Mouth care Guidelines for Paediatric Haematology/Oncology patients

Oral complications frequently develop during and as a result of cancer treatment. They can cause pain, difficulty in swallowing and talking, lead to poor nutrition & impact upon quality of life. The most common short-term side effect of treatment in the mouth is mucositis, a painful inflammation and ulceration of the mucous membrane. Drugs commonly causing mucositis are high dose methotrexate, high dose cytarabine, mephalan, doxorubicin, actinomycin and amsacrine. Treatment induced leukopenia will contribute to the development of mucositis and delay healing. Mucositis may increase the risk of systemic bacterial, fungal or viral infection. Local radiotherapy can cause direct injury to the mucosa.

Oral candidiasis may lead to systemic infection. Mucositis, xerostomia & poor oral hygiene may increase a patient’s risk of developing oral candidiasis.

Asymptomatic carriage of the herpes simplex virus (HSV) is extremely common. Immunosuppression is one of many factors which can activate the virus, leading to pain and blistering on the lips and in the mouth.

1. **Salivary gland dysfunction**
   This can be caused by both chemotherapy and radiotherapy. Cytotoxic drugs can alter the flow and composition of saliva causing xerostomia. Both factors impact upon the patient’s quality of life, causing oral discomfort, taste disturbances, difficulty in chewing and swallowing and speech problems. In addition they lead to an increased risk of oral infections. Long term effects of salivary gland damage include dental caries.

2. **Dental care**
   All patients should be reviewed by their dentist as early as possible in their treatment to identify any potential problems, and should be regularly reviewed (every 3-4 months) throughout their treatment. There should be good communication between the cancer team and dental provider.

3. **Oral hygiene during and between treatment courses**
   The importance of good oral hygiene cannot be overstated and this should be reinforced with all parents and patients at diagnosis.
4. **General advice**
   - Brush teeth at least twice a day with a fluoride toothpaste (containing 1000 ppm fluoride ± 10%).
   - The toothbrush should be for the sole use of the child and changed every 3 months or following an episode of oral infection.
   - If the mouth is sore use a soft toothbrush with a small head.
   - Additional aids such as flossing and fluoride supplements should only be used with advice from dental team.
   - For babies without teeth parents should clean the mouth with oral sponges moistened with water.
   - When it is not possible to brush teeth, the mouth should be cleaned with oral sponges as a temporary measure – these should be moistened with water or diluted chlorhexidine.
   - Sugary drinks should be restricted to mealtimes where possible (or clean teeth after).
   - Written advice for patients and parents is in Parent Held Haematology/Oncology Record.
   - Parents should check young children’s mouths regularly – how frequently depends on stage of treatment, but should be increased if any problems occur.
   - During inpatient treatment (or outpatient if any problems) use OAG score. OAG score >8 means increased risk of oral complications. An appropriate pain assessment tool should also be used with OAG >8 to judge effectiveness of interventions.

**Oral assessment Guide** *Oral assessment guide – adapted from Eilers*

<table>
<thead>
<tr>
<th>Category</th>
<th>Method</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teeth</td>
<td>Observe appearance</td>
<td>Clean, no debris</td>
<td>Plaque or debris in localised areas</td>
<td>Plaque or debris generalised along gum line</td>
</tr>
<tr>
<td>Voice</td>
<td>Talk with patient</td>
<td>Normal</td>
<td>Deeper, raspy</td>
<td>Painful, difficult</td>
</tr>
<tr>
<td>Swallow</td>
<td>Ask patient to swallow</td>
<td>Normal</td>
<td>Difficulty in swallowing</td>
<td>Unable to swallow, pooling, dribbling of secretions</td>
</tr>
<tr>
<td>Lips</td>
<td>Observe appearance</td>
<td>Smooth, pink, moist</td>
<td>Dry/cracked</td>
<td>Ulcerated, bleeding</td>
</tr>
<tr>
<td>Tongue</td>
<td>Observe appearance</td>
<td>Pink, moist, papillae visible</td>
<td>Coated/loss of papillae</td>
<td>Blistered, cracked</td>
</tr>
<tr>
<td>Saliva</td>
<td>Observe appearance</td>
<td>Watery</td>
<td>Excess amounts, drooling</td>
<td>Thick, ropy or absent</td>
</tr>
<tr>
<td>Mucous membranes</td>
<td>Observe appearance</td>
<td>Pink, moist</td>
<td>Reddened /coated</td>
<td>Ulcerated, sloughing, bleeding</td>
</tr>
<tr>
<td>Gingiva</td>
<td>Observe appearance</td>
<td>Pink, moist, stippled</td>
<td>Oedematous/smooth</td>
<td>Spontaneous bleeding</td>
</tr>
</tbody>
</table>
5. Treatment of common oral problems

