

STROKE & ORAL HEALTH

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- ## OBJECTIVES
- What is Oral Health
 - Oral Health & General Health
 - Impact of Stroke on Oral Health
 - Role of nursing in oral health
 - OH care

ORAL HEALTH

- Multi-faceted and dynamic concept
- Shaped personally and socially.
- Impacts on quality of life
- Integral part of general health
- Share common risk factors for systemic diseases.

Control emotions through facial expressions such as Confidence, Happiness, Surprise, Anger, Fear and Anxiety

Swallow

Chew

Touch

Taste

Smell

Smile

Ability to speak

Oral Health

• Glick et al. (2016.) A new definition for oral health developed by the FDI World Dental Federation opens the door to a universal definition of oral health. [Bj Oral Maxillofac Surg](#) 2016; Dec 16:221(12):792-793.

• Tan et al (2016). Retention of Teeth and Oral Health-Related Quality of Life. [J Dent Res](#) 2016; Nov 95(11):1350-1357

ORAL HEALTH & GENERAL HEALTH

Cancer

Diabetes

Periodontal conditions

Stroke

Heart disease

Hospital-acquired pneumonia

Patient's mouth

Image from: http://www.mouthcancermatters.hcc.nhs.uk/wp-content/uploads/2016/10/MCAssessmentA3Poster_v3.pdf

HAP AND ORAL HEALTH

Hospital-acquired pneumonia (HAP)

- Aspiration (inhalation) of oropharyngeal secretions associated with pneumonia (Scannapieco, 2006).
- Risk factors: supine position, decreasing levels of consciousness, poor oral health
- Increase hospital stays by average of 8 days
- High mortality rates (NICE, 2014)

Ventilator-assisted pneumonia (VAP)

- Intubation can lead to an increase in oral and gastric secretions entering the lower airways
- Oral bacteria could be a cause of VAP (Shi et al., 2013)

IMPACT OF STROKE – OROFACIAL MANIFESTATIONS

- Unilateral facial paralysis – complete or partial loss of motor and/or sensory function
- Dysphasia or loss of sensation
 - Unable to recognize that food/medications remains in their mouth.
 - Inability to feel extreme temperature
 - Inability to wear dentures comfortably
 - Poor tongue function and lip seal

Lyons et al. (2018). Oral care after stroke: Where are we now? [European Stroke Journal](#).

IMPACT OF STROKE – OROFACIAL MANIFESTATIONS

- Hypogeusia or Decreased ability to taste foods
 - Change in food preferences
 - Pureed or chopped foods
 - Risk of caries and halitosis
- Motor impairments –
 - Difficulty in speech, mastication and swallowing
 - Potential for aspiration of foods and fluids

Lyons et al. (2018). Oral care after stroke: Where are we now? *European Stroke Journal*.

IMPACT OF STROKE - DYSPHAGIA

- Present in >50% of new stroke cases
- 11-13% remains dysphagic after 6 months
- Risk of developing pneumonia increases 3x if dysphagia is present
- Risk of developing pneumonia increases 11x if there is confirmed aspiration
- 3x greater risk of mortality with diagnosed of pneumonia after stroke

Armstrong, J. R., & Mosher, B. D. (2011). Aspiration pneumonia after stroke: intervention and prevention. *The Neurohospitalist*, 1(2), 85-93.
Cohen et al (2016). Post-stroke dysphagia: A review and design considerations for future trials. *International Journal of Stroke* 2016, Vol. 11(4) 399-411

IMPACT OF STROKE – LIMB PARALYSIS

- Paralysis on the dominate side will affect the person's ability for self-care.
- During the first weeks after the stroke, total care is necessary and should include oral care.
- After physical and occupational therapy, some self-care may be achieved. However, some assistance may still be required.
- Oral hygiene procedures may be extremely difficult to perform without assistance and modification of devices.

Lyons et al. (2018). Oral care after stroke: Where are we now? *European Stroke Journal*.

IMPACT OF STROKE - SECONDARY

- Poor oral hygiene
- Xerostomia
- Dental Caries
- Halitosis
- Increased Bleeding
- Periodontal Disease

Lyons et al. (2018). Oral care after stroke: Where are we now? *European Stroke Journal*.
Armstrong, J. R., & Mosher, B. D. (2011). Aspiration pneumonia after stroke: intervention and prevention. *The Neurohospitalist*, 1(2), 85-93.
Cohen et al (2016). Post-stroke dysphagia: A review and design considerations for future trials. *International Journal of Stroke* 2016, Vol. 11(4) 399-411

ORAL HEALTH RELATED QUALITY OF LIFE

- Dentate patients with stroke – greater risk of caries and periodontal disease
- Edentulous with dentures – difficulty cleaning their mouth and dentures
- Some dependency on carers
- Loss of sensation – may cause concern as oral pain is often and indication of oral disease
- Pain from dental trauma – ulcerations

ROLE OF NURSES

- Unique role in an integrated care program
- First line of contact – maintain close relationship throughout their acute hospital stay
- Oral care needs to be incorporated into daily management routine

Ajwani et al (2017). Integrated oral health care for stroke patients - a scoping review. *J Clin Nurs*. 2017 Apr;26(7-8):891-901. doi: 10.1111/jocn.13520. Epub 2016 Dec 7.



