CANCER RELATED MUCOSITIS MANAGEMENT

GONG Cancer Care Guidelines

Next Review Date:	June 2007
Responsibility:	Gippsland Oncology Nurses Group
Purpose:	Provide comprehensive, current, evidence based guidelines for management of mucositis in adults with cancer to inform standardized policy and procedure development across Gippsland.
Desired Outcome:	Reduce variations in care and promote best practice

1. DEFINITION

- Mucositis is the inflammatory reaction that occurs when cancer treatments break down the continually dividing epithelial cells lining the GI tract, particularly in the oral cavity, leaving the mucosal tissue open to ulceration and infection
- Mucositis can occur anywhere along the digestive tract from the mouth to the anus. Stomatitis (mouth and oropharynx), oesophagitis (oesophagus), gastritis (stomach), enteritis (small intestine), colitis (colon), proctitis (anus) and vaginitis (vagina) are all examples of mucositis

2. BACKGROUND & RISK FACTORS

- Disease related causes include cancer in the areas with mucous membranes and disease related immunosuppression
- Treatment related causes include chemotherapy, radiotherapy and some surgical procedures. It occurs in 20-40% of patients treated with chemotherapy alone and up to 50% of patients receiving combination radiation and chemotherapy, especially those with head and neck cancer. Drugs such as doxorubicin, paclitaxel, capecitabine, fluorouracil and methotrexate are commonly used in breast and bowel cancer and are frequently associated with oral and GI mucositis
- Additional risk factors include: pre-existing dental disease, chronic exposure to alcohol and cigarettes, age older than 65 or younger than 20, poor self-care ability, acutely ill condition, dehydration and poor nutritional status

3. COMPLICATIONS

- The consequences of mucositis can be mild, requiring little intervention, to severe
- Infection, which may become systemic, from organisms such as herpes simplex virus, candida albicans and other opportunistic agents
- Bleeding from non-intact mucous membranes
- Pain, secondary to lesions
- Decreased dietary intake leading to dehydration and poor nutritional status
- Diarrhoea/constipation
- Sexual dysfunction
- The inability to talk comfortably may lead some patients with severe oral mucositis to suffer from depression
- In extreme cases hypovolemia, electrolyte abnormalities and malnutrition

4. ASSESSMENT

Assessment guide:

1. Introduce yourself to the patient and explain what you are doing
2. Assess nutrition
3. Assess discomfort
4. Assess saliva
5. Perform physical examination
6. Score oral mucositis and record

See also World Health Organisation (WHO) Scale Gradings

- Regular assessment of oral mucous membranes is recommended. The use of an oral assessment tool provides a common language and base for comparison for ongoing physical assessment and evaluation of interventions
- An example of an assessment tool is the World Health Organisation grading of oral mucositis. See example below.
- Frequency of assessment is determined by severity of condition eg. Once per treatment visit if patient well; more frequently if mucositis present
- High-risk patients (patients having intensive chemotherapy, radiotherapy and haematopoietic stem cell transplantation) should be identified early, and oral assessments with interventions provided consistently to decrease complications
- In an ambulatory care environment, rectal and vaginal mucosal assessment is usually limited to questioning the patient about the presence of bleeding, pain, diarrhoea, itching, discharge and other discomfort
- In the setting of febrile neutropenia, rectal and vaginal mucosal assessment should include daily visual inspection as well as questioning the patient
- Assessment of mucositis and interventions are documented in the patient record
- Report adverse findings to patient's doctor

5. TREATMENT

- Treat symptoms as advised by patient's doctor
- Treatment may include administering antibiotics, antifungals and antivirals
- Administering topical and systemic analgesics for pain. As oral mucositis progresses, intravenous narcotic drugs may be required
- Refer to dietician for patient education on dietary measures to minimise diarrhoea and constipation. Administer anti-diarrhoeal medication as ordered
- Administer dietary supplements, feeding or intravenous nutritional support as needed to replace nutrients if normal eating, drinking, and swallowing mechanisms are no longer available
- Promote hydration by encouraging oral fluid intake or administering intravenous fluid as ordered
- Provide and promote regular care of mucous membranes such as mouth care and regular hygiene of perianal area

6. EDUCATION

Patient and carer education should emphasise the following:

- Importance and technique of daily oral assessment.
- Signs and symptoms of mucosistis and infection
- Importance of using a mouth care regime at home
- Necessity of dietary changes
- Avoidance of trauma to mucous membranes from temperature extremes, some commercial mouthwashes, smoking, alcohol and physical irritants

- Refer at risk patients to dietician for dietary education
- Educate the patient and carers about ongoing assessment, management and prevention of mucositis
- Refer patients to their dentist for treatment of dental disease before commencement of treatment for cancer
- The patient and carers should be taught to assess and report changes daily in their oral mucous membranes at home
- The patient and carers should be taught the signs and symptoms and to report changes of altered integrity of vaginal and rectal mucous membranes
- The patient and carers should be taught a mouth care regime for at home
- Recommended mouth care includes:
  - Regular cleaning of teeth and gums at least twice a day with a soft toothbrush or swab as tolerated
  - Cleaning dentures daily and leaving out when at rest and whenever a mouthwash is used; the gums and areas under a denture should also be brushed on a regular basis
  - Rinsing mouth after all meals; a warm salt water or sodium bicarbonate mouth rinse may be used. If using an anti-bacterial mouthwash, choose one that does not contain alcohol, phenol or chlorhexidine
  - Avoid hot food and drinks, spicy food, alcohol and smoking
  - Lip and mouth lubrication as necessary
  - Topical anaesthetics and analgesics as necessary. Sucking on ice cubes may ease discomfort
- Patients receiving bolus 5-FU chemotherapy may receive 30 minutes oral cryotherapy to help prevent oral mucositis.
- Discuss strategies to prevent alteration in sexual functioning such as the use of lubrication when at risk of mucositis.
- With vaginal or rectal mucositis patients need to avoid trauma to the genital areas such as the use of tampons, suppositories, chemical irritants from deodorants, and vaginal or anal intercourse until areas have recovered.
- The patient and carer should be instructed on perianal hygiene, including encouragement of bathing of perianal and rectal areas after each urination and defecation.

WHO SCALE GRADINGS

The WHO scale is based on subjective, objective and functional outcomes as follows:

- **Subjective** - oral soreness as described by the patient
- **Objective** - presence of oral erythema and/or ulceration
- **Functional** - ability to eat solids and liquids

GRADE		
0	None	No objective findings function unimpaired, normal
1	Oral soreness and/or erythema	Pain with or without erythema. Function unimpaired. May include mucosal scalloping with or without erythema
2	Oral erythema ulcers, can eat solids	Presence of ulceration with or without erythema. Patient can swallow solid diet
3	Oral ulcers, liquid diet only	Ulceration, with or without extensive erythema. Patient is able to swallow liquid, but not solid diet
4	Oral alimentation not possible	Severe ulceration, alimentation not possible (but may still be able to take medication with a sip of water only)

**Adapted from the WHO oral toxicity scale*

REFERENCES

1. Amgen. (2006). Oral Mucositis: Visual Assessment Guide based on the WHO Oral Toxicity Scale.
2. Cancer Institute NSW. (2006). Dental Department-Oral Health Care for Chemotherapy Patients. http://www.treatment.cancerinstitute.org.au/
3. Groenwald, S., Henke-Yarbro, C., Hansen Frogge, M. & Goodman, M. (1997). *Cancer Nursing: Principles and Practice* (4th ed.). Boston: Jones & Bartlett.
4. Henke-Yarbro, C., Hansen Frogge, M. & Goodman, M. (2005). *Cancer Nursing: Principles and Practice* (6th ed.). Boston: Jones & Bartlett.
5. Joanna Briggs Institute. (1998). Prevention and Treatment of Oral Mucositis in Cancer Patients. *Joanna Briggs Institute Best Practice Sheet*, 2(3), 1-6.
6. Madeya, M.L. (1996). Oral complications from cancer therapy: Part 1- Pathophysiology and secondary complications; Part 2- Nursing implications for assessment and treatment. *Oncology Nursing Forum*, 23(5), 801-819.
7. Multi National Association of Supportive Care in Cancer. (2004). Clinical practice guidelines for the prevention and treatment of cancer therapy-induced oral and gastrointestinal mucositis. http://www3.interscience.wiley.com/cgi-bin/fulltext/108069518/HTMLSTART.
8. Otto, S.E. (2001). *Oncology Nursing* (4th ed.). St Louis: Mosby.
9. Pico JL, Avila-Garavito A, Naccache P. (1998). Mucositis: its occurrence, consequences, and treatment in the oncology setting. *Oncologist,* 3:446-451.
10. Sonis ST. The pathobiology of mucositis. (2004). *Nat Rev Cancer,*4:277-284.
11. Sonis ST, Elting LS, Keefe D, et al. (2004).Perspectives on cancer therapy-induced mucosal injury: pathogenesis, measurement, epidemiology, and consequences for patients. *Cancer,*100 (suppl 9):1995-2025.
12. Sonis ST. (2000). Oral complications. In: Holland JF, Frei E III, Bast RC Jr, eds. *Cancer Medicine. 5th ed.* Philadelphia, Pa: BC Decker Inc; 2371-2379.
13. Sonis ST. (1998). Mucositis as a biological process: a new hypothesis for the development of chemotherapy-induced stomatotoxicity. *Oral Oncol,*34:39-43.