



## Question: What are the treatment options for a painful mouth?

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Stomatitis is a general term which applies to diffuse inflammatory, erosive and ulcerative conditions affecting the mucous membranes lining the mouth.<sup>1</sup> The following management strategy is advised:

### 1) Evaluation and management of the underlying cause

Stomatitis can be caused by dry mouth (xerostomia), superadded infection, candidiasis, mucositis, various deficiency states, trauma and medications.

Prior to proceeding to pharmacological treatment:

- Any correctable causes should be identified and corrected<sup>1</sup> e.g. dry mouth, aphthous ulcers, dentures and possible medication causes. Medications which may be associated with oral ulceration are detailed in Table 1.<sup>1,2</sup>
- Possible precipitating factors should be reviewed.<sup>2</sup>
- Secondary infections should be treated.<sup>2</sup>

**Table 1: Medications associated with oral ulceration<sup>1,2</sup>**

Class	Medication
<b>Analgesic</b>	NSAIDs
<b>Antibiotic</b>	Azetroneam, Clarithromycin, Proguanil, Vancomycin, Zalcitabine
<b>Cardiac</b>	Captopril, Isoprenaline, Losartan, Nicorandil, Phenindione
<b>Chemotherapy</b>	Bleomycin, Doxorubicin, 5-FU, Melphelan, Mercaptopurine, Methotrexate
<b>Psychotropic</b>	Carbamazepine, Olanzapine, Phenytoin, Sertraline
<b>Alimentary</b>	Pancreatin
<b>Others</b>	Alendronate, Allopurinol, Emepromium, Gold, Interferons, Interleukin-2, Molgramostim, Penicillamine, Potassium Chloride

## 2) Non-pharmacological management

The following may help to reduce pain when ulcers are present:

- Avoid spicy foods, acidic fruit and carbonated drinks.<sup>1</sup>
- Drink through a straw to bypass the mouth.<sup>1</sup>
- Avoid sharp foods e.g. crisps.<sup>1</sup>
- Maintain good oral hygiene and use simple mouthwashes, e.g. water or 0.9% saline which can be soothing and also prevent secondary infection.<sup>2</sup> The temperature of the mouthwash is an important factor with a tepid temperature being optimum for mouth soothing.<sup>2</sup>
- The use of chlorhexidine gluconate mouthwash 0.2%, ideally alcohol free, may be beneficial in the prevention of secondary infections and in accelerating the healing of recurrent aphthae.<sup>2,3</sup>

## 3) Pharmacological management of stomatitis and mucositis – Step by Step Approach

A summary of treatment options is provided in Table 2. For the treatment of stomatitis and mucositis, a step by step approach has been recommended.<sup>1</sup>

- *Step 1* Topical NSAID<sup>1</sup> e.g. benzydamine, flurbiprofen
- *Step 2* Topical local anaesthetic ± topical NSAID<sup>1</sup> e.g. lidocaine
- *Step 3* Topical morphine ± systemic morphine<sup>1</sup> e.g. morphine sulfate
- *Step 4* Concurrent use of ‘burst’ ketamine<sup>1</sup>. Please contact the Palliative Medicines Information Service for further information on ketamine mouthwash.
- *Step 5* Concurrent use of thalidomide<sup>1</sup>. Of note, the Palliative Medicines Information Service have no experience with the use of thalidomide for this indication.

N.B. Step 4 &5 require the expertise of a Palliative Care Consultant.