IRISH HEART FOUNDATION

Irish Heart Foundation:
Council for Stroke

National Clinical Guidelines and
Recommendations for the Care of
People with Stroke and Transient
Ischaemic Attack

Revised Version
March 2010

Oral Care

- All stroke patients should have an oral/dental assessment, which includes screening for obvious signs of dental disease, level of oral care and appliances, upon or soon after admission. **(R)**
- All patients who are not swallowing, including those with tube feeding should have oral and dental hygiene maintained (by the patient or carers) through regular (four-hourly) brushing of teeth, dentures and gums with a suitable cleaning agent (toothpaste or chlorhexidine gluconate dental gel) and removal of secretions. **(R)**
- All patients with dentures should have their dentures put in appropriately during the day, cleaned regularly, checked and replaced by a dentist if ill-fitting, damaged or lost. **(R)**
- All patients with swallowing difficulties and/or facial weakness who are taking food orally should be taught or helped to clean their teeth or dentures after each meal. **(R)**
- Staff or carers responsible for the care of patients disabled by stroke should be trained in assessment of oral hygiene, selection and use of appropriate oral hygiene equipment and cleaning agents, and in recognition and management of swallowing difficulties or dysphagia. **(R, I)**



4.11.1 Recommendations

- A** People with stroke, especially those who have difficulty swallowing or are tube fed, should have mouth care at least 3 times a day including:
 - brushing of teeth and cleaning of gums with a suitable cleaning agent (toothpaste and/or chlorhexidine dental gel), for which an electric toothbrush should be considered;
 - removal of excess secretions;
 - application of lip balm.
- B** People with stroke who have dentures should have their dentures:
 - put in during the day;
 - cleaned regularly using a toothbrush, toothpaste and/or chlorhexidine dental gel;
 - checked and replaced if ill-fitting, damaged or lost.
- C** People in hospital or living in a care home after stroke should receive mouth care from staff who have been trained in:
 - assessment of oral hygiene;
 - selection and use of appropriate oral hygiene equipment and cleaning agents;
 - provision of oral care routines;
 - awareness and recognition of swallowing difficulties.
- D** People with stroke and their family/carers should receive information and training in mouth care and maintaining good oral hygiene before transfer of their care from hospital.

Mouth Care Matters Health Educator

Mouth Care Matters
A guide for hospital healthcare professionals

Date	Time	Signature	Post name

Daily recording sheet

Health Education register

MOUTH CARE ASSESSMENT

1. Patient with any of the following will require a mouth care assessment:

- Fractured mandible
- Fractured maxilla
- Fractured hyoid bone
- Fractured zygomatic arch
- Fractured jaw
- Fractured palate
- Fractured tongue
- Fractured larynx
- Fractured pharynx
- Fractured oesophagus
- Fractured trachea
- Fractured bronchus
- Fractured lungs
- Fractured diaphragm
- Fractured stomach
- Fractured intestines
- Fractured colon
- Fractured rectum
- Fractured anus
- Fractured bladder
- Fractured ureter
- Fractured vagina
- Fractured cervix
- Fractured uterus
- Fractured ovaries
- Fractured fallopian tubes
- Fractured vagina
- Fractured vulva
- Fractured clitoris
- Fractured penis
- Fractured testicles
- Fractured epididymis
- Fractured vas deferens
- Fractured urethra
- Fractured bladder
- Fractured ureter
- Fractured rectum
- Fractured sigmoid colon
- Fractured caecum
- Fractured appendix
- Fractured small intestine
- Fractured large intestine
- Fractured sigmoid colon
- Fractured rectum
- Fractured sigmoid colon
- Fractured rectum

2. Patients with any of the following will require a mouth care assessment:

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OH ASSESSMENTS

Mouth care assessment guide

- 1 Lips: Pink & moist
- 2 Tongue: Pink, moist & clean
- 3 Teeth & gums: Clean, teeth are not broken or loose. Gums are not bleeding / inflamed
- 4 Cheeks / palate / under tongue: Clean, saliva present & looks healthy
- 5 Dentures: Clean & comfortable. It is important that both the dentures and the mouth are cleaned daily

<http://www.mouthcarematters.hee.nhs.uk/wp-content/uploads/2016/10/MCAssessmentA3Posterv3.pdf>

Lips

Pink & moist

Dry, cracked, difficulty opening the mouth

None / Dry mouth care

Swollen, ulcerated

Refer to DOCTOR

Tongue

Pink & moist

Dry, fissured, shiny

None / Dry mouth care

Looks abnormal, white coating, very sore/ulcerated

Refer to DOCTOR

<http://www.mouthcarematters.hee.nhs.uk/wp-content/uploads/2016/10/MCAssessmentA3Posterv3.pdf>

Cheeks, Palate & under the Tongue

Clean, saliva present, looks healthy

Mouth dry, sticky secretions, food debris, ulcers >10 days

None / Clean the mouth, dry mouth care, ulcer care

Very dry, painful, ulcers >10 days, ulcerated/obscured, looks abnormal

Refer to DOCTOR

Reminder

- Any ulcer, lump bump or coloured lesion that is present more than seven – ten days should be seen immediately by a dentist. This is to ensure nothing sinister is afoot.
- Remember if ever in doubt, contact a dentist immediately.