a. Mucositis

Mucositis is painful and pain may be severe. Regular oral or continuous IV opioid may be required for pain control. Continue usual oral hygiene, as tolerated. Keep the mouth moist and clean. Use frequent drinks. If unable to swallow use swish and spit water mouth washes at least 4 times a day. If too young or too sore to swish and spit, gently moisten mouth with water using a small syringe or water soaked oral sponge. Gelclair™ and Benzydamine (Difflam®) has been of potential benefit in preventing mucositis in adults. There is no evidence for the efficacy of Gelclair™, Difflam, chlorhexidine, sucralfate, or mixtures including local anaesthetics in the treatment of mucositis in children. However, some patients, anecdotally, have found these to be helpful. Further research is needed. NB: remember to prescribe Movicol to prevent constipation.

b. Oral Candidiasis

If the patient has candida this should be treated with fluconazole (3mg/kg/day, max. 100mg) for 7-14 days (14-30 days if oesophagitis). Consider prophylaxis at times of neutropenia for patients with recurrent oral candidiasis. Nystatin is not recommended.

c. Oral Herpes Simplex

Mild and non-progressing lesions on the lips should be treated with topical aciclovir (5 x daily). Progressive and severe lesions should be treated with oral aciclovir (as long as can tolerate and absorb) for 5 days <2 year 200mg x 5 daily, >2 year 400 mg x 5 daily. Prophylaxis is only given following myeloablative treatment.

d. Xerostomia

Consider using frequent sips of water, saliva stimulants, artificial saliva, chewing sugar free gum.

Agents used in mouthcare

- Gelclair™

While there is no reliable evidence Gelclair is effective in children, its use is now common place.

- Difflam (Benzydamine)

Spray or rinse, has short acting local anaesthetic action. Not recommended for routine use but some patients find Difflam helpful. (See note above under mucositis).

Check cBNF for doses of oral rinse and spray.
• **Sucralfate**  
This may relieve pain short term by coating mucosa. Not recommended for routine use but some patients find Sucralfate helpful.  
Use with caution in renal failure. Can reduce bioavailability of other drugs - check.  
**Check cBNF for doses and possible interactions.**

• **Folinic Acid mouthwash.**  
No evidence to support or refute its use in the prevention of mucositis. IV folinic acid should only be given as methotrexate rescue as dictated by the chemotherapy protocol used.

• **Chlorhexidine (Corsodyl)**  
Routine use of Chlorhexidine is not recommended for oral hygiene during or between treatment or during mucositis.

**Review**

<table>
<thead>
<tr>
<th>Name</th>
<th>Revision</th>
<th>Date</th>
<th>Version</th>
<th>Review date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Sheila Lane, Paed Oncology Consultant</td>
<td>New doc</td>
<td>June 2011</td>
<td>1.0</td>
<td>June 2013</td>
</tr>
<tr>
<td>Dr Shaun Wilson, Paed Oncology Consultant</td>
<td>Format change Minor additions</td>
<td>Sept 2015</td>
<td>1.1</td>
<td>Sept 2017</td>
</tr>
</tbody>
</table>

**Sucralfate**

This may relieve pain short term by coating mucosa. Not recommended for routine use but some patients find Sucralfate helpful. Use with caution in renal failure. Can reduce bioavailability of other drugs - check. **Check cBNF for doses and possible interactions.**

**Folinic Acid mouthwash.**

No evidence to support or refute its use in the prevention of mucositis. IV folinic acid should only be given as methotrexate rescue as dictated by the chemotherapy protocol used.

**Chlorhexidine (Corsodyl)**

Routine use of Chlorhexidine is not recommended for oral hygiene during or between treatment or during mucositis.