

## **Poster presentation abstracts**

### **1. General anaesthesia versus conscious sedation in the anxious paediatric patient?**

**McDermott, G., General Dental Surgeon, HSE.**

Purpose: Fear creates a barrier for patients accessing dental treatment, which is firmly associated with the deterioration of oral health, leading to extensive and preventable odontogenic disease. Astonishingly, more and more patients are being admitted to hospital with complex and severe infections originating from dental caries. A recent peer-review retrospective Irish study confirmed a startling mean length of inpatient stay of 5.5 days, with even one patient requiring a hospital length of stay of 37days. This literature review will investigate morbidity, mortality, safety, effectiveness and economics of conscious sedation versus general anaesthesia in the paediatric dental patient.

Method: Literature Review.

Over the last 25 years, research has indicated mortality rates relating to general anaesthesia averaged between 0.1 and 5.7 per 10,000 cases. Albeit, general anaesthesia is occasionally the only option to treat specific patients, it is incumbent for general dental practitioners to restrict paediatric patient exposure to general anaesthesia to an absolute minimum.

Evidence demonstrates that over a 45 year period of administration of nitrous oxide inhalation sedation no mortality occurred and, furthermore no cases of major morbidity existed. The broad availability and the successful use of dental conscious sedation have greatly expanded treatment options reducing fear and anxiety for the many nervous paediatric dental patients.

General anaesthesia has been estimated to significantly inflate cost of dental treatment by \$1,000 to \$6,000 per patient. Waiting lists among hospitals for dental treatment under general anaesthesia are lingering and bed assignments can be arduous. Currently in 2015, there is a twelve month average wait time for young children with chronic dental infections in Ireland. This can negatively affect performance at school, through missed school days.

## Conclusion

Conscious sedation is constitutionally a safer practice, versus general anaesthesia, granted relevant postgraduate qualifications and skills are obtained, and appropriate drugs are available for any emergency, and equipment is validated. In conclusion, the risks of morbidity and mortality are irrefutably and undeniably less with dental conscious sedation versus general anaesthesia. Incontestably, conscious sedation is safe, effective and an economical option for the provision of dental treatment for anxious paediatric patients.

## **2. A minimally invasive technique for the management of developmental defects in enamel.**

**Ms Daniele Ryan 4<sup>th</sup> year Dental Student UCC.**

Purpose: To describe an aesthetic minimally invasive technique for hypomineralised demarcated defects in enamel in a 12 year old child (female).

Methods: This patient was seen as part of a school linked oral health programme with an undergraduate dental student. Following a history examination both parent and child were concerned about the appearance of the 'brown marks' on her anterior teeth. The child had low confidence in her smile.

### Case Technique:

Both maxillary central incisors (11 and 21) were affected with demarcated defects in enamel, tooth 21 was more severely affected than the 11. Restoring the central incisors with composite resin alone was tried. A successful result wasn't achieved. "Miris" blue effect material was used on the 11 as it was mildly discoloured. The 21 was masked more successfully using an opaquer. The teeth were partially veneered with resin composite material and polished using sofex discs.

### Results:

All preventive treatment was successfully carried out using local anaesthetic when needed. The patient is now more confident and motivated to maintain good oral health. All at risk teeth have been sealed, active caries has been removed, and appropriately restored and non-restorable teeth have been extracted. The aesthetics of the upper central incisors were successfully improved leaving the patient more confident about her smile.

### Conclusions:

A minimally invasive technique of using resin opaques and colour-modifiers in combination with composite veneering is clinically successful. This technique is good initial management which can be used for teeth that have dental defects in enamel.

### **3. Using Chairside Simulation in Paediatric Dentistry to Augment Students' Learning.**

**MacSweeney S\*, O'Sullivan E (University Dental School and Hospital, Cork)**

Undergraduate paediatric dentistry, while immensely rewarding, may also be unpredictable, challenging and stressful. Students need to be both procedurally proficient and able to communicate effectively with very young and/or anxious children. Exploratory discussions with 4<sup>th</sup> year undergraduates (n=8) and observation of their clinical practice revealed that many were experiencing difficulties carrying out some paediatric treatments.

**Purpose:** To investigate if simulation interventions based in the clinical environment might be effective in helping students overcome their difficulties.

**Methods:** An action research project involving five chairside simulation interventions was introduced during clinical sessions, covering LA administration, isolation, pulpotomy techniques and amalgam restorations.

Qualitative data was derived from questionnaires and reflective accounts from students and teacher. Data mapping and analysis using the constant comparison method yielded a number of main themes related to students' learning and to clinical teaching.

**Results:** Students found these interventions enhanced learning as they increased their clinical preparedness for pulpotomies and amalgam restorations and successfully addressed difficulties encountered with LA and isolation. They reported improvements in their clinical skills, deepened understanding, increased confidence and anxiety/stress reduction.

Conclusion: While simulation is currently used in preclinical education, this study suggests that simulation may be beneficial if incorporated into clinical teaching. The materials/ models used in this study are easily accessible, no extra teaching space or time is required. Early clinical learning may occur in this way, students can also engage in self-directed deliberate practice, further refining their clinical skills, ensuring higher levels of proficiency when operating on children.