Dysphagia: tips to make dental management easier to swallow

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SENIOR DENTAL SURGEON (SPECIAL NEEDS)
HSE LOUTH/MEATH

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Learning Outcomes

- Understand the relevance of dysphagia on oral health
- Overview the evidence-base relating to dysphagia and oral care
- Overview oral care products and evidence-based oral care protocols for patients with dysphagia
- Demonstrate dental management of patients with dysphagia, with case scenarios.

What is Dysphagia?

- Swallowing disorder, usually resulting from a neurological or physical impairment of the oral, pharyngeal or oesophageal mechanisms
- 'Perception' of an impediment to the normal passage of swallowed material
- **Cluster of symptoms…as a result of an underlying disease or disorder** (IASLT, 2012)

www.rcslt.org/speech_and_language_therapy/commissioning/dysphagia

Common causes of Dysphagia

- IASLT
  - Standards of Practice for Speech and Language Therapists on the Management of Feeding, Eating, Drinking and Swallowing Disorders (Dysphagia) 2012

- Neurological
  - Stroke, CP, Brain injury, Parkinsons, MND, MS, Huntingtons, Ms Dystrophy
- Anatomical/Structural:
  - Congenital, acquired
- Systemic:
  - CF, COPD, Ventilated, Cardiac, GORD, H+N cancer, Chemo/Radio, HIV/AIDS
- Psychological

Incidence of Dysphagia in UK

- Often under-diagnosed
- RCSLT (2009) report dysphagia incidence:
  - **68% with dementia in nursing homes**
  - **~78% immediately post-stroke: 76% remain with moderate-severe dysphagia, 15% profound**
  - **10% of acutely hospitalised elderly**
- 11.4% 'healthy' 69-98 year olds, community study (Holland G. et al 2011.)

Incidence of Dysphagia in Ireland

- Stroke: 10000/yr: 15-41%
- Parkinsons: 41% chewing/swallowing problems
- Multiple sclerosis: 33% chewing/swallowing problems
- Intellectual disability with dysphagia:
  - 5.3% community-based
  - 36% hospital-based

Why are we concerned about dysphagia?

- Asphyxiation/ choking episode
- Aspiration incidents
- Dehydration
- Poor nutritional status
- Extended hospital stays
- Reduced quality-of-life
- Anxiety and distress

Recognising signs of dysphagia

- Inability to control saliva: drooling
- Difficulty initiating a swallow
- Coughing
- Choking
- Gurgly/wet voice after swallowing
- Nasal regurgitation
- History of frequent episodes of pneumonia
- Unexplained weight loss