**Table 2: Treatment Options for a Painful Mouth**

ACTIVE INGREDIENT	BRAND NAME	DOSING DIRECTIONS
<b>COATING AGENTS</b>		
Coating agents are of limited value. <sup>2</sup> They can be difficult to apply, and they do not relieve persistent pain caused by oral inflammation. Nonetheless, by adhering to and coating the raw surface of the mouth they help reduce contact pain, e.g. from eating or drinking. <sup>2</sup> Available agents include:		
Carbenoxolone sodium	<b>Carbosan®</b>	Apply thickly to lesions after meals and at bedtime <sup>4,5</sup> .
Carmellose sodium	<b>Orabase®</b>	Apply the paste onto the sore area after food <sup>2</sup>
Polyvinylpyrrolidone & sodium hyaluronate	<b>Gelclair®</b>	Use three times daily as required. Mix contents of 1 sachet with 40ml water, rinse around mouth for at least 1min, gargle and then spit out <sup>2</sup>
Sucralfate	<b>Antepsin®</b>	Sucralfate is not of benefit in radiation-induced mucositis but may help in other types of oral stomatitis including recurrent aphthous stomatitis. <sup>2,6</sup> The evidence in the treatment of chemotherapy induced oral ulceration is ambiguous. <sup>6,7</sup> It can be given as a suspension 1g/5ml four times daily. <sup>2</sup>
<b>TOPICAL ANALGESICS – NON OPIOID</b>		
Local analgesics have a limited role in the management of oral ulceration. <sup>3</sup> When applied topically their action is of a relatively short duration making it difficult to maintain analgesia continuously throughout the day. <sup>3</sup> Available agents include:		
Benzydamine - an NSAID with antimicrobial and mild local anaesthetic effects.	<b>Difflam® oral rinse and spray</b>	It is used to ease the discomfort associated with various causes of sore mouth <sup>3</sup> and is recommended in the prevention of mucositis secondary to radiotherapy <sup>2</sup> . Rinse or gargle 15ml of the oral rinse for 20 – 30 seconds before spitting out and repeat every 1.5 - 3 hours as required. <sup>8,9</sup> Dilute with an equal volume of water if the full-strength mouthwash causes stinging. <sup>2,3</sup> If using Difflam® Spray: 4-8 sprays, directly onto affected area, every 1.5-3 hours. <sup>10</sup>
Choline salicylate	<b>Bonjela®</b>	Apply 1 – 2cm of gel with gentle massage every 3 hours as required. Maximum recommended dose is 6 applications/day. <sup>2,11,12</sup> Excessive application or confinement under a denture irritates the mucosa and can cause ulceration. <sup>12</sup> Dentures should be removed before application of choline salicylate and not re-inserted until at least 30 minutes after treatment. <sup>2</sup>
Flurbiprofen lozenge	<b>Strepsils Intensive®</b>	Every 3 -6 hours as required for oral and pharyngeal pain; maximum recommended dose 5 lozenges/24h. <sup>13,14</sup> Can cause oral ulceration; the risk is reduced by moving the lozenge around the mouth. <sup>2,14</sup>
<b>TOPICAL LOCAL ANAESTHETICS</b>		
The efficacy of topical local anaesthetics relates to the formulation, duration of application (at least 5 minutes is required) and site of application; they are less effective in more keratinized areas of the mouth, e.g. the palate. <sup>2</sup> Some systemic absorption of the local anaesthetic occurs, which is increased by mucosal inflammation. <sup>2</sup> However, plasma levels are generally low, and toxicity has been reported only in exceptional circumstances. <sup>2</sup> With all topical local anaesthetic preparations care must be taken not to produce pharyngeal anaesthesia before meals as this may result in an increased risk of aspiration and choking. <sup>2</sup> Available agents include:		
Lidocaine	<b>Lidocaine ointment 5%</b>	No licensed preparation available in Ireland. Applied before meals and as required. <sup>2</sup> May need to be extemporaneously prepared.
	<b>Xylocaine® spray 10%</b>	Applied thinly to ulcer using a cotton bud before meals and as required. <sup>1</sup> Use in this way is unlicensed.
Lidocaine, Chlorocresol, Cetylpyridinium Chloride	<b>Anbesol® oromucosal solution</b>	Apply undiluted using fingertip to the affected area. Two applications are normally sufficient for pain relief. Do not use more frequently than every 3 hours. <sup>15</sup>
<b>TOPICAL ANALGESICS – OPIOID</b>		
Opioids have a topical analgesic effect on inflamed tissue and can be used as a mouthwash. <sup>2</sup> Some recommend that the mouthwash is subsequently swallowed in order to combine a systemic analgesic effect with the topical one. <sup>2</sup> Available agents include:		
Morphine sulphate	<b>Oramorph® 10mg/5ml</b>	Take every three to four hours, hold in the mouth for 2 minutes and then spit out or swallow. <sup>2</sup>
<b>OTHERS</b>		
BML (or BMX) Mouthwash	Extemporaneously prepared <sup>14</sup>	BML is an extemporaneously prepared solution that contains Benylin® traditional cough mixture (46%), Maalox® (46%) and lidocaine 2% (8%). <sup>16</sup> It may provide symptomatic relief of painful mouth. <sup>16</sup> Typical dosage for the management of mucositis following chemotherapy or radiotherapy is 10 - 20mLs three times daily before meals <sup>16</sup> .
On recommendation from a palliative care specialist ketamine mouthwash may be considered. Please contact Palliative Meds Info for further information.		