<http://www.mouthcarematters.hee.nhs.uk/wp-content/uploads/2016/10/MCAssessmentA3Posterv3.pdf>

Teeth & Gums



Green, teeth not broken or loose **Unclean, broken teeth (no pain), bleeding/inflamed gums** **Severe pain, facial swelling**

Action 2x daily toothbrushing Daily toothbrushing, clean the mouth Refer to DOCTOR



Inflamed gums – daily toothbrushing **Inflamed gums, calculus/tar buildup – daily toothbrushing** **Swelling/infection – refer to dentist**

<http://www.mouthcarmatters.hee.nhs.uk/wp-content/uploads/2016/10/MCAssessmentA3Posterv3.pdf>



Silver fillings **Upper front tooth crown to make tooth stronger**



Image shows implants to retain a denture - this will need meticulous cleaning to keep healthy

<http://www.mouthcarmatters.hee.nhs.uk/wp-content/uploads/2016/10/MCAssessmentA3Posterv3.pdf>

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



Partial denture made of acrylic and chrome




Denture box – labelled – for storage of dentures at night

http://www.knowledge.scot.nhs.uk/media/7460397/caringforsmilescareshomes2013.pdf_page_37-41
<http://www.mouthcarmatters.hee.nhs.uk/wp-content/uploads/2016/10/MCAssessmentA3Posterv3.pdf>

Recommended mouth care products on the wards for all care staff:

- Pin tooth (for nursing staff)
- Small-headed toothbrush
- Sodium Lauryl Sulphate (SLS) free toothpaste
- Dry mouth moistening gels
- Mouth/ze cleanser
- Denture pot with a lid that is labelled with the name of the patient

<http://www.mouthcarmatters.hee.nhs.uk/wp-content/uploads/2018/03/Order-Information-rollout-MCM.pdf>

21.3 Cross infection control


Personal Protective Equipment (PPE) should be worn by nursing staff/healthcare assistants when providing or supporting a patient with mouth care.

Hand hygiene should be carried out and the following PPE used:

- Plastic apron
- Disposable gloves
- Face mask and protective glasses (if desired)

Patient positioning

- Chin – tuck
- 30 degrees inclination
- Side positioning to the non-affected side



<http://www.mouthcarmatters.hee.nhs.uk/wp-content/uploads/2018/03/Order-Information-rollout-MCM.pdf>

FINGER PROPS



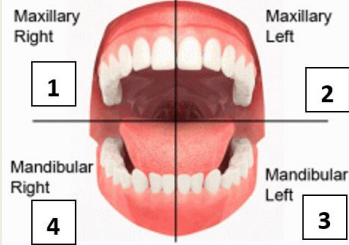
PRODUCTS

Brands of non-foaming (SLS free) toothpaste and the fluoride content

Sensodyne daily care gel	1450ppm
Sensodyne daily care	1450ppm
Oranurse unflavoured toothpaste	1450ppm
Sensodyne pronamel	1450ppm
Retardex toothpaste	1000ppm
Aquafresh children's little teeth	1400ppm
Oralieve moisturising toothpaste	1450ppm
BioXtra toothpaste	1450ppm
Biotene toothpaste	1000ppm

Use of antimicrobials

- Chlorhexidine Gluconate
 - Gel
 - Spray
 - Mouthwash
- Does not substitute toothbrushing



Using the MouthZee stick with dry mouth gel

- Foam swabs or toothettes do not remove plaque bacteria and food from the teeth and should not be substituted for a toothbrush. (Marino et al. 2016)
- Risk of aspiration and choking as the foam can become detached or be bitten off, especially if it is left soaking in liquid, even for a few minutes.
- To be used only for application of mouth rinses or lubricating agents

- [Glick M, Williams DM, Kleinman DV, Vujicic M, Watt RG, Weyant RJ](#). (2016) A new definition for oral health developed by the FDI World Dental Federation opens the door to a universal definition of oral health. *Br Dent J*. 2016 Dec; 16:221(12):792-793. doi: 10.1038/sj.bdj.2016.953.
- Body Positions and Functional Training to Reduce Aspiration in Patients with Dysphagia *JMAJ* 54(1): 35–38, 2011 Hitoshi KAGAYA,*1 Yoko INAMOTO,*2 Sumiko OKADA,*3 Eiichi SAITOH*4
- Seymour GJ. Good oral health is essential for good general health: the oral-systemic connection. *Clin Microbiol Infect*. 2007;13(Suppl 4):1–2.
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