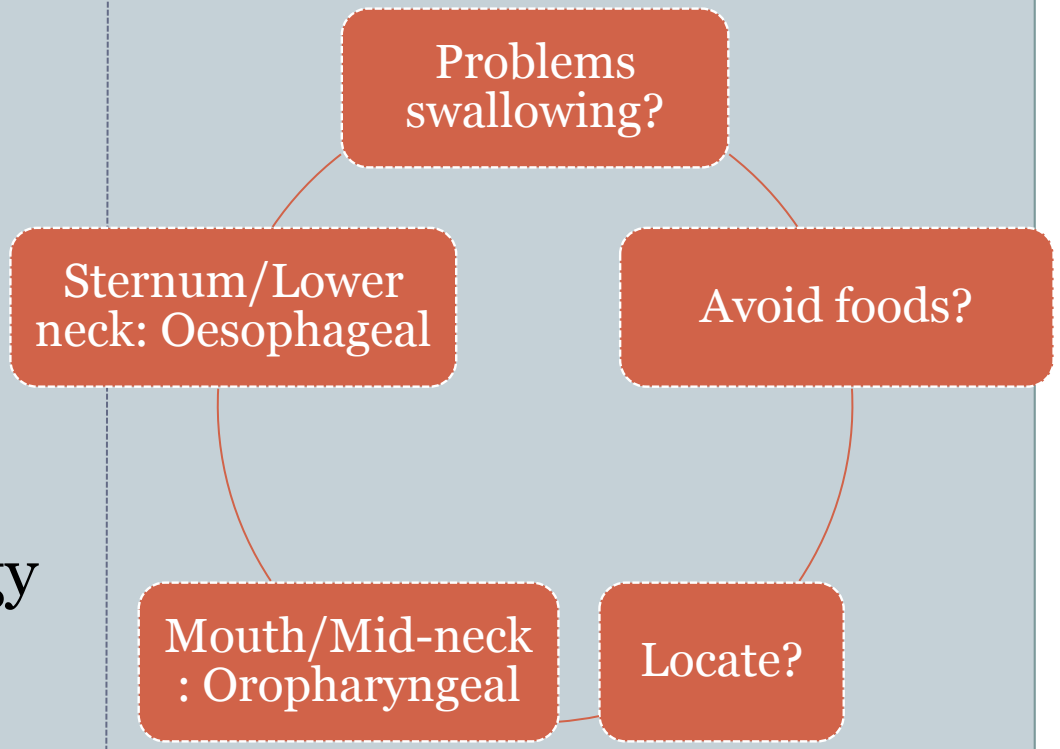
Our role in diagnosing…

To ASK those:

- 60+ years +/-
- Neurologic disease +/-
- History head and neck damage

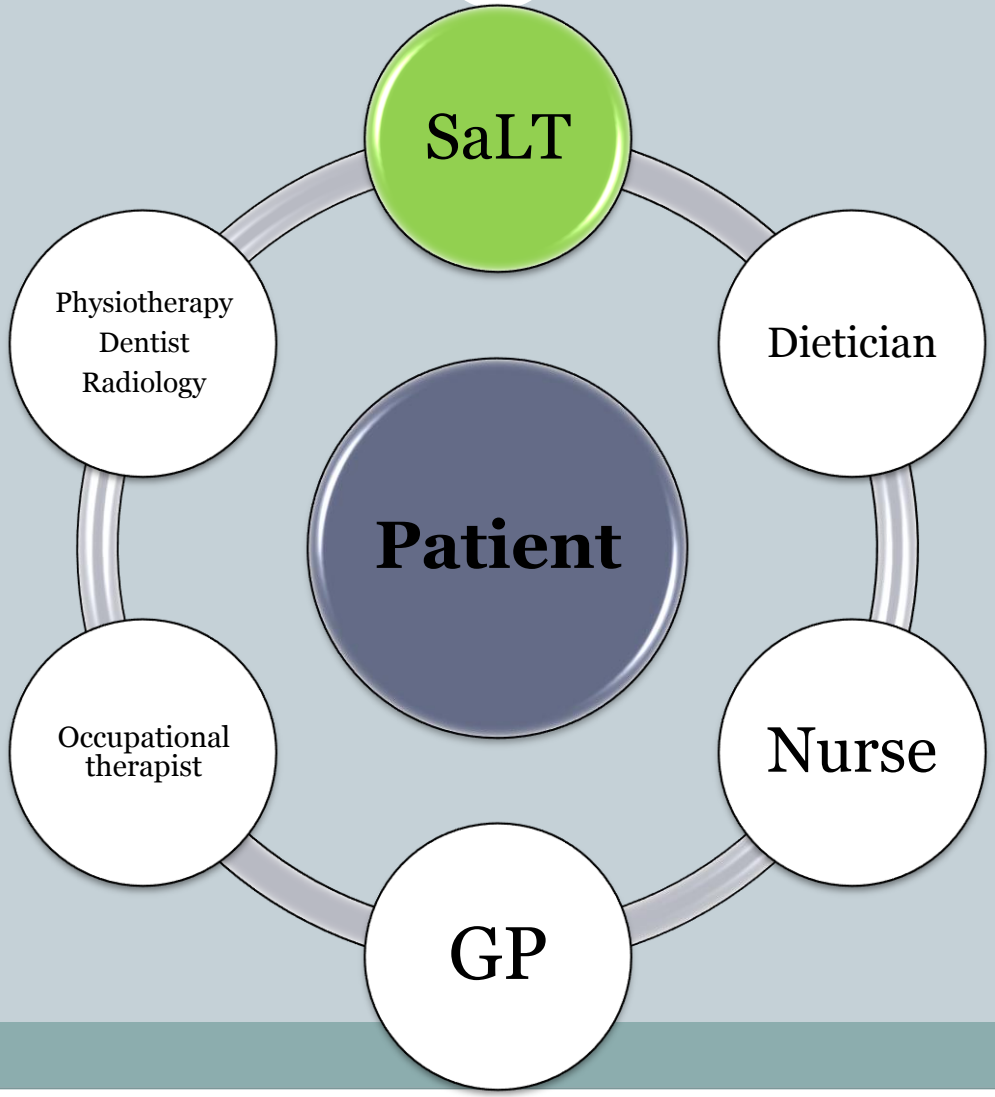
If yes and located:

REFER to gastroenterology for multidisciplinary team (MDT) management



Logemann et al. (2013) Ageing effects on oropharyngeal swallow and the role of dental care in oropharyngeal dysphagia. *Oral Dis; 19: 733-737.*

Management: Multidisciplinary team
led by medical/surgical consultant



***Speech and language therapist*:**

- Swallow assessments
  - Videofluoroscopic swallow study, fibreoptic endoscopic evaluation of swallowing (FEES)
- Manage positioning
- Swallowing exercises
- Surface electromyography, neuromuscular electrical stimulation
- Diet and liquid modifications
- **Information on their oral health**

Why should dysphagia worry the dental team?

- Poor oral clearance
- Increased accumulation of plaque/calculus
- Increased susceptibility to dry mouth
- Aspiration risk during dental treatment
- Nutritional supplements may increase caries risk

Oral health of older people with oropharyngeal dysphagia (OD)

- 50 patients OD v 15 patients non-OD (All 73+ years)
- Observational study – Eating Assessment Tool (severity of dysphagia) and videofluroscopy
- OH assessed: Periodontal dis; caries; OH status; OH habits

Results:

- OD 40% edentate; versus 7% controls
- OD dentate 28/30 periodontitis v 13/14 controls
- OD >50% with caries v 21% controls
- 60% OD clean teeth/dentures once daily

Ortega et al. (2014).
Oral Health in Older Patients with oro-pharyngeal dysphagia.
Age and Ageing: 43: 132-137.

Oral Hygiene Controls v OD (Ortega et al., 2014)

- Slightly poorer OH in OD patients
- Daily toothbrushing improved OH by 50%; reduce aspiration pneumonia
- Small study – needs further multi-centre research

Devising Oral Care Plan in Dysphagia

- Cause of dysphagia
- Identify aspiration risk – whether high-risk

Higher risk dysphagia patients

- With gastric or nasal tubes
- Nil-by-mouth
- On oxygen therapy
- On chemotherapy
- Neuromuscular impairment with swallowing difficulties
- Immunocompromised

Devising Oral Care Plan in Dysphagia

- Cause of dysphagia
- Identify aspiration risk – whether high-risk
- Liaise with healthcare professionals – SaLT and dietician
- Current oral hygiene measures
- Establish oral risk factors…

Higher **oral** risk factors in dysphagia

CONSIDER patients:

- Oral nutritional supplementation:
  - SIG (Wales) Oral Nutritional Supplementation and Oral Health (October 2009)

  Water after sip feed. Use straw

  Liaise with dietician
- Drooling:

  If using hyoscine patches: dry mouth effects.
- Medications with xerostomic effects.

  Artificial saliva/saliva stimulating products

Evidence-based oral care guidelines for dysphagia

Guidelines for the Development of Local Standards of Oral Health Care for Dependent, Dysphagic, Critically and Terminally Ill Patients (British Society for Disability and Oral Health, 2000).

Recommendations:

1. Oral care assessment on admission
2. Devise individual's oral care plan
3. Identify individual's oral health needs

Development of evidence-base

- SIG Wales – Dysphagia and oral health
- Specialist group of dental professionals in special care dentistry
- Due for publication 2014
- Final stages: focus group

- Subdivided:
  - Children
  - Adults
  - High-risk patients
- Mouthcare information
- Oral health risk assessment
- Appendices; algorithms
- Easy-read leaflets for carers

What's the evidence base for oral care?

- Research predominately ventilated/hospitalised patients

Cochrane systematic review: Oral care in stroke patients

3 studies; N: 470 pts post-stroke

- Oral care not a priority. Few training/care policies in place
- Some nursing staff - strong dislike for oral care.

<u>Recommendations:</u>

- Multidisciplinary approach to supported oral care.
- Further high quality evidence: optimum oral care interventions.

Brady et al. (2010).
Staff-led interventions for improving oral hygiene in patients following stroke.
Cochrane database of systematic reviews: Update Issue 4.

Cochrane systematic review: Oral care for critically ill patients to prevent VAP

- 35 RCTs: 14% low risk of bias
- Trials included: CHX v placebo; toothbrushing v none; powered v manual (1 RCT); oral care solutions

<u>Recommendations:</u>

- Moderate evidence CHX m/w or gel reduce VAP but no evidence for children
- OHC with t/b or without t/b: no difference in VAP
- Weak evidence povidine iodide compared to saline

Shi et al. (2013).
Oral hygiene care for critically ill patients to prevent ventilator-associated pneumonia (Review).
Cochrane Database of Systematic Reviews, Issue 8.

Toothbrushing for Critically Ill Mechanically Ventilated Patients: A Systematic Review and Meta-Analysis

- 6 RCTs (N= 1408)
- Trials included: toothbrushing v normal oral care; powered v manual toothbrushing

<u>Recommendations:</u>

- Toothbrushing v non-t/b lower VAP but
  - Mortality: 29% v 31%: not significant. No effect on ICU stay
- Electric v manual –
  - VAP 40% v 42% - not signif.
- ?CHX: study with low bias

Alhazanni et al. (2013). Toothbrushing for Critically Ill Mechanically Ventilated Patients: A Systematic Review and Meta-Analysis of Randomized Trials Evaluating Ventilator- Associated pneumonia.
Crit Care Med; 41(2): 646-655.

All conclude - Training the staff.

In dependent patients:

- Facilitate oral hygiene (Caring for Smiles – guide for trainers (NHS Scotland)
- Appropriate oral hygiene: disturb the biofilm and reduce incidence of VAP. Needleman et al. (2011)
- Oral care protocols readily available on ward/ nursing home – though may not be followed Rello et al. (2007)

Oral hygiene provision – evidence-base

- Positioning
- Toothbrushing
- Oral soft tissues
- Lips/mucosa
- Denture cleaning

SLS-free toothpastes:

Not exhaustive list

****Biotene fresh mint; gentle mint preferred**

SLS Free Toothpastes	Age group	Fluoride concentration
Aquafresh Children Little Teeth	Over 3 years	1400ppm
Pronamel	Over 3 years	1450ppm
Sensodyne Gum Protection	Over 3 years	1450ppm
Bioxtra	Over 3 years	1450ppm
OraNurse Unflavoured	Over 3 years	1450ppm
Ultradex	Under 3 years	1000ppm
Biotene	Under 3 years	1000pmm
Kin Gingival	Under 3 years	500pmm

Anti-calculus toothpastes:

Tetrapotassium/ tetrasodium pyrophosphate

Sodium hexametaphosphate

Zinc compounds

Triclosan, copolymers

Not exhaustive list

Anti-tartar toothpastes	Anti-calculus agent
Aquafresh tartar-control whitening	Tetrapotassium/tetrasodium pyrophosphate
Sensodyne Tartar-control plus whitening	Tetrapotassium/tetrasodium pyrophosphate
Oral B Pro-expert Whitening/All-round protection	Sodium hexametaphosphate
Oral B Proexpert Sensitive toothpaste	Sodium hexametaphosphate
Sensodyne Total Care	Zinc compounds
Colgate Total	Triclosan, copolymers

Patients with dysphagia:

Aspirating toothbrush

Non-foaming fluoride toothpaste

Caries-risk: High fluoride toothpaste: **1.1%/0.619%.**

(Both contain SLS - 1.1% contains less)

Chlorhexidine gluconate gel 1%/spray 0.2%

<u>NOT</u> mouthwash

Dental adjuncts

Toothbrushes for patients with limited cooperation
Dr Barman's superbrush
Dr Barman's duo-power sonic toothbrush
Collis-Curve toothbrush
Finger protection
Dental shield
Open wide disposable mouth rest

Aspirating toothbrushes:

Kimberly-Clark Kim Vent: Ready care oral care

OroCare 2

Sage: Suction toothbrush: 100 case quantity

Plaq-Vac: online ordering.

Critical care

Three systems:

Kim Vent Oral care kit: Q2 (two-hourly) or Q4 (four-hourly) and Ready Care Oral care.

<u>Coloured coded plan:</u>

Purple: suction toothbrush

Green: suction swab H_2O_2

Blue: suction swab with alcohol-free mouthwash.

SINGLE-USE.

Sourcing suction toothbrushes

- Kimberly-Clark Kim Vent: Ready care oral care:

Distributor: TECHNOPATH, Fort Henry Business Park, Ballina, Co Tipperary
Tel: 061-335844
Email: info@techno-path.com

- OroCare 2/OroCare Aspire suction tooth brush (no irrigation)/OroCare Sensitive oral suction wand

Distributor: IntraVeno T/A Aquilant Medical, Aquilant House, 21 Fonthill Business Park, Fonthill Road, Clondalkin, Dublin 22
Tel: 0 1 404 8307
Email: Miriam.Boltt@aquilantservices.com

- Sage: http://aegishealthcare.co.uk/index.php/interventional-patient-hygiene/comprehensive-oral-care.html
- Plak-Vac:http://www.trademarkmedical.com/personal/personal-oral.html. USA ordering.

Dysphagia and dental treatment

General:

- Risk assess - ? High-risk
  - Specialist referral
  - Specific prescription for DCPs
- Upright position
- Chin-tuck position, if safe
- Rests/breaks
- *Discuss patient control techniques*
- Regular communication

Intraoral:

- Protect airway – rubber dam
- High volume suction
- Salivary ejector throughout treatment
- Reduce water flow to fast handpiece
- Increased use of slow handpiece, carisolv, ART
- Fast-setting dental materials
- Avoid excess material
- Avoid overfill impression trays
- Hand scaling rather than ultrasonic scalers

Dysphagic-specific dental risk assessment

Dysphagia dental risk assessment form

- Part of SIG-Wales guideline appendices
- Further development with SaLT colleagues
- Due for piloting and publication in 2014

Evidence-based recommendation

Special Needs:

- Regular dental checks
- High fluoride toothpaste: Sodium fluoride 1.1% twice daily
- 3 monthly fluoride varnish application

- Department of Health –
  - Delivering Better Oral Health – an evidence-based toolkit for prevention (2009)

Dental Health Foundation –
No specific guidance for oral care in dysphagia

Case Examples

Advanced Huntingtons

Dysphagia - high risk of aspiration

Peg-fed

Prescription 3/12 handscaling with hygienist

Calculus – to leave or not?

Oral hygiene demo to support staff – using Biotene and Corsodyl gel

Oral Suction 2 hourly

- Dental management – www.huntingtons.ie

Advanced Huntingtons

Dysphagia - high risk of aspiration

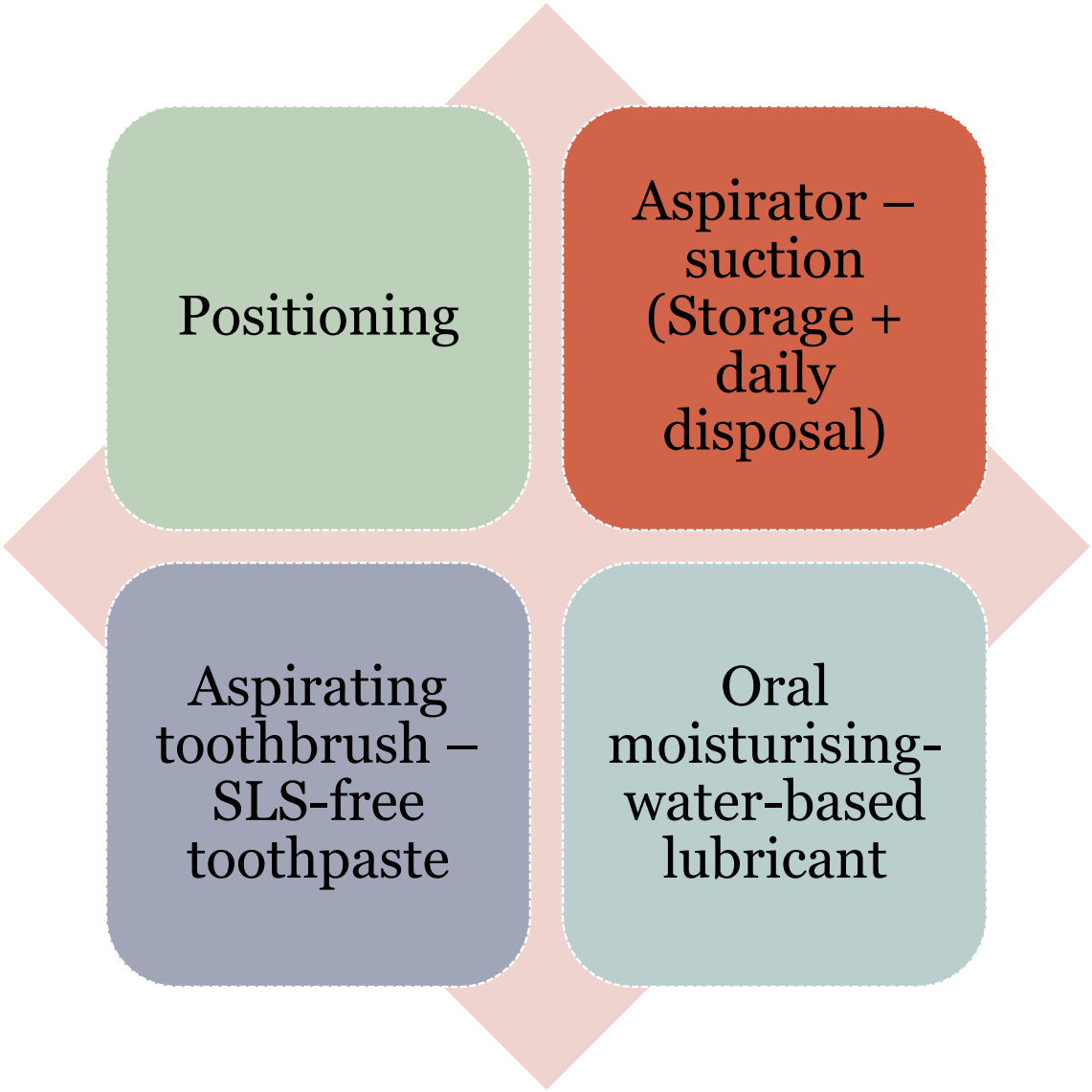
Peg-fed

Prescription 3/12 handscaling with hygienist

Calculus – to leave or not?

Oral hygiene demo to support staff – using Biotene and 1% CHX gel

Oral Suction 2 hourly



Advanced Parkinsons

Dysphagia - low risk

Upright for treatment – chin tuck position

Moderate gag reflex – nitrous oxide

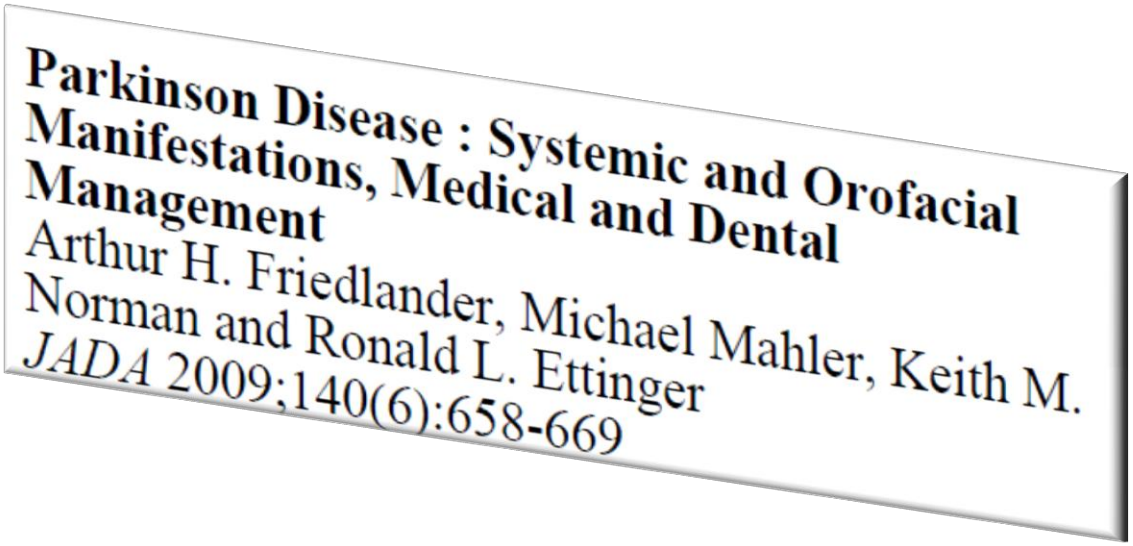
Toothbrushing assistance – electric t/brush

Rubber dam – composites

Handscaling

Care with impressions - overfill

- Dental management – www.parkinsons.ie



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Role of dental team (Logemann et al., 2013)

- Maintaining functional units
- Manage chewing issues
  - Mucositis
  - Xerostomia (sensory changes)
  - Dental/oral tissue disease
- Maintaining oral health:
  - Good information on assessing not delivering
- Education MDT team
  - Expert opinion:

  Poor oral care ➡ aspire oral bacteria ➡ aspiration pneumonia
  - Optimal ways for caregivers in homes/healthcare settings to maintain optimal oral health

Conclusions

- Importance of developing nationally recognised evidence-based dysphagia oral care protocol, involving MDT.
- Further multi-centre research on oral care best practices for patients with dysphagia
- Establish the dental team within the MDT dysphagia care pathway in Ireland

References.

- **Royal College of Speech and Language Therapists: RCSLT Resource Manual for Commissioning and Planning Services for SLCN: Dysphagia. 2009.** www.rcslt.org/speech_and_language_therapy/commissioning/dysphagia_plus_intro
- **Holland et al. (2011) Prevalence and symptom profiling of oropharyngeal dysphagia in a community dwelling of an elderly population: a self-reporting questionnaire survey.** Diseases of the Oesophagus. 24(7): 476-480.
- **Needleman et al. (2011) Randomized control trial of toothbrushing to reduce ventilator-associated pneumonia pathogens and dental plaque in a critical care unit.** J Clin Periodontol 2011: 38: 246-252.
- **Rello et al. (2007) Oral care practices in intensive care units: a survey of 59 European ICUs.** Intensive Care Medicine. 33(6): 1066-70.

19th and 20th June, 2014

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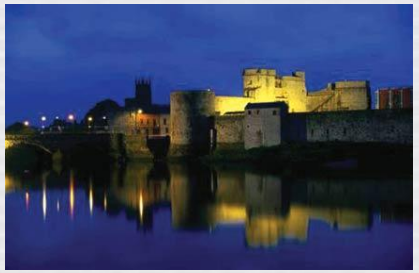

ISDH Summer Conference, Limerick