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**References:**

- 1) Twycross R, Wilcock A. Symptom Management in Advanced Cancer. Radcliffe Medical Press. 4<sup>th</sup> Edition. 2009.
- 2) Monograph Drugs for Oral Inflammation and Ulceration. Palliative Care Formulary. Available from [www.medicinescomplete.com](http://www.medicinescomplete.com). Accessed on the 07/06/2019.
- 3) Monograph oral ulceration and inflammation. British National Formulary. Available from [www.medicinescomplete.com](http://www.medicinescomplete.com). Accessed on the 07/06/2019.
- 4) Summary of Product Characteristics Carbosan 2%w/w gel. Available from [www.hpra.ie](http://www.hpra.ie). Accessed on the 10/06/2019.
- 5) MIMS Ireland. Monthly Index of Medical Specialities. July/August 2018.
- 6) Monograph Sucralfate. American Hospital Formulary Services. Available from [www.medicinescomplete.com](http://www.medicinescomplete.com). Accessed on the 07/06/2019.
- 7) Monograph Sucralfate. Martindale: The Complete Drug Reference. Available from [www.medicinescomplete.com](http://www.medicinescomplete.com). Accessed on the 07/06/2019.
- 8) Monograph Benzydamine. British National Formulary. Available from [www.medicinescomplete.com](http://www.medicinescomplete.com). Accessed on the 07/06/2019.
- 9) Summary of Product Characteristics Difflam Oral Rinse. Available from [www.hpra.ie](http://www.hpra.ie). Accessed on the 10/06/2019.
- 10) Summary of Product Characteristics Difflam spray, 0.15% w/v. Available from [www.hpra.ie](http://www.hpra.ie). Accessed on the 26/06/2019.
- 11) Monograph Choline Salicylate. British National Formulary. Available from [www.medicinescomplete.com](http://www.medicinescomplete.com). Accessed 07/06/2019.
- 12) Summary of Product Characteristics Bonjela. Available from [www.medicines.org.uk](http://www.medicines.org.uk). Accessed on the 10/06/2019.
- 13) Monograph Flubiprofen. British National Formulary. Available from [www.medicinescomplete.com](http://www.medicinescomplete.com). Accessed on the 07/06/2019.
- 14) Summary of Product Characteristics Strepsils Intensive lozenges. Available from [www.hpra.ie](http://www.hpra.ie). Accessed on the 10/06/2019.
- 15) Summary of Product Characteristics Anbesol Anaesthetic Antiseptic Oromucosal Solution. Available from [www.hpra.ie](http://www.hpra.ie). Accessed on the 26/06/2019.
- 16) Monograph BMX. Available from [www.extemp.ie](http://www.extemp.ie). Accessed on the 18/06/2019.