O'Mullane Prize presentation abstracts

1. **Radiographic Presence of Third Molars in Patients Referred for Extraction of First Permanent Molars.**

O'Brien SE*, O'Connell AC, Al-Awadhi EA,

(Dublin Dental University Hospital)

Background: In a recent publication regarding additional radiographic features and the timing of first permanent molar (FPM) extractions, it was suggested that the presence of the third molar should be considered prior to removal of FPMs for more predictable spontaneous space closure.

Objective:

Our aim was to assess how many patients, who were referred for FPM extraction, had third molars visible on orthopantomogram (OPG) radiographs, to determine if this is a reliable factor to consider when planning FPM extraction.

Method: The records of sixty patients, referred to the Paediatric Department in the Dublin Dental University Hospital for FPM extractions, were assessed. The reason for extraction and the age of patients at time of referral were recorded. The patient's OPG was assessed and presence/absence of third molars was documented. A calibration exercise was completed prior to data collection to ensure consistency in reporting on third molars on radiographs.

Results: The mean age of patients referred for FPM extraction was 9.5 years and 63% had third molars visible on OPGs. Molar-Incisor Hypomineralisation (MIH) accounted for 57% of referrals and of these patients the mean age was 8.4 years and only 53% had third molars visible on OPGs.

Conclusion: While radiographic presence of third molars may lead to better spontaneous space closure following FPM extraction, it is

important to note that a considerable percentage of patients are referred at a young age, many with symptomatic FPMs and with third molars not radiographically present and so it is often not feasible to wait until third molars are visible prior to extraction of FPMs.

2. A Vision for Rights Compliant Dentistry for Irish Pre-Schoolers.

Dr Daly RM*

This study examines the interaction of the law in Ireland and children's oral health. Dental decay in young children impacts seriously on general health and quality of life, resulting in tangible harms and preventable general anaesthesia. Article 24 of the United Nations Convention on the Rights of the Child (UNCRC) states that:

"States Parties recognise the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health. States Parties shall strive to ensure that no child is deprived of his or her right of access to such health care services"

Three case studies are used to evaluate the Irish State's compliance with Article 24. The first case study focuses on the opportunities for early intervention and the prevention of dental disease. The second considers the delivery of dental care for preschool children. The third evaluates the importance of specialist training and recognition in Paediatric Dentistry. The inherent limitations of litigating the right to health are highlighted through the analysis. Whilst the UNCRC is a non-binding legal instrument, it contains important mechanisms though which compliance may be addressed.

Unless children's advocates are made aware of the rights contained within the UNCRC and if potential solutions to non-compliance are not

publicised and highlighted, thousands of Irish children will continue to be deprived of the "right to the enjoyment of the highest attainable standard of health" and optimal oral health.

3. Title: A Sad Tail - Frequency Distribution of Dental Caries in 11-13-Year-Olds.

James P[1]*, Harding M[1,2,3], Whelton H[4] "[1] Oral Health Services Research Centre, UCC, Cork [2] University Dental School, UCC, Cork [3] HSE-South [4] School of Dentistry, University of Leeds, Leeds, United Kingdom"

Purpose: Use 'Bridges' electronic health record (EHR) to describe the dental caries experience (DMFT) of 11-13-year-old Cork children, in the 'tail' of the right-skewed frequency distribution (DMFT≥7 and DMFT≥10).

Methods: Obtain ethical approval and permission from the Primary Care Research Committee (HSE). Develop and validate a DMF query for 11-13-year-olds availing of a 6th- class-oral-health-assessment in the school year 2013/2014. Determine and validate the frequency distribution; present information for the 'tail' of the frequency distribution.

Results: In total, 6,548 11-13-year-olds (mean DMFT 1.5±2.1, 47% DMFT=0) had a 6th-class-oral-health-assessment. The 'tail' of the

distribution was visually defined as DMFT≥7 (n=207, mean DMFT 8.9±2.5).

The 48 children with a DMFT≥10 are described in more detail as follows; mean DMFT 12.2±2.8, range 10-22, (D)=8.5±3.5, range 0-18, (M)=0.6±1.1, range 0-4, (F)=3.1±3.7, range 0- 18. The D component of mean DMFT at the time of oral-health-assessment accounted for 70% including 26% second permanent molars (SPMs) and 27% premolars. The proportion of decayed first permanent molars indicated for extraction was 18%, and 2% for SPMs. Over half of the children with DMFT≥ 10 first attended for relief of pain (n=13 at ≤ 5 years old). Fifteen children (31%) previously had teeth extracted under GA.

Summary: Mean DMFT masks the high level of dental caries in the 'tail' of the distribution, a cause of significant morbidity for these 11-13-year-olds, requiring substantial commitment of resources.

Conclusions: These children have and will continue to have significant oral health needs throughout their lives. Opportunities for early, multifaceted preventive programmes should be considered.

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4. Attitudes and experiences of public health nurses towards a 'lift the lip' early childhood screening and referral program.

Crowley, E*, O'Donovan, M, Downey, J, Hayes, N, Hassett, C, Herlihy, M, Creedon, MI

(HSE Dental Department, Cork ISA, Training and Development : Child Health, HSE South, Public Health Nursing Department, Cork)

In 2013/14, a 'lift the lip' early childhood screening and referral program by public health nurses (PHN's) was implemented in the Cork Integrated Service Area (ISA). The program was introduced as a response to high decay experience in preschool children and a lack of knowledge amongst parents on how to care for their children's teeth.

Aim: The aim of this study was to collect information about the attitudes and experiences of PHN's and determine further ways to improve the program.

Methods: Anonymous questionnaires were distributed by post to all frontline PHN's (n=179) working in the Cork ISA in November 2015. Results: Ninety five questionnaires were returned (53% response rate). Eighty four percent (n=80) reported that they thought tooth decay was a problem for children in their area of work. Seventy three percent (n=69) had received training in the 'lift the lip' program. Of the 27% (26 nurses) who had not received training in the program, 96% (n=25) reported that they would be interested in receiving training. Ninety percent (n=62) of the nurses who were trained had referred children to the HSE for follow up. Seventy one percent (n=49) of those who had referred patients had received feedback about the referral. Ninety two percent (n=45) found the feedback helpful, no one found the feedback unhelpful. Ninety percent (n=62) of trained nurses were carrying out the 'lift the lip' screening

exams during developmental check-ups at least 50% of the time. Forty four percent (n=30) reported carrying out 'lift the lip' screening during all developmental check-ups. The most common reasons for not carrying out the 'lift the lip' exam were 'not enough time' (n=13) and that the child was 'uncooperative for the exam' (n=12). Seventy one percent (n=49) of those trained reported to be comfortable with conducting a screening of the teeth. Only 9% (n=6) were not comfortable with conducting the exam. Overall, 91% (n=63) rated the 'lift the lip' screening and referral program as a positive or very positive part of the overall care of their young clients.

Conclusion: The 'lift the lip' screening and referral program appears to be well accepted and valued by PHN staff in the Cork area. Further training of PHN staff would assist in improvement of the program.

5. What's new in the world of pit-and-fissure sealants?

Nayyar J[1*], Harding M[1,2,3], Kinirons M[1]

1. University Dental School and Hospital, UCC. Oral Health Services Research Centre, UCC. HSE-South (CHO 4)

Purpose: Identify and appraise evidence on pit-and-fissure sealants available since publication of the guideline: "Irish Oral Health Services Guideline Initiative. Pit-and-fissure Sealants: Evidence-based guidance on the use of sealants for the prevention and management of pit-and-fissure caries. 2010"

Methods: Search Strategy: The PubMed, Cochrane Library and Medline databases were searched from January 2010 to December 2015. Various search terms were used to identify papers. Snowballing was used to find other relevant papers.

Selection Criteria: 62 relevant papers were found. In-vitro studies and review papers were excluded, 32 remaining studies were critically appraised and results tabulated including the strength of the evidence.

Results:

1. Sealants are effective and should be placed in high caries risk individuals.
2. Non-operative cleaning of fissures using a toothbrush or bristle brush is recommended. Mechanical preparation of fissures is not recommended.
3. Glass-ionomer (GI) sealants can be considered when resin-sealants cannot be satisfactorily placed and patients recalled within 6-12 months.
4. Fluoride application can be considered when resin-sealants cannot be satisfactorily placed and patients recalled within 3-6 months.

Further research is required to establish:

5. The ideal age for sealant placement.
6. The use of self-etching agents. Currently, etching using 37% phosphoric acid is the gold standard for resin sealant retention.
7. The use of a bonding agent when placing sealants.

Conclusions: Following appraisal of the evidence, results indicate that since 2010 new research is available. Relevant stakeholder groups should be consulted to consider an update of the guideline and recommendations. At initial publication an update in 2012 was recommended.