

Oral Care Guidelines

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and /or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Introduction

This guideline is designed to standardise oral care within the Trust. The primary aim of the guideline is the detection at the earliest possible opportunity of potential problems associated with poor or inefficient oral care e.g. pain and discomfort, infection, compromised nutrition, problems communicating, psychological trauma and to facilitate compliance to treatment.

The patients covered by this guideline are all patients over the age of 16 being treated within Worcestershire Acute Hospitals NHS Trust.

This guideline is for use by the following staff groups :

Mouths should be assessed by healthcare professionals trained in using a recognised oral care tool including health care support workers

Lead Clinician(s)

Jonathan Howard Professional Development/Operating
Department Practitioner

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This is the most current document and should be
used until a revised version is in place

Key amendments to this guideline

Date	Amendment	Approved by:
March 2014	Document renamed from Mouth Care to Oral Care	
Sept 2016	Addition of Oral Care and Hygiene Care Plan	
August 2017	Document extended for 6 months in line with TMC approval	TMC
December 2017	Sentence added in at the request of the Coroner	
December 2017	Document extended for 3 months as per TLG recommendation	TLG
March 2018	Document extended for 3 months as approved by TLG	TLG
June 2018	Document extended for 3 months as per TLG recommendation	TLG
Sept 2016	Update of Assessment tool change in orientation to portrait	
Sept 2018	Inclusion of Healthcare Support Workers Inclusion of Oral Care Assessment Poster Update of Assessment and Recording tool Removal of names from circulating list	
October 2018	Document extended for three months whilst review is completed	Kathryn Title
October 2019	Document approved with training updates at MSC	Medicines Safety Committee
18 th September 2020	Change to Oral care assessment tool from weekly assessment to daily assessment and from black and white to colour	Jonathon Howard/Nutrition and Hydration Meeting
14 th June,2022	Document submitted to Nutrition and Hydration Steering Group for suggested amendments (Steering Group contains representatives from all Divisions, therapists and pharmacy)	Jonathan Howard Professional Development
12 th July 2022	Amendments completed, document approved at Nutrition and Hydration Steering Group	Jonathan Howard Professional Development

Oral Care Guidelines

Introduction

Large numbers of patients may be at risk of oral health problems. Assessment and promotion of oral health must therefore be regarded as the responsibility of all health professionals, although daily oral care is traditionally the province of nurses. If a patient is unable to undertake their own oral care, it is a fundamental aspect of patient care and an essential nursing duty (Department of Health 2010) However there is evidence to suggest that many nurses are unsure about oral care and may not regard it as a priority (Cooley 2002, Miller and Kerney 2001). The Nursing and Midwifery Council have stipulated that meeting a patients personal hygiene needs is fundamental to nursing care. (NMC Code of Conduct April 2015)

Oral care is the practice of maintaining the tissues and structures of the mouth in a healthy condition. Oral care is carried out to ensure that the patient’s mouth is clean and comfortable, preventing the build-up of plaque and debris, which, if left, could lead to infection.

Oral health is related to overall health. Discomfort when eating can lead to decreased oral intake, compromised nutritional status (Gil-Montoya et al., 2008; Terezakis, et al 2011) and reduced quality of life (Locker, et al 2002).

The mouth is an ideal environment for bacterial growth and unless it is maintained adequately, the oral tissues, particularly the teeth and gums, are likely to deteriorate.

Oral care involves oral assessment, appropriate frequency of care and the use of oral care tools and agents. Regular oral care also includes mouthwashes which help to maintain moisture, remove debris, prevent plaque and reduce the risk of infection. Good oral hygiene is important for all patients and especially those predisposed to oral health problems eg. patients that are nil by mouth.

For intubated patients, oral care is pivotal in reducing the risk of ventilator associated pneumonia (Blot S et al 2008; NICE, 2008; Shi et al 2013; Tablan et al 2004).

All treatment strategies aimed at improving oral care are dependent on good assessment. (Sonis 2004)

Patients Covered

All patients over the age of 16 admitted to Worcestershire Acute Hospitals NHS Trust. The mouth is the entrance to the rest of the body. Periodontal disease is associated with systemic disease such as cardiovascular disease, stroke, respiratory infections, diabetes, and nutritional problems. Aspiration pneumonia risk is significantly increased by oral factors such as decayed teeth and periodontal disease. Likewise, systemic disease can have an impact on oral health. Many patients need assistance with oral care but patients with the following factors may be particularly pre-disposed to oral health problems.

Dehydration	Absent or reduced oral intake
Poor dietary intake i.e. nutritional value	Patients receiving IV therapy
Intubation, ventilation	Loss of consciousness
Critically ill patients (ITU/HDU).	Dementia or delirium

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Nausea and/or Vomiting	Oxygen therapy or dependence
Dysphagia	Elderly/frail
Systemic disease such as Diabetes mellitus, patients with immunosuppressive diseases. Eg. HIV	Patients taking immunosuppressant medications e.g. transplant patients, Hep C patients
Patients Nil by Mouth, on enteral or parenteral feeds.	Oncology/Haematology treatments (Appendix 3) including chemotherapy
Oral tumours	Mental Health Issues
Radiotherapy to the head and/or neck	Stroke.
Palliative / end of life care	Learning and Physical disabilities
Patients who are unable to communicate.	

In addition, the following drugs may also cause oral complications by reducing the protective salivary secretions therefore altering the flora and fauna of the oral cavity

Drug Group-effect	Drug Group-effect
1. Antibiotics-sore mouth	2. Anticholinergics-dry mouth
3. Anticonvulsants-dry mouth, gum tenderness	4. Antidepressants –dry mouth
5. Antiemetics-dry mouth	6. Narcotic analgesics dry mouth
7. Antihypertensives-sore and dry mouth	8. Antispasmodics-dry mouth
9. Diuretics-dry mouth	10. Chemotherapy-sore, dry mouth, increased risk of candida
11. Corticosteroids-candida	

(Malkin 2009)

Oral Care

The objectives of oral care include:

- To maintain the mouth in a state of normal function
- To ensure early identification and treatment of oral problems with the most appropriate equipment or treatments
- To maintain the oral mucosa and keep lips clean, soft, moist and intact.
- To keep natural teeth free from plaque and debris
- To maintain denture hygiene and prevent denture-induced disease
- To prevent infection
- To prevent oral discomfort
- To encourage adequate nutritional intake

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- To maintain the mouth in a state of normal function
- To prevent bad breath and keep the mouth fresh
- To prevent a dry mouth (xerostomia) in those patients who are receiving oxygen therapy, nil by mouth, enteral feeding and terminally ill patients.
- To reduce the risk of ventilated associated pneumonia in the intubated patient or aspiration pneumonia in patients with a vulnerable or unsafe swallow.

Frequency

Everyone should be encouraged to brush and rinse their mouth at **least twice daily** with a soft to medium toothbrush along with a fluoride containing toothpaste. Oral care should be administered to patients based on the outcome score of their oral assessment. For patients receiving palliative care or who are in the terminal stages of illness the frequency of oral care should be determined on an individual patient basis based on their clinical condition, the patient's wishes must be listened to as part of the assessment as to the frequency of oral care. (See Essence of Care 2010, NICE guideline NG48, 2016, Palliative Oral Care Guidelines for Care Homes).

