TREATMENT OF MILD MUCOSITIS

<table>
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<tr>
<th>Identify treatment regimen that indicates a mild to moderate risk to the development of mucositis (CTCAE v4.0 Grade 1-2)</th>
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<td>Assess that mucositis is not related to other factors e.g.: oral herpes, poor oral hygiene.</td>
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<td>Commence Oral Care regimen as follows:</td>
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<td>• Basic oral cares continue</td>
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<td>• Add salt or sodium bicarbonate to mouth rinses</td>
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<tr>
<td>• Regular oral assessment (daily if an in-patient)</td>
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<td>• Nutritional status monitored</td>
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<td>• Analgesia regimen implemented as needed e.g. topical anaesthetics (e.g. lignocaine viscous), analgesics - PO or SC.</td>
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### TREATMENT OF SEVERE (ESTABLISHED) MUCOSITIS

For patients with established mucositis (CTCAE v4.0 Grade 3-4), continued attention to scrupulous oral hygiene is imperative. **Senior medical staff must be made aware of the presence of Grade 3-4 mucositis as treatment may need review.**

| Regular oral assessment (daily if an in-patient) |
| Basic oral cares continue |
| Salt and/or sodium bicarbonate should be used with mouth rinses as tolerated |
| Benzydamine hydrochloride (Difflam), an analgesic gargle may be considered (caution; contains ethanol) |
| Topical anaesthetics e.g. lignocaine viscous considered |
| Concomitant medications introduced according to assessment findings, e.g.: antifungal agents, anti-viral medication |
| Nutritional status monitored, maintained and supported as appropriate |
| Systemic analgesia as required, e.g.: subcutaneous morphine, morphine infusion via syringe driver pump or transdermal Fentanyl |
References:


