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Abbreviations used in this issue

ASD = autistic syndrome disorder
CPP-ACP = casein-phosphopeptide-amorphous-calcium-phosphate
QOL = quality of life
TDI = traumatic dental injury
TN = trigeminal neuralgia

Welcome to the third issue of Dental and Oral Health Research Review.

This issue begins with an enlightening report defining the role of dentists in the treatment of children with ASD (autistic syndrome disorder). Researchers from Australia have highlighted the important impact parents' oral health beliefs and behaviours have on their children's oral health. There are also a few review articles, including another Australian paper on how anticoagulant use affects the management of patients needing primary care dental procedures, one on the adverse oral and systemic health effects of tobacco use across the spectrum of tobacco products, and another providing helpful advice to dentists on how to approach the sensitive topic of cannabis use in their patients and its effects on oral and general health.

We are always interested to hear your thoughts and suggestions, so feel free to contact us via the email addresses below.

Kind regards

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Oral health characteristics of preschool children with autistic syndrome disorder

Authors: Sarnat H et al.

Summary: The dental status of 47 young children with ASD from Israel was compared with 44 control children with normal development status in this research. Questionnaires completed by the children's parents revealed that 25% of the children with ASD never brushed their teeth, compared with none in the control group. Parents of children with ASD were also more likely to report pacifier use, fussy eating and eating problems in their children. The children with ASD were also more likely to prefer salty, spicy and sweet foods than the control children, and their ability to undertake functions of everyday life was slightly more than half of what is expected for their age. Despite these findings, there were more caries-free children in the ASD group than in the control group.

Comment (JL): ASD includes autistic disorder, childhood disintegrative disorder, Asperger disorder and pervasive developmental disorder not otherwise specified. Dental treatment of children with ASD is difficult, complicated and stressful for the children, their parents and the oral health provider. Knowledge of this disorder is important so that treatment can be based on the children's unique behavioural patterns and sensitivities. This study confirmed that ASD is more prevalent in boys, children affected by ASD have difficulties with simple everyday activities such as tooth brushing, have more eating difficulties such as extreme selective preferences for particular foods, but have lower caries prevalence possibly due to less snacking, eating only when served food and no initiative to take food by themselves. Dental trauma was higher in the autistic group. Parent/caregiver partnership, participation, education and anticipatory guidance need to be part of the treatment protocol, with motivation and instruction for parents/caregivers regarding oral hygiene, tooth brushing and use of fluoridated toothpaste. Patience, repetition, understanding and empathy on the part of the dental provider are key requisites when treating these children.

Reference: *J Clin Pediatr Dent* 2016;40(1):21–5

[Abstract](#)

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Independent commentary by Colleen Murray.

Colleen Murray graduated from the University of Pretoria with a BChD in 1984, followed by an Honours degree in Oral Radiology and Diagnostics in 1987. After a combination of private practice and university teaching, she emigrated to New Zealand in 1992, took a break from dentistry and obtained her BEd degree. She has been in Dunedin since 2003 when the pull back to dentistry resulted in a BDS and return to private practice. This was followed by a change to the academic setting and a PGDipClinDent in Paediatric Dentistry. **For full bio [CLICK HERE](#).**



Independent commentary by Jonathan Leichter DMD, Cert Perio (Harvard).

Dr Leichter is currently Senior Lecturer in the Department of Oral Sciences at the University of Otago. Dr Leichter joined the faculty after 20 years in fulltime private practice in New York and Boston, 18 of which were spent in specialist practice limited to periodontology and implant dentistry. Trained at Tufts University and obtaining his specialist training at Harvard University, he has been actively involved in clinical dental implant practice since 1984. Since 2002, he has supervised and mentored postgraduate students in periodontology, endodontics and prosthodontics. **For full bio [CLICK HERE](#).**



An exploration of the views of Australian mothers on promoting child oral health

Authors: Virgo-Milton M et al.

Summary: The views of 32 Australian mothers on barriers and facilitators to promoting child and family oral health were obtained using semistructured interviews. Important influences on children's oral health were parental knowledge and beliefs, past experiences and child behaviour. Barriers to good oral health were child temperament and parental time pressures, and various strategies for dealing with uncooperative children at tooth brushing time were reported. Positive influences on the oral health of children were parental oral health knowledge and beliefs, but while most mothers reported awareness of the common causes of dental caries, only a few were aware of other risk factors such as bedtime feeding. Parents' own oral health experiences, both positive and negative, were also seen to influence the oral health of their children.

Comment (JL): The family unit has an important role in the oral health of children by promoting good oral health and establishing positive behaviours early in life. Parental behaviours, beliefs, knowledge, perceptions, self-efficacy and role modelling influence children well into adolescence. As little research is available, the authors of this qualitative study aimed to gain a greater understanding of how the above factors influence children's oral health and oral health practices. Semistructured interviews were conducted with 32 parents from a range of demographic variables. All respondents were mothers, one-third with their first child. The study found a need for increasing parental knowledge of caries risk factors and the behaviours to avoid in young children, particularly with regard to cariogenic bacteria transmission and appropriate bedtime infant feeding practices. Children's behaviour and lack of time were barriers to improving children's oral health practices. Mothers with less belief in their own ability gave in to unco-operative children and deferred toothbrushing. Mothers who had experienced negative dental experiences themselves wanted to ensure their children did not go through similar situations. This study emphasises the need for us to promote good oral health behaviours at a family level for both parents and children.

Reference: *Aust Dent J* 2016;61(1):84–92

[Abstract](#)

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Allergic rhinitis is associated with periodontitis

Authors: Hung S-H et al.

Summary: The association between periodontitis and previous allergic rhinitis was explored in a Taiwanese population-based dataset of patients with and without chronic periodontitis. Compared with controls, patients with chronic periodontitis had a significantly greater prevalence of prior allergic rhinitis (28.4% vs. 24.2%; adjusted odds ratio 1.21 [95% CI 1.18, 1.23]).

Comment (JL): Chronic periodontitis has been associated with multiple systemic conditions – diabetes mellitus, cardiovascular disease, osteoporosis, preterm/low birthweight babies, respiratory diseases and rheumatoid arthritis. This study explored the association between periodontitis and allergic rhinitis. Allergic rhinitis is a common disease characterised by sneezing, rhinorrhoea and nasal obstruction. It may also be accompanied by itching eyes, nose and palate, postnasal drip, coughing, fatigue and irritability. A comparison of 98,611 patients with periodontitis and 71,182 controls showed an association between these two conditions. One probable mechanism linking these two diseases is through the immune system, as elevated levels of various cytokines contribute to both diseases. Another possible mechanism is mouth breathing. While this study has limitations and is only an observational study, its findings are of interest. More studies are needed.

Reference: *J Periodontol* 2016;87(7):749–55

[Abstract](#)

The changing tobacco landscape: what dental professionals need to know

Authors: Couch ET et al.

Summary: This review on conventional and new tobacco products examined associated adverse oral and systemic health effects and their prevalence of use among US residents. It was found that tobacco products other than cigarettes (e.g. cigars, water pipes, electronic cigarettes and conventional and new smokeless tobacco products) accounted for a substantial amount of tobacco use in the US, and the authors suggested that tobacco prevention and cessation counselling provided by dental healthcare professionals should therefore address these additional products as well as cigarettes. They reminded readers of the immediate and long-term adverse health effects associated with cigarettes and smokeless tobacco, and cautioned that new tobacco users may be attracted by novel products, potentially leading to addiction, resulting in longstanding use of tobacco products and their associated adverse health effects.

Comment (JL): Although smoking prevalence has dropped, tobacco use remains the single leading cause of death in the US. The range of tobacco products has increased with conventional smokeless tobacco, such as snuff and chewing tobacco, snus (moist, pulverised compressed smokeless tobacco), compressed dissolvable tobacco, cigars, water pipes (hookahs) and electronic cigarettes, accounting for a substantial portion of product use. Many of these are misleadingly marketed as 'safe' or 'harmless', and some patients who use products such as e-cigarettes may not refer to their use as 'smoking' or themselves as 'smokers'. This paper reviews both conventional and new tobacco products, their adverse oral and systemic effects and their prevalence of use in the US. All oral health providers need to be aware of, and knowledgeable about, tobacco products, so that we can communicate with our patients and provide effective tobacco-use prevention and cessation counselling. This paper is well worth reading and provides some food for thought... are questions that reflect modern smoking trends included in our discussions and medical questionnaires?

Reference: *J Am Dent Assoc* 2016;147(7):561–9

[Abstract](#)

Impact of oral health problems on the quality of life of preschool children

Authors: Firmino RT et al.

Summary: These researchers reported on 83 Brazilian children aged 3–5 years whose oral health-related QOL (according to B-ECOHIS [Early Childhood Oral Health Impact Scale] score) was affected by dental caries and TDI (traumatic dental injury) and 332 matched controls whose oral health-related QOL was not impacted. The most frequent B-ECOHIS responses were 'felt pain' in 79.7% and 'difficulty in eating' in 35.0%. Both caries severity and TDI were significantly associated with impact on oral health-related QOL (respective odds ratios 12.58 [95% CI 5.31, 29.79] and 2.11 [1.23, 3.62]).

Comment (JL): This population-based, matched, case-control study involved 415 preschool children (83 cases and 332 controls) aged 3–5 years and is the first case-control study addressing oral health-related QOL in this age group. After training, calibration and a pilot study, the participants were examined and the ECOHIS, which uses reporting by parents/caregivers, was administered. A questionnaire addressing sociodemographic data and the child's health was also completed. In the case group, the ECOHIS items with the greatest prevalence of impact were related to pain (79.7%), difficulty in eating (35.0%) and drinking (28.9%) and being irritated/frustrated (26.5%). Not surprisingly, both caries severity and TDI were associated with a negative impact on the oral health-related QOL of these preschool children. Children with six or more cavitated lesions had a 12-fold greater chance of experiencing impact on oral health-related QOL, while those with TDI had a 2-fold greater chance. This study reinforces data reported in the literature and reminds us of how these preventable conditions adversely affect young children.

Reference: *Int J Paediatr Dent* 2016;26(4):242–9

[Abstract](#)

Prevalence of trigeminal neuralgia

Authors: De Toledo IP et al.

Summary: These researchers conducted a systematic review of the published literature in order to identify observational population-based studies reporting the prevalence and epidemiology of TN (trigeminal neuralgia). This report summarises the findings of that review. Of a total of 728 identified studies, only three satisfied inclusion criteria and were analysed. Using criteria from the Agency for Healthcare Research and Quality to assess the methodological criteria, two studies were deemed to have a low risk of bias and one had a moderate risk.

Comment (CM): Classic TN affects one or more branches of the trigeminal nerve, is usually unilateral and is more frequent in older populations with women more affected. It is also challenging for clinicians to diagnose. Although the authors found 728 studies, only three population-based studies fitted their eligibility criteria. These studies, with sample sizes ranging from 1838 to 13,541, showed that the right side was more commonly affected, a relationship was often seen between the second and third branches of the trigeminal nerve, and that the proportion of women to men with TN was 3 to 1. The prevalence ranged from 0.03% to 0.3% with the ages of those affected ranging from 37 to 67 years. As more than 80% of patients with TN initially see a dentist, we need to be aware of this condition and its signs and symptoms (both usual and atypical). Referral to a neurologist for evaluation is indicated in all cases.

Reference: *J Am Dent Assoc* 2016;147(7):570–6

[Abstract](#)



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Storing tooth segments for optimal esthetics

Authors: Tuzuner T et al.

Summary: These researchers compared the effects of six different storage solutions upon tooth segment optical properties. Sixty central incisor crowns were divided into six groups (10 in each); group 1 was kept dry; groups 2, 3, 4, 5 and 6 were placed in an isotonic solution, water, milk, saliva and CPP-ACP (casein-phosphopeptide–amorphous-calcium-phosphate), respectively, for 30 minutes, 12 hours, 1 day, 1 week and 3 weeks.

Comment (CM): Reattachment of a fractured tooth fragment has several advantages: the same tooth morphology, less chair time, reliability, low cost, maintenance of incisal function and minimal tooth loss. Storage and preparation of the fragment prior to reattachment are important determinants of the clinical outcome, as dehydration changes the optical properties and decreases bond strength between the tooth and fragment. Where a root canal treatment or gingivectomy is necessary prior to reattachment, storage of a fragment may involve an extended time period. This study compared six storage options – no solution, isotonic saline, water, milk, artificial saliva and CPP-ACP applied for 2 minutes prior to an isotonic solution. Colour values of 60 central incisors were recorded before storage, then periodically for 3 weeks. While milk and saliva resulted in acceptable changes, CPP-ACP resulted in the least colour changes. As fractured maxillary incisors are a common presentation after trauma and CPP-ACP is available in all dental practices, this fragment storage option is a good option to keep in mind.

Reference: *J Clin Pediatr Dent* 2016;40(2):113–7

[Abstract](#)

Anticoagulant therapy and its impact on dental patients

Authors: Thean D & Alberghini M

Summary: This review provides recommendations for the management of patients using the newer oral anticoagulants who need to undergo primary care dental procedures.

Comment (CM): Patients on anticoagulants are not an unusual occurrence in the dental office, and it is important that clinicians understand the mechanisms of actions of these drugs, keep up to date with the newer anticoagulants that are becoming increasingly available, and are able to manage the complications associated with anticoagulant use in the context of dental practice. This paper: i) reviews the process of coagulation; ii) provides an overview of the various anticoagulant agents such as heparin, the vitamin K antagonists (warfarin and indandione-derivatives) as well as the newer alternatives such as dabigatran, rivaroxaban and apixaban; iii) discusses the monitoring of anticoagulants and reversal agents; and iv) provides management guidelines for the dental practitioner. It is well worth reading.

Reference: *Aust Dent J* 2016;61(2):149–56

[Abstract](#)



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Cannabis: a joint problem for patients and the dental profession

Authors: Joshi S & Ashley M

Summary: This article details the oral impact of cannabis use and suggests how dental professionals can approach this sensitive topic and discuss with patients the effects of cannabis use on oral and general health. It is written by researchers from the University of Manchester, the UK. In England and Wales, cannabis is currently the most commonly used illegal drug. Approximately 6.7% of adults aged 16–59 years used cannabis in 2014/2015, whereas 16.3% of young adults aged 16–24 years used cannabis in the same period. Despite a steady decline in use from 2006 through 2015, cannabis still appears to be a favoured drug amongst young adults aged 16–24 years. Very likely, the situation is not dissimilar in New Zealand. After all, cannabis is one of the most commonly abused drugs worldwide. This article emphasises that the challenges faced by healthcare professionals are increasing with the growing use of new psychoactive substances. The dental profession has to learn how to cope with these challenges.

Comment (CM): Approximately 147 million people worldwide use cannabis – and undoubtedly a few of these are your patients! Cannabis affects multiple body systems – respiratory, cardiovascular and central nervous systems, with its effects varying between individuals depending on the preparation and mode of intoxication. From the dental perspective, the effects of cannabis use on oral health include a dry mouth, decreased pH of the saliva, less frequent dental visits, poorer oral hygiene and increased intake of sweet foods and drink postcannabis use – all of which result in higher scores on the decayed, missing, and filled teeth (DMFT) index. The soft tissues are also affected, with increased periodontal disease, gingival enlargement, chronic thermal injury, leuco-oedema and an increased prevalence of candida. The possibility of a link between cannabis and oral cancer requires more evidence, as contradictory findings are reported. A nonjudgemental approach, based on confidentiality and trust, is essential when patients disclose their habit. Brief advice, without creating a defensive reaction, and referral to a relevant organisation is advised.

Reference: *Br Dent J* 2016;220(11):597–601

[Abstract](#)

The influence of varying maxillary incisor shape on perceived smile aesthetics

Authors: Hussain A et al.

Summary/comment (CM): In this study, 30 general dentists, 30 dental technicians and 30 patients were shown digitally altered photographs of female smile displaying only maxillary teeth. Five incisor shapes had been produced – square, ovoid, triangular, tapered-ovoid and square-tapering. Background lighting was standardised and participants ranked the images in order of attractiveness. After an interval of 30 minutes the study was repeated and Cohen's κ values calculated to test participant reliability. Although dentists and technicians ranked tapering-ovoid as the most attractive image, patients ranked ovoid as the most attractive with a statistically significant difference in the ranking. All groups ranked the square teeth as the least attractive. If the image was to be of a male subject, 90% of dentists and 83% of technicians, but only 23% of patients, would have changed their rankings. From a practical point of view, it is essential that we involve our patients and ascertain their aesthetic wishes and expectations when restoring anterior teeth so that they are satisfied with the aesthetic outcome.

Reference: *J Dent* 2016;50:12–20

[Abstract](#)

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