Oral Assessment

The initial assessment should be carried out within 24 hours of admission and then **daily** throughout the period of hospitalisation

The initial assessment aims to provide baseline information to evaluate oral care and has the potential to reduce the incidence or severity of oral complications (Eilers 2004, Sonis 2004, Jaroneski 2006, Quinn 2008)

Oral assessment must be based on an understanding of the normal anatomy and physiology of the oral cavity. A comprehensive assessment is vital to identify the patients oral care needs.

Mouths should be assessed by healthcare professionals who are trained in using the designated evidence based Trust oral assessment tool (See Appendix 2) (Quinn et al 2008)

Examination and Assessment

Prior to undertaking any examination or assessment, the procedure should be explained and discussed with the patient, to ensure the patient understands and gives their valid consent (NMC 2013) The examination and assessment should be recorded on the oral assessment and intervention tool (Appendix 2).

Equipment

- The mouth care assessment guide (colour pictures of examples of mouth care risk levels, laminated sheet) (Appendix 3).
- A pen torch with a bright light
- Gauze swabs (for moving tongue if necessary)
- Disposable gloves (Non-sterile, powder free)
- Apron

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Before carrying out any examination the nurse should ask the patient about their usual oral hygiene routine. This should include:

- Frequency and method of tooth or denture cleaning and what (if any) support/assistance is required.
- Regularity of dental check-ups
- Any current or past oral health problems should also be noted.
- Any communication issues, cognitive issues, and whether a secondary source of information and support is required for the assessment.
- Any reported oral pain or discomfort, and the cause for this.
- What is the dietary intake? If not solids, is there an oral health problem causing the alteration in diet? Does the patient have dysphagia? Are they nil by mouth?
- What equipment does the patient have?

The state of the lips, tongue, teeth and gums, cheeks, palate and under the tongue should be examined. If the patient wears dentures or other oral prostheses these should be removed prior to assessment to expose underlying tissues, natural teeth and gums. If the patient is unable to remove the prosthesis themselves, remove the lower denture first followed by the top to prevent aspiration (Sweeney 2005) and place in denture pot, marked with the patients' name, and containing tap water until they can be cleaned. Any lesions or ulceration should be documented, together with the general state of the mucosa. The teeth and gums should be examined for plaque; bleeding gums can indicate gingivitis or an underlying condition and this should be noted if present.

Gloves must be worn during oral assessment to prevent cross infection.

Indicators of a healthy mouth include:

- Smooth and moist lips
- Pink moist tongue with papillae present
- Pink, firm oral mucosa and gums
- Teeth/dentures clean and free from debris
- Well-fitting dentures
- Inner cheeks, palate and under the tongue clean and looks healthy
- Adequate salivation which should be clear
- No odour

Following oral examination and assessment oral care should be undertaken if the patient is unable to perform this for themselves

Procedure Equipment

Small soft to medium toothbrush (single patient use only)	Fluoride toothpaste (single patient use only) with consideration to whether non-foaming toothpaste and products are required.
Gauze	Denture cleanser (single patient use only)
Mouthwash (single patient use only) if patient has safe swallow.	Denture pot (single patient use only)

Disposable apron	Gloves
Receiver	Disposable cup
Paper tissues and towel	Lip or mouth lubricant (if appropriate) Liquid paraffin should not be used. Use instead a dry mouth gel.
Waste bag	Small torch
Wooden spatula (available via top up) or mouth guard, if likely to be used (open packaging only if needed).	Non sterile powder free disposable gloves
Mouth-eze stick	Any specialist equipment the patient usually uses, as identified during pre-care conversation with patient or their support person.
Water (if swallow is safe – otherwise use gel).	

Procedure

The position required for patients' oral care to be performed will need to be assessed prior to the procedure based upon the dependency of the patient, wherever possible patients should be encouraged and supported to perform their own oral care.

- For independent patients sitting on the edge of the bed or standing at the sink to perform oral care is the preferred option.
- For patients requiring support to perform oral care they should be assisted into the semi upright seated position.
- For unconscious patients they should be positioned on their side with their head well supported to reduce the risk of aspiration Suction equipment should be accessible.
- For intubated patients they should be positioned on their side with the head of the bed raised to 30-45 degrees

Action	Rationale
Explain and discuss the procedure with the patient. Where able encourage the patient to undertake their own oral care.	To ensure the patient understands the procedure and obtain informed consent. (NMC 2013).To maintain independence
Wear protective clothing as per Trust infection control policy.	To protect health workers from exposure to blood and body fluids and to reduce the risk of cross infection.
Check whether patient has prescribed medication for care of mouth and gums.	So that it can be administered during or following oral care as required.
Wash hands/apply hand sanitizer as per Trust hand hygiene policy.	To reduce the risk of cross infection. (Department of Health 2005)
Protect patient with a towel.	To prevent patient getting wet and to protect clothing.
Prepare equipment and solutions and put on gloves.	To reduce the risk of infection.
With a small headed soft to medium toothbrush and fluoride toothpaste pressed into the surface of the brush, brush the patient's natural teeth in a gentle circular motion on all three surfaces, including the gums and tongue for 2 minutes, (Appendix 1)	Pressing paste into the surface of the brush prevents toothpaste being dislodged /aspirated. Effective brushing removes debris trapped between teeth and gums. This minimises the risk of dental caries and gum disease. If the patient develops an oral infection patients should be advised to use a fresh toothbrush (Cooley 2002, Eilers 2004)
For debilitated patients a moistened toothbrush with non-foaming toothpaste may be used.	Some debilitated patients may not be able to tolerate toothpaste. Research cites that a toothbrush is the best way of cleaning the mouth (Pearson LS & Hutton JL 2002)
Encourage the patient to rinse if possible and spit into receiver. Paper tissues should be available.	Rinsing removes/loosens debris, removes toothpaste and freshens the mouth.
If the patient is unable to rinse, use a rinsed toothbrush to remove excess toothpaste. Ensure this will not introduce any fluid to the mouth if the patient is nil by mouth.	To increase patients comfort and promote well-being.
The use of oral hygiene aids (dental floss) should be encouraged if not contraindicated (thrombocytopenia clotting disorder, haematological malignancy or undergoing radiotherapy to the head and neck) (Quinn	To remove plaque and debris from the interproximal surfaces – thus maintaining good oral hygiene.

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<p>2008) and if the patient is able to tolerate and manage this procedure themselves.</p>	
<p>Apply artificial saliva if not contraindicated for patients with a dry mouth. Apply prescribed medication to lips or mouth and suitable lubricant to dry lips. Gel is also available to moisten the lips and the inside of the mouth to moisten debris prior to removal with a soft toothbrush or a mouth-eze brush.</p>	<p>To increase patient comfort and prevent further tissue damage (Davies 2000)</p>
<p>Clean patient's dentures (if applicable) with soft toothbrush and liquid soap, holding over bowl of water, rinse well and return to the patient. Do not use toothpaste to clean dentures, it is abrasive and may encourage colonisation of the denture by bacterial or fungi.</p>	<p>To remove food debris and bacteria from the surface of the denture to prevent infection of the mouth. The water will act as a cushion to prevent breakage if dentures are dropped.</p>
<p>Dentures should be removed and soaked ideally for 15 minutes twice a day. The denture should be soaked in water or chlorhexidine Gluconate 0.2% mouthwash (Sweeney 2005) available from pharmacy. It should be placed in a named denture pot while not in use.</p> <p>Denture hygiene is very important if there is fungal infection; dentures should be cleaned with a toothbrush and soaked in chlorhexidine Gluconate 0.2% mouthwash. Miconazole oral gel should be applied to the fit surface prior to re-insertion, provided it is not contraindicated ensuring there are no potential drug interactions (Meurman JH, Gronroos L 2010).</p> <p>Obturator should not be left out at night for the six months following treatment. (Royal College of Surgeons of England/The British Society for Disability and Oral Health 2012)</p>	<p>Denture wearers are at risk of fungal infections developing under the denture and spreading to the hard palate</p> <p>To reduce the risk of recolonization</p> <p>Obturator must be worn since wound contraction can occur within hours of removal. They must be examined by a member of a dental team if painful.</p>
<p>Clean the toothbrush and allow to air dry Discard remaining solutions</p>	<p>To minimise the risk of contamination. To prevent infection</p>
<p>Remove apron and gloves and dispose of waste in accordance with the Trust Clinical Waste Policy.</p>	<p>To reduce the risk of cross contamination</p>

Wash and dry hands/apply hand sanitizer in accordance with Trust wide hand hygiene policy.	To reduce the risk of cross infection.
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Supporting Patients to Manage a Dry mouth (Xerostomia)

- Oral hydration should be encouraged by sipping water if the patient is able to swallow safely.
- If the patient is unable to swallow safely, oral hydration should be encouraged by or moistening patient’s oral cavity with moisturising gel.
- Saline mouthwashes/saline sprays can be used to mitigate a dry mouth in patients who are able to manage self-care and who have a safe swallow.
- Consider use of artificial saliva e.g. spray or gel (Biotene gel contains mucin from pigs so may be unacceptable to vegetarians, or Jewish or Muslim patients), or Orove gel/ x which can be used by people who avoid products with ingredients from animals or pigs.
- Sucking crushed ice or frozen tonic water may be beneficial however this may be contraindicated in patients who have already developed oral mucositis in the head and neck setting as it may cause discomfort.
- Some patients may be advised to chew sugar free gum to stimulate saliva however if the patient has dysphagia, thickened secretions, or absence of saliva this is contra-indicated due to the risk of choking (Clinical Knowledge Summaries).

Oral Care for Patients receiving palliative and end of life care

- Carry out mouth care as often as necessary to maintain a clean mouth. °In people who are conscious, the mouth can be moistened every 30 minutes with water from a water spray or dropper, or ice chips can be placed in the mouth.
- In unconscious people, moisten the mouth at least once an hour with water from a water spray, dropper, or sponge stick or ice chips placed in the mouth.
- To prevent cracking of the lips, smear petroleum jelly (for example Vaseline®) on the lips. However, if a person is on oxygen apply a water-soluble lubricant (for example K-Y Jelly®), Oralieve gel.
- ‘Taste for Pleasure’ means that when patients’ are receiving end of life mouth care, this can include the patients’ favourite flavours to provide moisture. Refer to Tastes for Pleasure, Standard Operating Policy WAHT-PAL-001
- A Supporting ‘Taste For Pleasure’, Patients’ / Relative Information leaflet is available

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<https://www.worcsacute.nhs.uk/publication-2/documents/patient-information-leaflets-a-z/2878-taste-for-pleasure/file>

- When the weather is dry and hot, if possible, use a room humidifier or air conditioning.
- Manage pain symptomatically, using analgesics via a suitable route. Stop treatment of the underlying cause of pain when the burden of treatment outweighs the benefits. See Scenario: Oral pain.
- Dry mouth and thirst are very common in people who are dying, regardless of whether they are dehydrated. Reversing dehydration improves symptoms in only a small number of people.

Reference NICE Guideline NG48

- **Monitoring Tool**

STANDARDS	%	CLINICAL EXCEPTIONS
Every patient will have an initial assessment to determine their need for a full oral care assessment their mouth assessed within 12 hours of admission using the oral assessment tool.	90%	
Those patients deemed at risk will have a full oral care assessment using the Trust oral assessment tool within 12-hrs of admission	90%	
The patients identified will then once their oral cavity has been assessed, have a score derived from the matrix to determine delivery and frequency of care.	90%	
Each patient identified as having oral care needs will have an individualised care plan.	90%	

References

- Arden cancer network (2012): Guidelines for the Oral Care of Adults Receiving Chemotherapy Treatment.
www.arden.nhs.uk/HealthcareProfessionals/Chemotherapy -Accessed 22nd July 2013.
- Beck SL (2004): Mucositis in Henke-Yarbo, C Hanson, Frogge M and Goodman M Eds. *Cancer Symptom Management 3rd Edition* 276-292 Jones and Bartlett Sudbury.
- Belim LA, Epstein JB, Rose-Ped A, et al (2000) Patients reports of bone marrow complications of bone marrow transplantation. *Supportive Care Cancer* **8**:33-39.
- Blot S, Vandijck D & Labeau S (2008) Oral Care of Intubated Patients: *Clinical Pulmonary Medicine* **15(3)** 153-160
- Common Terminology Criteria for Adverse Events (CTCAE), Version 4.0, June 2010, National Institutes of Health, National Cancer Institute. Available at:
http://evs.nci.nih.gov/ftp1/CTCAE/CTCAE_4.03_2010-06-14_QuickReference_5x7.pdf (Accessed February, 2014).
- Cooley C (2002) Oral health: basic or essential care? *Cancer Nursing Practice* **1(3)** 33-40.
- Datapharm Communications Limited: Electronic Medicines Compendium containing summary of product characteristics www.medicines.org.uk accessed February 2014.
- Davies, A. (2000) A comparison of artificial saliva and chewing gum in the management of xerostomia in patients with advanced cancer. *Palliative Medicine*, **14**, 197–203.
- Department of Health 2005: Saving Lives: A delivery programme to reduce healthcare associated infections including MRSA: skills for implementation Department of Health London
- Department of Health (2010): Essence of Care 2010: Benchmarks for Fundamental Aspects of Care. London DH
- Doshi, M. (2016). Mouth Care Matters: A guide for hospital healthcare professionals. Health Education England.
- Dougherty L & Lister S (eds) (2011): Royal Marsden Manual Clinical Nursing Procedures (online edition) **8th Edition** Wiley-Blackwell Publishing.
- Eilers, J., Berger, A.M. and Petersen, M.C. (1988) Development, testing, and application of the oral assessment guide. *Oncology Nursing Forum*, **15** (3), 325–330.
- Eilers J (2004) Nursing interventions and supportive care for the prevention and treatment of oral mucositis associated with cancer treatment *Oncology Nursing Forum* **31(4)** 13-23
- Elting L, Cooksley C, Chambers M et al. (2003) The burdens of cancer therapy: clinical and economic outcomes of chemotherapy-induced mucositis. *Cancer* **98**: 1531–1539.
- Feber T. (1996) Management of mucositis in oral irradiation. *Clinical Oncology*, **8**:106-11.
- Gil- Montoya, J.A. Subira, C., Ramon, J.M. Gonzalez-Moles, M.A. 2008. Oral Health--Related Quality of Life and Nutritional Status. *American Association of Public Health Dentistry*. **68** (2), pp 88-93.
- Haas M, McBride D (2011)(eds) Managing the oral effects of cancer treatment Oncology Nursing Society

It is the responsibility of every individual to check that this is the latest version/copy of this document.

- Jaroneski LA (2006) The importance of assessment ratings scales for chemotherapy induced oral mucositis *Oncology Nursing Forum* **33(6)** 1085-93
- Lalla R, Sonis S, Peterson D (2008): Management of Oral Mucositis in Patients with Cancer. *Dental Clinics of North America* **52(1)** 61-77
- Lilly Oncology (Pubs)(2012) Handbook of Systemic Treatments for Cancer 7th Edition
- Mais K (2006): Mucositis from Radiotherapy to the Head and Neck: an Overview. *Oncology News* **1(1)** 18-20
- Locker, D., Matear, D., Stephoen, M., Jokovic, A. (2002). Oral health-related quality of life of a population of medically compromised elderly people. *Community Dental Health*; 19 (2): 90-97.
- Malkin B (2009). The importance of patients' oral health and nurses' role in assessing and maintaining it. *Nursing Times* **105:17** 19-23
- Meurman JH, Gronroos L. Oral and dental health care of oral cancer patients: hyposalivation, caries and infections. *Oral Oncology* 2010; **46**: 464-467
- Multinational Association of Supportive Care and Cancer/International Society of Oral Oncology (2013) MASCC/ISOO Evidence –Based Clinical Practice Guidelines for Mucositis Secondary to Cancer Therapy
- Miller M, Kearney N (2001): Oral Care for patients with Cancer: A review of the literature. *Cancer Nursing* **24(4)** 241-254
- National Institute for Clinical Excellence 2008
- National Institute for Clinical Excellence; oral health Oral Health Care in Care Homes - How should I manage oral care in the terminal phase? NG48 July 2016
- National Institute for Health and Clinical Evidence (2012)Clinical Knowledge Summaries-Palliative care-oral www.cks.nhs.uk –Accessed 22nd July 2013
- Negrin R, Bedard JF, Tolijanac J Oral Toxicity associated with chemotherapy www.uptodate.com access February 2014.
- NMC (2013) Regulation in Practice Topics: Consent www.nmc-uk.org –Accessed 20th August 2013
- NMC Code of Professional Conduct (2015)
- Pearson LS, Hutton JL (2002): A controlled trial to compare the ability of foam swabs and toothbrushes to remove dental plaque. *Journal of Advanced Nursing* **39(5)** 480-489
- Potting et al (2006): The effectiveness of commonly used mouthwashes for the prevention of chemotherapy-induced oral mucositis: A systematic review. *European Journal of Cancer Care*, **15(5)**: 431-439.
- Quinn B, Potting C, Stone R et al (2008):Guideline for the assessment of oral mucositis in adult chemotherapy, radiotherapy and Haematopoietic stem cell transplant patients *European Journal of Cancer* **44(1)**61-72
- Royal College of Surgeons of England/The British Society for Disability and Oral Health 2012: The Oral Management of Oncology Patients Requiring Radiotherapy, Chemotherapy, and or Bone Marrow Transplant
- Rubenstein EB et al (2004): Clinical Practice Guidelines for the prevention and treatment of cancer therapy induced oral and gastrointestinal mucositis. *Cancer* **100(9)** 2026-2046
- Shi, Z., Xie, H., Wang, P., Zhang, Q., Wu, U., Chen, E., Ng, L., Worthington, H.V., Needleman, I., Furness, S. (2013). Oral hygiene care for critically ill patients to prevent ventilator-associated pneumonia (Review). *Cochrane Database of Systematic Reviews*; 8: 1-125.
- Shih A, Miaskowski C, Dodd JM et al (2003) Mechanisms for radiation induced oral mucositis and the consequences. *Cancer Nursing* **26** 222-229
- Sonis ST (2004): The pathobiology of mucositis *Nature reviews cancer* **4** 277-284
- Sonis ST (2004): Oral mucositis in cancer therapy *Journal of supportive oncology-Supplement* **3(2)** 3-8

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- Sonis ST, Elting LS, Keefe D et al. (2004)-Perspectives on Cancer Therapy-Induced Mucosal Injury *Cancer Supplement* **100 (9)** 1995-2025
- Summary of Product Characteristics- www.medicines.org.uk/emc (accessed February 2014)
- Sweeney, P. (2005) Oral hygiene, in Oral Care in Advanced Disease (eds A. Davies and I. Finlay). Oxford University Press, Oxford, pp. 23–35 cited in Royal Marsden Manual Clinical Nursing Procedures 8th Edition (eds: L Dougherty and S Lister Wiley Blackwell)
- Tablan, O.C., Anderson, L.J., Besser, R., Bridges, C., Hajjeh, R. (2004). Guidelines for preventing health-care associated pneumonia, 2003; recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee. *MMWR Recommendations Report* 53 (RR-3), 1-36.
- Terezakis, E., Needleman, I., Kumar, N., Moles, D., Agudo, E. (2011). The impact of hospitalization on oral health: a systematic review. *Journal of Clinical Periodontology*; 38 (7): 628-636.
- Walton JC, Miller J and Tordecilla L(2002): Elder oral assessment and care *Head and Neck Nursing* **20(2)** 12-19
- Wojtaszek C (2000) Management of chemotherapy induced stomatitis *Clinical Journal of Oncology Nursing* **4** 263-270

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Pharmacy	

Appendix One Brushing Teeth

Teeth should be brushed at least twice daily with a small, soft to medium toothbrush, lightly moistened with a small amount of fluoride toothpaste pressed into the surface of the brush. The teeth should be brushed for 2 minutes and the removal of plaque requires an up and down movement under the gum line and side surfaces of teeth.

The gentle scrub method of tooth brushing is effective in plaque removal and should be carried out with a small toothbrush for ease of access. The method is to place the filaments of the brush at the neck of the tooth and to use very short horizontal movements to dislodge plaque from the stagnation areas at the gum margins around the teeth. Emphasis should be placed on small movements and gentle pressure, together with an unhurried systematic approach to the cleaning of all surfaces.

When cleaning a patient's teeth it is often easiest to stand behind the patient, slightly to one side, ensuring that the patient's head is supported



Clean all outside surfaces of the teeth by positioning the toothbrush at a 45° angle towards the edge of the gums and move back and forth using short, gentle, vibratory strokes.



Cleaning the inside surfaces of the front teeth is made easier by holding the brush as shown in the picture. Move the brush backwards and forwards against the back of the teeth.



Clean the inside surfaces by tilting the brush and using short back and forth strokes.



Clean the biting surfaces of the upper and lower teeth by brushing backwards and forwards.

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Appendix 2 – Oral Care Assessment and Recording Tool

Form with fields for Name, NHS No., Hosp No., D.O.B., Male/Female, Ward, and Cons.

ORAL CARE
ASSESSMENT AND
RECORDING TOOL



To be completed for every patient within 24 hours of admission

Table with Admission Date and Assessment Date fields, and two sections: 1. Has the patient got: (Toothbrush, Toothpaste, Upper/Lower denture, Denture pot) and 2. Level of Support (Patient dependency).

Patients with No Teeth, Nil by Mouth or Dysphagia still require Regular Mouth Care: please circle any that apply.
















3. Does the patient have any pain or discomfort in the mouth? Yes No Why?:

Assessment table with columns for Low Risk (L), Medium Risk (M), High Risk (H), and Date. Rows include Lips, Tongue, Teeth/gums, Cheeks/palate/under tongue, and Dentures, each with clinical indicators and actions.

For patients who are unable to communicate or cooperate with a mouth care assessment... Sign and Print Name:



Appendix 3 – Oral Care Assessment Guide

MOUTH CARE ASSESSMENT GUIDE			
Lips			
	Pink & moist	Dry, cracked, difficulty opening the mouth	Swollen, ulcerated
Action	None	Dry mouth care	Refer to DOCTOR
Tongue			
	Pink & moist	Dry, fissured, shiny	Looks abnormal, white coating, very sore/ulcerated
Action	None	Dry mouth care	Refer to DOCTOR
Teeth & Gums			
	Clean, teeth not broken or loose	Unclean, broken teeth (no pain), bleeding/inflamed gums	Severe pain, facial swelling
Action	2x daily toothbrushing	Daily toothbrushing, dean the mouth	Refer to DOCTOR
Cheeks, Palate & under the Tongue			
	Clean, saliva present, looks healthy	Mouth dry, sticky secretions, food debris, ulcers <10 days	Very dry/painful, ulcers >10 days, widespread ulceration, looks abnormal
Action	None	Clean the mouth, dry mouth care, ulcer care	Refer to DOCTOR
Denture			
	Clean & Comfortable	Unclean, loose, patient will not remove	Lost
Action	Clean daily	Denture care, encouragement	DATIX if lost, refer to dental team if lost or broken

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HOW TO DO AN ORAL ASSESSMENT

What to look for?

Use a light Source



1. **Lips:** Pink and moist
2. **Tongue:** Pink, moist and clean
3. **Teeth and gums:** Clean, teeth are not broken or loose. Gums are not bleeding / inflamed
4. **Cheeks / palette / under tongue:** Clean, saliva present and looks healthy
5. **Dentures:** Clean and comfortable.

It is important that the dentures and the mouth are cleaned daily

How to remove and clean a denture

Dentures to be cleaned with a toothbrush and either liquid soap or denture cleaner



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APPENDIX 4: Abbey Pain Scale Assessment Tool

Alpha Patient Label here or record

NAME: _____

NHS NO:

--	--	--	--	--	--	--	--	--	--

HOSP NO:

--	--	--	--	--	--	--	--	--	--

D.O.B:

--	--	--	--	--	--	--	--	--	--

 MALE FEMALE

ABBAY PAIN SCALE TOOL (for measurement of pain in people with dementia, delirium or cannot verbalise)

WARD: _____ CONS: _____

Worcestershire NHS
Acute Hospitals NHS Trust

Pain should be assessed alongside routine observations and after analgesia is given

	Date																
	Time																
Vocalisation eg. Whimpering, groaning, crying Absent =0 Mild= 1 Moderate= 2 Severe= 3																	
Facial expression eg. Looking tense, frowning, grimacing, looking frightened Absent= 0 Mild= 1 Moderate= 2 Severe =3																	
Change in body language eg. Fidgeting, rocking, guarding part of body, withdrawn Absent= 0 Mild= 1 Moderate= 2 Severe =3																	
Behavioural change eg. Increased confusion, refusing to eat, alteration in usual patterns Absent =0 Mild =1 Moderate =2 Severe= 3																	
Physiological change eg. Temperature, pulse or blood pressure outside normal limits, Perspiring, flushing or pallor Absent= 0 Mild= 1 Moderate= 2 Severe= 3																	
Physical changes eg. Skin tears, pressure areas, arthritis, contractures, previous injuries Absent= 0 Mild =1 Moderate =2 Severe= 3																	
Total Pain Score																	
Have you escalated? Yes / No / N/A																	
Initials																	

Total Pain Score
(enter number shown in brackets on NEWS observation chart)

0-2 No pain (0)	3-7 Mild (1)	8-13 Moderate (2)	14-18 Severe (3)
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PF WRS063 Abbey Pain Scale Tool Version 1 page 1 of 2

APPENDIX 5: Specific Guidance for the prevention and management of oral complication in Oncology and Haematology Patients

Many cancer treatments result in unavoidable oral toxicity and the significance of oral complications in Oncology and Haematology makes oral care a priority for this patient group. (Miller M, Kearney N 2001). The early detection of potential and actual problems, through consistent and correct assessment facilitating active intervention with treatment plans are paramount in order to avoid or minimise oral problems, prevent delays or interruptions to anticancer treatment schedules and maximise patient comfort (Haas & McBride 2011).

In Oncology and Haematology, oral mucositis can be one of the commonest and most serious problems faced by patients. It is a major issue for patients undergoing anticancer treatment, particularly those receiving radiotherapy to the head and neck and stomatotoxic chemotherapy (Appendix 4) with some patients rating it as the most distressing side effect of treatment (Belim et al 2000) In many patients it is associated with considerable pain and, can therefore have a significant impact on quality of life in addition in neutropenic patients oral mucositis represents a clinically significant risk factor for sepsis (Elting et al 2003)

Specialist care is required to effectively support patients through what can be a difficult, painful and even life-threatening side effect of treatment. It is essential that all members of the healthcare team are aware of the optimum management strategies for oral mucositis.

Incidence

The incidence of oral mucositis in the cancer setting can be expected to occur in at least 40% of patients undergoing chemotherapy (Sonis 1997) and 70% of patients undergoing haematopoietic stem cell transplant (Sonis 2004) However it has been estimated that 97% of patients with head and neck cancer undergoing radiotherapy will develop some degree of oral mucositis (Kostler et al 2001).

Pathophysiology

Sonis (2004) has described the pathophysiology of oral mucositis as a complex, multistage process. The initial damage resulting from radiotherapy or chemotherapy sets off a series of intracellular events, culminating in the ulceration of the epithelium, which is visible clinically. In addition oral mucositis can occur as a consequence of the direct effects of the chemotherapy drugs on the rapidly dividing cells of the mouth. Oral mucositis is responsible for symptoms of pain, changes to salivary flow, taste changes, changes in oral flora, periodontal gingival disease, tooth sensitivity and xerostomia (dry mouth). Bacterial colonization may also exacerbate the severity of mucositis and cause systemic complications. Chemotherapy induced oral mucositis tends to be acute, usually developing 4 – 7 days following initiation of treatment and peaking within 14 days. (Wojtaszek C 2000) Radiation induced mucositis usually begins in 3rd or 4th week of radiotherapy when standard fractionation is used: it becomes more severe as treatment progresses and gradually subsides once radiotherapy is complete. The severity of radiation induced mucositis is dose dependant and can last 3-12 weeks. If concurrent chemotherapy/radiotherapy is the agreed treatment modality the time to onset of symptoms is shortened and in addition there is usually an increase in the severity and duration of mucositis.

Risk factors

- The most important risk factors of oral complications of cancer therapy are oral or dental disease that already exists and any factor that affects the mouth tissues. Oral problems that already exist, such as periodontitis, caries, failing restorative work (such as crowns, or fillings), and dentures may increase the risk of infection.
- Cancer of the head and neck
- Intensive chemotherapy regimens / bone marrow transplantation / haematological malignancy
- Elderly / young
- Concurrent chemotherapy and radiotherapy (particularly to the head and neck)
- Deficits in ability to self-care.
- Altered fluid or nutritional status (dehydration, malnutrition)
- Bisphosphonates-risk of osteonecrosis of the jaw
- Other medications as detailed on page 2 but particularly steroids.
- Additional stressors, e.g., alcohol, tobacco, drugs, oxygen therapy, xerostomia, learning disabilities
- Metabolic conditions (e.g. diabetes, thyroid dysfunction)
- Liver / renal impairment.
- Previous mucositis
- Pre-existing oral conditions – poor oral hygiene, sharp/broken/diseased teeth, periodontal disease, ill-fitting dentures. These should be assessed and resolved BEFORE treatment where possible.
- NB This list is not exhaustive

Oral Assessment

Oral assessment must be based on an understanding of the normal anatomy and physiology of the oral cavity. In order to deliver appropriate oral care, careful assessment is vital to identify a patient's oral status. Initial assessment aims to provide baseline information to evaluate oral care and has the potential to reduce the incidence or severity of oral complications (Eilers 2004, Sonis 2004, Jaroneski 2006, Quinn 2008).

Mouths should be assessed by healthcare professionals who are trained in using the designated evidence based Trust oral assessment tool (See Appendix 2) (Quinn et al 2008)

The initial assessment should be carried out on admission and then throughout the period of hospitalisation on an individualised basis. The frequency of the oral assessment will be determined on the outcome score of the initial assessment.

Following oral examination and assessment oral care should be undertaken if the patient is unable to perform this for themselves (please see main guideline for procedure)

Indicators of a healthy mouth include:

- Pink moist tongue with papillae present
- Pink , firm oral mucosa and gums
- Teeth/dentures clean and free from debris
- Well-fitting dentures
- Adequate salivation which should be clear
- Smooth and moist lips
- No odour

General Oral Care

Maintaining a clean and pain-free mouth increases patient comfort, helps prevent infection, promotes dietary intake and increases the likelihood of patients completing treatment at the desired intensity. The evidence suggests that patients who are taught oral care protocols perform oral care more diligently, taking more responsibility for their care and may show an improvement in oral symptoms (Rubenstein, 2004)

Patients should be encouraged to take responsibility for their own oral care wherever possible. This may require frequent encouragement and education. The general recommendations made by Rubenstein et al (2004) are for:

- Initial and on-going assessment of the oral cavity using both patient reported symptoms and inspection of the oral cavity
- A preventive care regime followed by therapeutic oral care regime when mucositis develops
- A regular, systematic oral care regimen with bland rinses, moisturisers and dental brushing for all patients
- Dental examination and treatment prior to, during and after treatment, especially for those with head and neck cancer and patients undergoing haematopoietic stem cell transplantation (HSCT)
- Pre-radiation extractions need to be undertaken as soon as possible to enable as long as feasible for healing; however extractions should not interfere with anti-cancer radiation therapy or with mould room or simulator appointments. Pre-radiation extractions should be done with minimal trauma
- If removal of teeth is required prior to radiation, the mould room and radiation oncologist should be notified since it may affect the fit of the mask thereby delaying treatment.
- Adequate oral fluid intake and a well-balanced diet should be encouraged
- Spicy foods may irritate the mouth and care should be taken with rough or crunchy foods as they may damage the oral mucosal lining or gums (Cooley 2002)
- Smoking and a high alcohol intake must be discouraged. Patients should be offered help with smoking cessation if required.

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- Regular assessment and management of oral pain
- A MDT approach to oral care should be implemented
- For patients receiving bolus 5-Fluorouracil chemotherapy, it is recommended that ice chips are sucked for 30 minutes to prevent oral mucositis (MASCC 2013)
- Patients receiving radiotherapy to Head and Neck (up to 50Gy) without concomitant chemotherapy should be advised to use benzydamine mouthwash (Difflam) 10mls 4 times per day to prevent oral mucositis.(MASCC 2013)
- Patients undergoing chemotherapy can experience dry lips. Yellow/white soft paraffin or normal lip salve can be used to moisten the lips. These products are contraindicated if the patient is receiving radiotherapy to the head and neck region. This is because they create an additional artificial layer of tissue that affects the depth of treatment. If oxygen therapy is being given, a water-soluble lubricant should be used (Quinn, 2008).
- The use of intensity modulated radiotherapy treatment (IMRT) has reduced the incidence of radiotherapy induced xerostomia.

Assessment of Oral Toxicity

By starting preventive measures before and during early cancer therapy, it is possible to reduce the occurrence and the problems associated with patients' cancer treatment. If this is done it can significantly improve oral physiologic and social functioning (Feber 1996). Prevention of oral sequela is much preferred to repair, both on a social and an economic basis.

All treatment strategies aimed at improving oral care are dependent on good assessment (Sonis, 2004). Mouths must be assessed by trained health care professionals using a recognised grading system (Quinn et al., 2008). Assessments must be completed at regular intervals and documented in the medical records; in-patients undergoing regimens with a high risk of mucositis should have daily assessments. For other patients at risk the patient should be assessed when visiting the hospital for chemotherapy, or radiotherapy to the head and neck region (Quinn et al 2008).

Patients at risk of developing oral mucositis should have their mouths assessed utilising a recognised assessment tool e.g. The World Health Organisation (WHO), oral toxicity scale (Table 1) or The National Cancer Institute Common Toxicity Criteria (NCI-CTCAE V4) (Table 2)

Table 1

WHO Oral Mucositis Grading Scale

Grade	Description
0 (none)	None
I (mild)	Oral soreness with erythema,
II (moderate)	Oral erythema, ulcers, patient can swallow solid diet
III (severe)	Oral ulcers, extensive erythema, liquid diet only
IV (life-threatening)	Oral mucositis to the extent that no oral nourishment is possible.

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Table 2

NCI-CTCAE V4 Oral Mucositis Grading Scale

Grade	Description
Grade 0 (none)	None
Grade 1 (mild)	Asymptomatic or mild symptoms; intervention not indicated
Grade 2 (moderate)	Moderate pain, not interfering with oral intake; modified diet indicated
Grade 3 (severe)	Severe pain, interfering with oral intake
Grade 4 (life-threatening)	Life-threatening consequences; urgent intervention indicated
Grade 5 (death)	Death

Regardless of the scale used, increasing evidence confirms the importance of training and standardization to improving the accuracy and consistency of mucositis assessment (Sonis et al 2004).

Mouth washes

- Patients with or at risk of mucositis, including those receiving stomatotoxic drugs should **not** use commercial mouthwashes because of alcohol content and astringency. Regular, bland mouth rinses (plain water or saline-1 level teaspoon of salt to 1 pint of water, 4 x daily until mouth becomes sore and then 2 hourly) may be used by this group of patients.
- The tongue can be gently brushed, if not sore, with a soft toothbrush.

Care of the oral cavity

Patients with their own teeth (dentate patients)

- Teeth should be brushed twice daily with fluoride toothpaste
- If the patient develops an oral infection patients should be advised to use a fresh toothbrush (Cooley 2002, Eilers 2004)
- If brushing becomes difficult, patients should be advised to use a soft toothbrush.
- Dentures should be soaked overnight in a proprietary solution
- Denture hygiene is pivotal if there is fungal infection; dentures should be cleaned with a toothbrush and soaked in proprietary solution, miconazole oral gel should be applied to the fit surface prior to re-insertion, provided it is not contraindicated (Meurman JH, Gronroos L 2010) However care should be taken to ensure there are no potential drug interactions prior to use e.g. warfarin use.
- Patients with dentures (edentulous patients) should clean the dentures twice daily with a soft to medium toothbrush and toothpaste. If candida remains present consideration should be given to utilising a systemic anti-fungal agent.

Oral care for patients with oral mucositis

- All patients should be taught the oral care protocol prior to commencing chemotherapy or radiotherapy to the head and neck, including the aim of oral care.
- This information should be frequently reinforced by checking patient's oral care routine and repeating instructions as necessary
- Regular oral assessments should be undertaken to indicate the frequency of oral care required.
- Monitor for oral bacterial or fungal infections, swab and treat as indicated
- There is no evidence to support the use of chlorhexidine based mouthwashes (Corsodyl) in the treatment of oral mucositis (Potting et al, 2006, Rubenstein et al, 2004, Cochrane Database Systematic Reviews, 2004, MASCC/ISOO guidelines 2013) and the negative side effects of chlorhexidine mouthwashes, such as tooth staining and alteration in taste may reduce patient compliance in their oral care protocol.

Patients undergoing high dose chemotherapy with haematopoietic stem cell transplantation (HSCT)

This group of patients are particularly vulnerable, with up to 100% of patients developing moderate – severe mucositis (grades 2 – 4). This is associated with:

↑ days with fever

↑ risk of infection

↑ days with parenteral nutrition

↑ use of IV opiates

↑ Hospital days

For patients undergoing haematopoietic stem cell transplantation (HSCT) it is recommended that patient controlled analgesia with morphine is used to treat pain due to severe oral mucositis (MASCC 2013).

Recommended Analgesia for the management of mucositis

Appropriate analgesia should be provided either locally, systemically or in combination dependent upon the patient's condition and underlying diagnosis.

The grade of mucositis and extent of mucositis i.e. confined to oral or generalised throughout the gut, concurrent additional side effects and the impact of mucositis and side effects on functioning will all provide indicators for the analgesic requirements for each patient.

Ideally all medications should be in a liquid or soluble form and should not be irritant to oral mucosa; however the patient's condition and impact of mucositis on functioning must be assessed due to risk of aspiration when functioning is compromised.

The presence of infection can increase the intensity of a patient's pain, therefore it may be appropriate to commence broad spectrum antibiotic or antifungal if there is a clinically obvious infection (Mais 2006)

Nutritional intake can be severely compromised by the pain associated with severe oral mucositis (Lalla et al 2008); early intervention and support by dietetic services should form part of the multiprofessional approach to the management of mucositis.

It is important that as the mucosal membrane recovers and mucositis diminishes there needs to be a strategy in place to reduce long term opiates.

First line analgesics/topical agents

Topical Agents	Mucosamin*	Potentially useful in the prevention and management of mucositis. Available as a mouthwash and a spray. Classified as a medical device.
	Gelclair*	For use in the management and relief of mucositis. Provides a gel barrier over the mucosa and can help with pain relief. Can be used up to 4 times daily is classified as a medical device
	Difflam	can be used as an analgesic however for some patients can cause stinging at full strength and needs diluting to 50:50
	Paracetamol Mouthwash**	1g dissolved in water 4 times daily

* These items are only available on the formulary for secondary care prescribing within the package of care on an on-going basis and that GPs would not be expected to prescribe it.

**Consideration should be given that paracetamol may mask temperature and the underlying presence of infection

Second line analgesics.

codeine/paracetamol combinations +laxative	e.g. Cocodamol (30/500) in soluble tablets Caution in the elderly
codeine liquid +laxative + 1 st line analgesic	30-60mg QDs/PRN Caution in the elderly

N.B. Patients for whom the above measures are not effective should be referred to the specialist palliative care team for advice.

Third line strong opiate analgesics (+/- first line analgesics)

morphine sulphate elixir +/- laxative	Solution 10mg/5ml 2-4 hourly PRN
morphine sulphate immediate release tablets	10mg 2-4 hourly PRN
oxycodone + laxative	Tablets or solution for patients who cannot tolerate morphine
Tramadol	Fasting acting release only

Long Acting Opiates

morphine sulphate modified release	
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oxycodone long acting (e.g. Oxycontin/Oxycodone hydrochloride modified-release tablets)	for patients who cannot tolerate morphine as advised by specialist palliative care
fentanyl transdermal patches suggested may be effective to treat pain due to oral mucositis in patients receiving conventional or high dose chemotherapy. (MASCC 2013)	N.B. Should not be utilised in opioid naïve patients. Therefore dose should be titrated prior to utilisation and should only be used if patients unable to swallow or tolerate morphine/oxycodone
Patient Controlled Analgesia (PCA) with Morphine	For patients with oral mucositis undergoing haematopoietic stem cell transplantation (HSCT) (MASCC2013)

The pharmacy team can in addition offer advice and support to clinical teams in the management of pain control in mucositis

Nutritional Considerations in Patients with Mucositis

Patients who have mucositis are likely to have a reduced dietary intake, often with a reduced appetite due to xerostomia and taste changes. This can lead to weight loss, weakness and general inability to cope with anticancer therapy. Poor nutritional status may interfere with mucosal regeneration by decreasing cellular migration and renewal thus compounding the problem of oral mucositis (Shih et al. 2003). Head and neck cancer patients anticipated to have significant mucositis (grade 4) are discussed with the Oncologist at the MDT and frequently have a prophylactic gastrostomy feeding tube placed prior to Radiotherapy to help maintain nutritional status.

If fluid intake is also compromised, the patient may become dehydrated, with the potential for renal failure, especially in patients receiving nephrotoxic chemotherapy. All patients with mucositis should drink a minimum of 30mls/kg/day of fluid per day. If they are unable to drink, fluids must be given via a gastrostomy if present or intravenously in the short term for patients receiving standard dose stomatotoxic chemotherapy. Patients receiving chemotherapy to the head and neck who are unable to drink, should be considered for artificial feeding tube placement e.g. Nasogastric tube for the administration of fluid, nutrition and medication. Other high risk patients or patients with severe mucositis may require parental nutrition to maintain nutritional wellbeing unless a nasogastric tube can be placed.

For all patients:

- Patient's nutritional status should be assessed on an individual patient basis whilst on chemotherapy or radiotherapy the frequency of assessment indicated by patient's clinical condition using the MUST criteria.
- Strict oral care protocol
- Adequate fluid intake (approximately 30mls/kg/day)
- Adequate analgesia if mucositis develops
- Prompt treatment of oral infections
- Nutrition screening should be undertaken using a validated tool i.e. MUST and appropriate action plan implemented which should be reviewed on a regular individualised basis on the nutritional score.
- Blood tests (e.g. biochemical profile) as indicated

Criteria for dietician referral:

- Chemo-radiation to the head and neck
- Undergoing stem cell transplant
- A high nutrition screening score e.g. MUST assessment score of 2 or above. For outpatients receiving chemotherapy or radiotherapy other than for head and neck cancer a referral via the GP will need to be made.

Appendix 6-Systemic chemotherapy treatments commonly associated with mucositis/stomatitis (this list is not exhaustive)

Name of agent	Risk	Drug Action
Afatinib	Very Common	Topoisomerase Inhibitor
Aldesleukin	Very Common	Immunomodulator
Alemtuzumab	Common	Monoclonal antibody
Amsacrine	Common	DNA intercalating agent
Bevacizumab	Very Common	Monoclonal antibody specific for Vascular Endothelial Growth Factor (VEGF)
Bleomycin	Very Common	Cytotoxic antibiotic
Bortezomib	Common	Proteasome Inhibitor
Busulfan	Very Common	Alkylating agent
Capecitabine	Very Common	Antimetabolite
Cetuximab		Epidermal Growth Factor Receptor (EGFR)
Chlorambucil	Common	Alkylating agent
Cladribine	Common	Antimetabolite
Cyclophosphamide	Common	Alkylating agent
Cytarabine	Common	Antimetabolite
Dactinomycin	Common	Cytotoxic antibiotic
Daunorubicin	Very Common	Anthracycline
Daunorubicin Liposomal	Very Common	Anthracycline
Docetaxel	Very common	Taxane
Doxorubicin	Very Common	Anthracycline
Doxorubicin Liposomal	Very Common	Anthracycline
Epirubicin	Very Common	Anthracycline
Erlotinib	Common	Epidermal Growth Factor Receptor (EGFR)
Etoposide	Common	Topoisomerase Inhibitor
Everolimus	Very Common	Afinitor
5-Fluorouracil	Very Common	Antimetabolite
Fludarabine	Common	Antimetabolite
Gefitinib	Very Common	Epidermal Growth Factor Receptor (EGFR)
Gemcitabine	Common	Antimetabolite
Idarubicin	Common	Anthracycline
Ifosfamide	Common	Alkylating agent
Irinotecan	Common	Topoisomerase Inhibitor
Melphalan	Very Common	Alkylating agent
Methotrexate	Very Common	Antimetabolite
Mitomycin	Common	Cytotoxic antibiotic
Mitotane	Very Common	Unknown
Mitoxantrone (Higher doses)	Common	Anthracycline
Oxaliplatin	Very Common	Platinum
Paclitaxel	Very Common	Taxane
Paclitaxel Albumin (Abraxane)	Very Common	Taxane
Panitumumab	Very Common	Monoclonal antibody

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Pazopanib	Common	Tyrosine Kinase Inhibitor
Pemetrexed	Very Common	Antimetabolite
Raltitrexed	Common	Antimetabolite
Sorafenib	Common	Tyrosine Kinase Inhibitor
Sunitinib	Very Common	Tyrosine Kinase Inhibitor
Streptozocin	Common	Alkylating agent
Tegafur-Uracil	Common	Antimetabolite
Temsirolimus	Very Common	Protein Kinase Inhibitor
Temozolomide	Common	Alkylating Agent
Teniposide (not commonly licensed in uk maybe used in clinical trial)	Very Common	Topoisomerase Inhibitor
Thiotepa	Very Common	Alkylating agent
Tioguanine	Very Common	Antimetabolite
Topotecan	Very Common	Topoisomerase Inhibitor
Vinblastine	Very Common	Vinca Alkaloid
Vincristine	Very Common	Vinca Alkaloid
Vindesine	Very Common	Vinca Alkaloid
Vinorelbine	Very Common	Vinca Alkaloid

Handbook of Systemic Treatments for Cancer 7th Ed (March 2012), Summary of Product Characteristics www.medicines.org.uk/emc (accessed February 2014) and www.uptodate.com

It is prudent to check the Summary of Product Characteristics and liaise with pharmacy team for a new agent or a drug that doesn't appear on the list.

APPENDIX 7: Mouthcare Matters Product Guide

http://www.mouthcarematters.hee.nhs.uk/?page_id=955

Supporting Document 1 – Equality Impact Assessment form



Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council		Herefordshire CCG	
Worcestershire Acute Hospitals NHS Trust	X	Worcestershire County Council		Worcestershire CCGs	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust		Other (please state)	

Name of Lead for Activity	
----------------------------------	--

Details of individuals completing this assessment	Name	Job title	e-mail contact
	Jonathan Howard	Professional Development Practitioner	Jonathan.howard2@nhs.net
Date assessment completed	05/07/22		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	Title:			
What is the aim, purpose and/or intended outcomes of this Activity?				
Who will be affected by the development & implementation of this activity?	<input checked="" type="checkbox"/> Service User <input checked="" type="checkbox"/> Patient <input checked="" type="checkbox"/> Carers <input checked="" type="checkbox"/> Visitors	<input checked="" type="checkbox"/> Staff <input type="checkbox"/> Communities <input type="checkbox"/> Other _____		

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Is this:	<input checked="" type="checkbox"/> Review of an existing activity <input type="checkbox"/> New activity <input type="checkbox"/> Planning to withdraw or reduce a service, activity or presence?
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.)	
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	
Summary of relevant findings	

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale.** Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age		X		
Disability		X		
Gender Reassignment		X		
Marriage & Civil Partnerships		X		
Pregnancy & Maternity		X		
Race including Traveling Communities		X		
Religion & Belief		X		
Sex		X		
Sexual Orientation		X		
Other Vulnerable and Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic)		X		

Equality Group	Potential <u>positive</u> impact	Potential <u>neutral</u> impact	Potential <u>negative</u> impact	Please explain your reasons for any potential positive, neutral or negative impact identified
deprivation, travelling communities etc.)				
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		X		

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
	n/a			
How will you monitor these actions?				
When will you review this EIA? (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation)				

Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

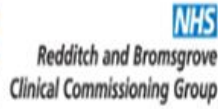
1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	
---	--

It is the responsibility of every individual to check that this is the latest version/copy of this document.

Date signed	
Comments:	
Signature of person the Leader Person for this activity	
Date signed	
Comments:	



Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval