

2017 ANNUAL SEMINAR ASHEVILLE, N.C.

Special Care Advocates in Dentistry 2017 Lit. Review

(SAID's Search of Dental Literature
Published in Calendar Year 2016*)



Compiled by:
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Recent journal articles related to oral health care
for people with mental and physical disabilities.

Search Program = PubMed

Database = Medline

Journal Subset = Dental

Publication Timeframe = Calendar Year 2016*

Language = English

SAID Search-Term Results = 1981

Initial Selection Result = 456 articles

Final Selection Result =128 articles

SAID Search-Terms Employed:

- | | |
|------------------------------------|---------------------------------|
| 1. Intellectual disability | 21. Protective devices |
| 2. Mental retardation | 22. Moderate sedation |
| 3. Mental deficiency | 23. Conscious sedation |
| 4. Mental disorders | 24. Analgesia |
| 5. Mental health | 25. Anesthesia |
| 6. Mental illness | 26. Dental anxiety |
| 7. Dental care for disabled | 27. Nitrous oxide |
| 8. Dental care for chronically ill | 28. Gingival hyperplasia |
| 9. Special Needs Dentistry | 29. Gingival hypertrophy |
| 10. Disabled | 30. Autism |
| 11. Behavior management | 31. Silver Diamine Fluoride |
| 12. Behavior modification | 32. Bruxism |
| 13. Behavior therapy | 33. Deglutition disorders |
| 14. Cognitive therapy | 34. Community dentistry |
| 15. Down syndrome | 35. Access to Dental Care |
| 16. Cerebral palsy | 36. Gagging |
| 17. Epilepsy | 37. Substance abuse |
| 18. Enteral nutrition | 38. Syndromes |
| 19. Physical restraint | 39. Tooth brushing |
| 20. Immobilization | 40. Pharmaceutical preparations |

Program: EndNote X3 used to organize search and provide abstract. Copyright 2009 Thomson Reuters, Version X3 for Windows.

*NOTE: The American Dental Association is responsible for entering journal articles into the National Library of Medicine database; however, some articles are not entered in a timely manner. Some articles are entered years after they were published and some are never entered

1. J Oral Maxillofac Surg. 2016 Jun;74(6):1198.e1-9. doi: 10.1016/j.joms.2016.02.018. Epub 2016 Feb 26.

Management of Self-Harm Injuries in the Maxillofacial Region: A Report of 2 Cases and Review of the Literature.

Malaga EG(1), Aguilera EM(2), Eaton C(3), Ameerally P(4).

Clinicians face numerous challenges when managing psychiatric patients who self-inflict injuries within the maxillofacial region. In addition to a complex clinical examination, there are both surgical and psychiatric factors to consider, such as the risk of damaging vital structures, the exacerbation of the patient's psychiatric status, and the long-term psychosocial and esthetic sequelae. We present 2 cases of adolescents who repeatedly self-inflicted wounds and/or inserted foreign bodies (FBs) into the face, scalp, and neck. The different treatment modalities were based on full evaluation of the patient's clinical, medical, and diagnostic test findings coupled with a psychiatric assessment. The decision for conservative management or surgical intervention was made according to the presence and location of the FBs, degree of hemorrhage, signs and symptoms of infection, and unpleasant scars that could lead to long-term psychological impairment. In most cases, the FBs were removed and the wounds were toileted and closed under local or general anesthesia. We advocate a holistic approach via a multidisciplinary team, which is deemed essential to provide the highest quality of care for patients to reduce the risk of further relapses. Lastly, a satisfactory esthetic outcome is always paramount to achieve long-term psychological and physical welfare.

2. BMC Oral Health. 2016 Feb 27;16:25. doi: 10.1186/s12903-016-0186-z.

Efficacy of virtual reality exposure therapy for treatment of dental phobia: a randomized control trial.

Raghav K(1),(2), Van Wijk AJ(3), Abdullah F(4), Islam MN(4), Bernatchez M(5), De Jongh A(3),(6).

BACKGROUND: Virtual Reality Exposure Therapy (VRET) is found to be a promising and a viable alternative for in vivo exposure in the treatment of specific phobias. However, its usefulness for treating dental phobia is unexplored. The aims of the present study are to determine: (a) the efficacy of VRET versus informational pamphlet (IP) control group in terms of dental trait and state anxiety reductions at 1 week, 3 months and 6 months follow-up (b) the real-time physiological arousal [heart rate (HR)] of VRET group participants during and following therapy (c) the relation between subjective (presence) and objective (HR) measures during VRET.

METHODS: This study is a single blind, randomized controlled trial with two parallel arms in which participants will be allocated to VRET or IP with a ratio

of 1:1. Thirty participants (18-50 years) meeting the Phobia Checklist criteria of dental phobia will undergo block randomization with allocation concealment. The primary outcome measures include participants' dental trait anxiety (Modified Dental Anxiety Scale and Dental Fear Survey) and state anxiety (Visual Analogue Scale) measured at baseline (T0), at intervention (T1), 1-week (T2), 3 months (T3) and 6 months (T4) follow-up. A behavior test will be conducted before and after the intervention. The secondary outcome measures are real-time evaluation of HR and VR (Virtual Reality) experience (presence, realism, nausea) during and following the VRET intervention respectively. The data will be analyzed using intention-to-treat and per-protocol analysis.

DISCUSSION: This study uses novel non-invasive VRET, which may provide a possible alternative treatment for dental anxiety and phobia.

3. Dent Today. 2016 Jan;35(1):42.

Study: Cognitive Behavioral Therapy Helps Reduce Patients' Dental Phobia.

[No authors listed]

4. J Dent Res. 2016 May;95(5):506-14. doi: 10.1177/0022034516628506. Epub 2016 Jan 29.

Psychological Interventions for Poor Oral Health: A Systematic Review.

Werner H(1), Hakeberg M(2), Dahlström L(2), Eriksson M(3), Sjögren P(4), Strandell A(4), Svanberg T(3), Svensson L(2), Wide Boman U(2).

The aim of this systematic review and meta-analysis was to study the effectiveness of psychological interventions in adults and adolescents with poor oral health. The review follows the PRISMA guidelines for systematic reviews. The PICO format (population, intervention, comparison, and outcome) was used to define eligible studies. The populations were adults or adolescents (≥ 13 y of age and independent of others) with poor oral health (defined as dental caries, periodontal disease, and/or peri-implantitis). The interventions were psychological and/or behavioral models and theories, in comparison with traditional oral health education/information. The primary outcomes were dental caries, periodontitis, gingivitis, and peri-implantitis. Secondary outcomes were dental plaque, oral health-related behavior, health-related quality of life, health beliefs and attitudes, self-perceived oral health, and complications/risks. The systematic literature search identified 846 articles in December 2013 and 378 articles in July 2015. In total, 11 articles on 9 randomized controlled trials were found to meet the inclusion criteria. These reported on adults with periodontal disease, and several used motivational interviewing (MI) as their mode of intervention. The CONSORT guidelines and the GRADE approach were used for study appraisal and rating of evidence. The

meta-analysis showed no statistically significant differences in gingivitis or plaque presence. In addition, a meta-analysis on MI compared with education/information found no statistically significant differences in gingivitis presence. Only 1 meta-analysis on psychological interventions versus education/information regarding the plaque index showed a small but statistically significant difference. There were also statistically significant differences reported in favor of psychological interventions in oral health behavior and self-efficacy in toothbrushing. However, the clinical relevance of these differences is difficult to estimate. The certainty of evidence was low. Future research needs to address several methodological issues and not only study adults with periodontal disease but also adolescents and patients with dental caries and peri-implantitis.

5. Fragile X syndrome: panoramic radiographic evaluation of dental anomalies, dental mineralization stage, and mandibular angle.

Sabbagh-Haddad A(1), Haddad DS(2), Michel-Crosato E(3), Arita ES(2).

Objective:: The purpose of this study was to evaluate the dental radiographic characteristics as described in 40 records of patients with panoramic radiography.

Material and Methods:: The patients were in the range of 6-17 years old, and were divided into two groups (20 subjects who were compatible with the normality standard and 20 individuals diagnosed with the FXS), which were matched for gender and age. Analysis of the panoramic radiographic examination involved the evaluation of dental mineralization stage, mandibular angle size, and presence of dental anomalies in both deciduous and permanent dentitions.

Results:: The results of radiographic evaluation demonstrated that the chronology of tooth eruption of all third and second lower molars is anticipated in individuals with FXS ($p < 0.05$). In this group, supernumerary deciduous teeth (2.83%), giroversion of permanent teeth (2.31%), and partial anodontia (1.82%) were the most frequent dental anomalies. In addition, an increase was observed in the mandibular angle size in the FXS group ($p < 0.05$).

Conclusion:: We conclude that knowledge of dental radiographic changes is of great importance for dental surgeons to plan the treatment of these individuals.

6. J Contemp Dent Pract. 2016 Aug 1;17(8):702-5.

Trauma due to Self-aggression in Patient with Waardenburg Syndrome associated with Congenital Anomalies.

Marta SN(1), Kawakami RY(2), Sgavioli CA(3), Correa AE(2), D'Árk de Oliveira El Kadre G(2), Carvalho RS(2).

Waardenburg syndrome (WS) is an inherited autosomal dominant genetic disorder presenting variable penetrance and expressivity, with an estimated prevalence of

1:42,000. Clinical characteristics of WS include lateral displacement of the internal eye canthus, hyperplasia of the medial portion of the eyebrows, prominent and broad nasal base, congenital deafness, pigmentation of the iris and skin, and white forelock. A 24-year-old male patient, previously diagnosed with WS, was referred to the Special Needs Dental Clinic of Sacred Heart University, Bauru, Brazil. Parents reported that the patient was experiencing self-mutilation, particularly in the oral region. He presented multiple congenital anomalies, including anophthalmia, mental retardation, low-set ears, and leg deformities. Clinical oral examination revealed hypodontia, abnormalities in dental morphology, extensive dental caries, periodontal disease, and fistulae. Extensive scars on the tongue, lips, and hands caused by self-mutilation were also observed. In accordance with his family and neurologist, full-mouth extraction under general anesthesia was performed, especially considering his severe self-aggressive behavior and the necessity to be fed with soft-food diet due to his inability to chew. After the surgical procedure, a significant reduction in the patient's irritability and gain of weight were reported in the follow-ups of 30, 60, and 180 days.

7. J Contemp Dent Pract. 2016 Aug 1;17(8):675-8.

Comparative Evaluation of Pediatric Patients with Mental Retardation undergoing Dental Treatment under General Anesthesia: A Retrospective Analysis.

Ahuja R(1), Jyoti B(2), Shewale V(3), Shetty S(4), Subudhi SK(5), Kaur M(6).

INTRODUCTION: Behavioral management of patients forms one of the foremost components of pediatric dental treatment. Some children readily cooperate with dental treatment, while others require general anesthesia as a part of treatment protocol for carrying out various dental procedures. Hence, we evaluated the pediatric patients with and without mental retardation, who underwent dental treatment under general anesthesia.

MATERIALS AND METHODS: The present study analyzed the record of 480 pediatric patients reporting in the department of pedodontics from 2008 to 2014. Analysis of the records of the patients who underwent dental treatment under general anesthesia was done and all the patients were divided into two study groups depending upon their mental level. For the purpose of evaluation, the patients were also grouped according to their age; 4 to 7 years, 8 to 12 years, and 13 to 18 years. Measurement of decayed, missing, and filled teeth and scores for both deciduous and permanent dentition was done before and after the commencement of the dental treatment. Chi-square test and independent t-test were used for evaluating the level of significance.

RESULTS: While comparing the patients in the two groups, maximum number of patients is present in the age group of 13 to 18 years. While comparing the indices' score between the two study groups in various age intervals, no statistically significant results were obtained. Restorative treatment and dental extractions were the most common dental treatments that were seen at a higher

frequency in the intellectual disability study group.

CONCLUSION: In patients with mental retardation, a higher frequency of restorative treatment and extractions occurs as compared to healthy subjects of similar age group. Therefore, they require special attention regarding maintenance of their oral health.

CLINICAL SIGNIFICANCE: Special attention should be given for maintaining the oral health of patients with special health care needs as compared to their physically and mentally normal counterparts.

8. Dent Clin North Am. 2016 Jul;60(3):693-705. doi: 10.1016/j.cden.2016.02.004. Epub 2016 Mar 21.

Communicating with Patients with Special Health Care Needs.

Espinoza KM(1), Heaton LJ(2).

People with special health care needs (PSHCN) often have difficulty communicating with providers in health care settings, including dental practices. This difficulty can affect access to care as well as the quality of care received. This article provides practical tips and tools dental professionals can use to facilitate communication for a diverse population of PSHCNs. The article discusses communication needs of patients with communication disorders; augmentative and alternative communication; and communication for patients with intellectual disability, psychiatric conditions; and dental fears. Examples are given of communication breakdowns, and descriptions of how communication challenges can be resolved.

9. J Clin Periodontol. 2016 Aug;43(8):684-93. doi: 10.1111/jcpe.12567. Epub 2016 May 20.

Manual versus sonic powered toothbrushing in patients with intellectual disability: a cluster-randomized clinical trial.

García-Carrillo A(1), Jover A(2), Plá R(2), Martorell A(3), Sota C(3), Gómez-Moreno G(4), Figuero E(5), Sanz M(5), Herrera D(5).

OBJECTIVES: To compare the use of sonic powered or manual toothbrush in patients with intellectual disability (ID) in terms of plaque (PII) and gingival (GI) indices and adverse effects.

MATERIAL AND METHODS: Subjects with ID were recruited for this cluster-randomized, single blinded (examiner), 6-month clinical trial, comparing powered versus manual toothbrushing. Outcome variables included PII and GI, evaluated at baseline and 3 months after supervised toothbrushing and after 3

additional months of unsupervised use. Clinical outcome variables were analysed by repeated measures ANCOVA considering time and group as factors and respective baseline values as covariates (generalized linear model).

RESULTS: Sixty-four patients (34 male, mean age 34.5) in six clusters were included in the study. No statistically significant effect of toothbrushing group was observed for PII or GI. A significant effect of time was identified ($p < 0.001$) with mean reductions ranging 0.44-0.45 for PII and 0.30-0.36 for GI from baseline to 3-6 months. No relevant adverse effect or technical problems were observed.

CONCLUSION: The tested sonic powered toothbrush was as effective and safe as the manual toothbrush. The use of powered or manual toothbrushes, together with fluoride toothpaste, may improve plaque and gingivitis levels, in patients with mild to limit ID.

10. *Pediatr Dent*. 2016 Mar-Apr;38(2):134-9.

Visualizing the Comorbidity Burden in Children with Autism Spectrum Disorder Receiving Dental Treatment Under General Anesthesia.

Mathu-Muju KR(1), Li HF(2), Nam LH(3), Bush HM(4).

PURPOSE: The purposes of this study were to: (1) describe the comorbidity burden in children with autism spectrum disorder (ASD) receiving dental treatment under general anesthesia (GA); and (2) characterize the complexity of these concurrent comorbidities.

METHODS: A retrospective chart review was completed of 303 children with ASD who received dental treatment under GA. All comorbidities, in addition to the primary diagnosis of ASD, were categorized using the International Classification of Diseases-10 codes. The interconnectedness of the comorbidities was graphically displayed using a network plot. Network indices (degree centrality, betweenness centrality, closeness centrality) were used to characterize the comorbidities that exhibited the highest connectedness to ASD.

RESULTS: The network plot of medical diagnoses for children with ASD was highly complex, with multiple connected comorbidities. Developmental delay, speech delay, intellectual disability, and seizure disorders exhibited the highest connectedness to ASD.

CONCLUSIONS: Children with autism spectrum disorder may have a significant comorbidity burden of closely related neurodevelopmental disorders. The medical history review should assess the severity of these concurrent disorders to evaluate a patient's potential ability to cooperate for dental treatment and to determine appropriate behavior guidance techniques to facilitate the delivery of dental care.

11. *Med Oral Patol Oral Cir Bucal*. 2016 Jul 1;21(4):e470-6.

Premedication with midazolam in intellectually disabled dental patients: intramuscular or oral administration? A retrospective study.

Hanamoto H(1), Boku A, Sugimura M, Oyamaguchi A, Inoue M, Niwa H.

BACKGROUND: The use of midazolam for dental care in patients with intellectual disability is poorly documented. The purpose of this study was to determine which method of premedication is more effective for these patients, 0.15 mg/kg of intramuscular midazolam or 0.3 mg/kg of oral midazolam.

MATERIAL AND METHODS: This study was designed and implemented as a non-randomized retrospective study. The study population was composed of patients with intellectual disability who required dental treatment under ambulatory general anesthesia from August 2009 through April 2013. Patients were administered 0.15 mg/kg of midazolam intramuscularly (Group IM) or 0.3 mg/kg orally (Group PO). The predictor variable was the method of midazolam administration. The outcome variables measured were Observer's Assessment of Alertness/ Sedation (OAA/S) Scale scores, the level of cooperation when entering the operation room and for venous cannulation, post-anesthetic agitation and recovery time.

RESULTS: Midazolam was administered intramuscularly in 23 patients and orally in 21 patients. More patients were successfully sedated with no resistance behavior during venous cannulation in Group PO than in Group IM ($p=0.034$). There were no differences in demographic data and other variables between the groups.

CONCLUSIONS: The results of this study suggest that oral premedication with 0.3 mg/kg of midazolam is more effective than 0.15 mg/kg of midazolam administered intramuscularly, in terms of patient resistance to venous cannulation. If both oral and intramuscular routes of midazolam are acceptable in intellectually disabled patients, the oral route is recommended.

12. Braz Dent J. 2016 Jan-Feb;27(1):52-5. doi: 10.1590/0103-6440201600420.

Influence of Different Intellectual Disability Levels on Caries and Periodontal Disease.

Costa AA(1), Della Bona Á(2), Trentin MS(2).

Oral health care is fundamental to preserve the individual integrity and consequently influences the general health. This observational, cross-sectional and analytical study evaluated the oral condition of 129 intellectually disabled individuals from the Association of Parents and Friends of Exceptional Children (APAE) in three southern Brazilian cities. Dental caries (DMFT and dmft indices) and periodontal disease (PSR index) were evaluated considering the intellectual disability level. A questionnaire on socioeconomic status (income and education level) and the last visit to a dentist was answered by the subjects' parents/guardians. The data were statistically evaluated using analysis of variance (ANOVA) and Tukey test ($\alpha=0.05$). The mean DMFT values were 2.27, 3.76 and 0.58 ($p<0.05$), and the mean dmft values were 1.48, 1.55 and 2.75,

respectively for subjects with mild, moderate and severe disabilities. Regarding the PSR index, 43% of the subjects presented gingivitis without retention factor (no calculus or defective margins) with no significant differences among the three disability levels. Considering the population and the limitations of this study, the subjects presenting severe disabilities showed significantly lower mean DMFT values compared to other disability levels, probably because the caretakers are responsible for the oral hygiene of such subjects.

13. Eur J Paediatr Dent. 2016 Mar;17(1):65-9.

Comparative study of dental anomalies assessed with panoramic radiographs of Down syndrome and non-Down syndrome patients.

Mayoral-Trias MA(1), Llopis-Perez J(2), Puigdollers Pérez A(3).

AIM: The aim of this study was to compare the prevalence of dental anomalies from panoramic radiographs of age-matched individuals with and without Down Syndrome (DS).

MATERIALS AND METHODS:

STUDY DESIGN: This is a retrospective cross-sectional study. A group of 41 patients (19 female and 22 male) with Down Syndrome (DS), mean age 10.6 ± 1.4 and a control group of 42 non- DS patients (26 female and 16 male), mean age 11.1 ± 1.3 were studied.

METHODS: This study examined the medical history and a panoramic radiograph of each patient. The dental anomalies studied were agenesis of permanent teeth (except third molars), size and shape maxillary lateral anomalies and maxillary canine eruption path anomalies.

STATISTICS: The groups were compared using Mann-Whitney and Wilcoxon non-parametric tests ($p < 0.05$). Rho Spearman correlation coefficient was applied for associations. Results Agensis of one permanent tooth was found in 73.17% of DS subjects and two or more permanent teeth in more than 50% ($p < 0.001$). Maxillary lateral incisor was the most frequently absent tooth followed by mandibular second premolar, mandibular lateral incisor, maxillary second premolar and mandibular central incisor. No significant differences were detected between maxilla and mandible on either side. No differences in gender were observed. Significant differences were found for size and shape anomalies of maxillary lateral incisors, as well as for canine eruption anomalies ($p < 0.05$). No gender differences were observed for either variable. No association was found between these two variables in the DS group.

CONCLUSIONS: More dental anomalies were present in the DS group than in the control group, which implied that DS patients need periodical dental and orthodontic supervision so as to prevent or control subsequent oral problems.

14. Gen Dent. 2016 Jan-Feb;64(1):e12-5.

Rare dental manifestation in Simpson-Golabi-Behmel syndrome.

Parashar P, Preston S, Brada B, Borris T, Potter B.

Simpson-Golabi-Behmel syndrome (SGBS) is a rare X-linked recessive overgrowth disorder with prominent craniofacial manifestations. Macrodonia is also an uncommon dental anomaly that can be an isolated finding and has been associated with numerous systemic conditions and syndromes. This case report describes this previously unreported dental anomaly, macrodonia, in a patient with SGBS, which may broaden the phenotype of this syndrome. A brief review of the literature on orofacial findings associated with SGBS is also presented.

15. J Craniofac Surg. 2016 Jan;27(1):e4-6. doi: 10.1097/SCS.0000000000002207.

A Patient With Pansynostosis and Williams-Beuren Syndrome.

Kansy K(1), Freudlsperger C, Hoffmann J, Engel M.

BACKGROUND: Williams-Beuren syndrome (WBS) is a multisystemic genetic disorder caused by a gene deletion at gene locus 7q11.23. This article presents the first described case of a patient with WBS and simultaneous pansynostosis.

CASE PRESENTATION: This article presents the management of this young Caucasian boy from birth until the age of 12 years and provides an overview of previously described manifestations of WBS in the craniofacial region.

CONCLUSIONS: This case demonstrates the surgical treatment of pansynostosis in a child with WBS and might provide interesting aspects in the diagnostics and management of this rare malformation.

20. Eur J Orthod. 2016 Apr;38(2):178-83. doi: 10.1093/ejo/cjv054. Epub 2015 Aug 14.

The relationship between craniofacial development and hypodontia in patients with Down syndrome.

van Marrewijk DJ(1), van Stiphout MA(2), Reuland-Bosma W(2), Bronkhorst EM(3), Ongkosuwito EM(4).

BACKGROUND/OBJECTIVE: Hypodontia is often seen in people with Down syndrome (DS). In the normal population, persons with hypodontia have a shorter cranial base and a hypoplastic maxilla, leading to a skeletal Class III tendency and a reduced face height. The purpose of this study was to examine craniofacial morphology in patients with DS at different ages and the influence of hypodontia on their craniofacial morphology.

MATERIALS AND METHODS: A comparative cross-sectional study was conducted in 63 children with DS (6-19 years old; 28 males and 35 females) at a Centre for Special Care Dentistry in Rotterdam, the Netherlands (CBT Rijnmond). Digital lateral cephalograms were obtained from all subjects and a cephalometric analysis

was performed. The subjects were divided into a group with hypodontia (13 males and 25 females) and a group without hypodontia (15 males and 10 females).

RESULTS: Significant results included a decrease in antero-posterior relationship of upper and lower jaw (ANB angle -0.331° per year, $P = 0.044$) and a decrease in vertical dimension (S-N_Go-Gn angle -0.72° per year, $P = 0.039$) over the years in subjects with hypodontia compared to subjects without hypodontia.

CONCLUSION: The process of growth in DS patients is towards a reversed overjet. Hypodontia seems to have an additional effect on this development. The management of hypodontia as part of the complete treatment of dental development in DS children is important because it strongly influences the jaw relationship.

16. Eur Arch Paediatr Dent. 2016 Feb;17(1):65-70. doi: 10.1007/s40368-015-0193-9. Epub 2015 Jul 10.

Orofacial manifestations and dental considerations in association with Varadi-Papp syndrome: report of a rare case.

Chhabra N(1), Chhabra A(2), Tandon S(3).

Varadi-Papp syndrome or oral-facial-digital syndrome type VI (OFDS VI) is a rare, autosomal recessive disorder characterised by a specific congenital malformation of the cerebellum and a broad spectrum of other phenotypic findings. It is distinguished from other OFDSs by metacarpal abnormalities with central polydactyly and by cerebellar abnormalities. Treatment for such patients is often considered challenging due to the presence of intellectual disability, hypotonia, and abnormal respiratory pattern in these patients. The present article reports the oral and systemic manifestations of a 5-year-old female patient having Varadi-Papp syndrome, considerations taken in her dental treatment and the successful management performed. The patient was followed up every 3 months for 2 years, to evaluate plaque control and to continue with the plaque control regimen. Periodic oral examinations and maintenance of good oral hygiene helped to improve the quality of life of the child. This case illustrates the favourable treatment outcomes in a Varadi-Papp syndrome patient. Furthermore, the need for periodic oral examinations and maintenance of good oral hygiene to prevent any complications in such patients has been highlighted.

17. Eur Arch Paediatr Dent. 2016 Aug;17(4):223-230

Perceived Oral Discomfort and pain in children and adolescents with intellectual or physical disabilities as reported by their legal guardians.

Kremkova L, et al

18. J Clin Exp Dent 2016 Jul 1;8(3):337-343

Oral health in children with physical (Cerebral Palsy) and intellectual (Down Syndrome) disabilities: Systemic Review

Dieguez-Perez M, et al

19. Pain Med. 2016 Dec;29

Pain and Cognitive Functioning in Adults with Down Syndrome

De Knecht NC, et al

20. Pain Med 2016 Oct;2

Self-reported presence and Experience of pain in adults with Down Syndrome

deKnecht NC, et al

21. JADA 147(9) Sept 2016;729-738

Transmission of blood-borne pathogens in US dental health care settings. 2016 Update

Cleveland JL, et al

22. JADA 147(12) Dec 2016;935-942

Laser Use in direct pulp capping

Deng Y, et al

23. Dent Clin North Am. 2016 Jul;60(3):551-66. doi: 10.1016/j.cden.2016.02.001. Epub

2016 Mar 29.

Mental Health Issues and Special Care Patients.

Clark DB(1).

Mental illness is a major health issue in the world today, yet often remains misunderstood, unrecognized, and undertreated. Patients suffering from severe psychiatric disorders generally display poor oral health, often as a consequence of both lifestyle and avoidant-type behaviors that become exacerbated by their illness. Individuals with severe mental illness display a greater incidence of oral disease compared with a similar demographic not dealing with these particular disorders. Efforts to enhance the oral health of these vulnerable patients will play a significant role in the overall rebuilding of their self-esteem and contribute positively to their journey toward stability and recovery.

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24. Dent Today. 2016 Feb;35(2):8, 10.

The Oral-Psychiatric Link.

Taxin C.

25. Community Dent Health. 2016 Jun;33(2):152-5.

The mouth and dis/ability.

Liddiard K, Goodley D.

Our aims in this paper are threefold. First, to understand how the mouth reveals the kinds of human beings that are de/valued in specific national locations and in global discourses with special attention on disability. Second, to subject the mouth to analysis from critical disability studies, specifically, an approach we describe as dis/ability studies. Third, to ask how the mouth might work as a site of resistance for disabled people. The paper begins by providing an introduction to critical disability studies, a perspective that foregrounds disability as the primary focus for thinking through the ways in which the body and society are shaped together. We move in this literature review towards a dis/ability studies approach that recognises the simultaneous processes of disablism (the exclusion of people with impairments) and ableism (the system by which standards of human autonomy and capability are made as key indicators of human worth). We then analyse the mouth in relation to pathologisation, human enhancement and resistance. We conclude with some final thoughts on the offerings of a dis/ability studies approach to those of interested with the intersections of the mouth and society.

26. J Mich Dent Assoc. 2016 Jan;98(1):32-4.

Dental Treatment Considerations for Children with Complex Medical Histories: A Case of Townes-Brock Syndrome.

Elkaiali L, Ratliff K, Oueis H.

It is common for oral health and dental care to be considered a lesser priority for children with complex medical histories than other aspects of their health care. Often, these patients are at a high risk for caries and infection due to poor oral health practices at home, special or restricted diets, and no early establishment of a dental home for routine dental care. Unfortunately, many of these patients present to their first dental visits with caries and require aggressive treatment, such as extractions instead of pulp therapy, or crowns instead of fillings, due to their high caries risk and the difficulty in safely managing them medically during treatment. A unique example of this occurred at the Children's Hospital of Michigan, where a patient with Townes-Brock syndrome (TBS) presented to the dental clinic with advanced caries. TBS is a rare autosomal dominant disorder characterized by major findings such as anomalies of the external ear, imperforate anus, renal malformations, and malformations of the hand. Like many medically complex cases, dental anomalies are not a direct consequence of TBS; however, due to the necessity of high calorie and high sugar feeding supplementation, many of these patients are at high risk for advanced dental caries. Due to this high caries risk, a more aggressive treatment plan is necessary to minimize the risk of recurrent decay and infection. It is critical to stress that even if the disease, syndrome, etc., of a patient does not have inherent dental consequences, it is imperative for regular dental care to be part of the comprehensive treatment plan for these patients. This includes the establishment of a dental home at a young age and proper oral health education of

the patient's caregivers and their physicians. In the case of the patient with TBS, recommendations for daily brushing, especially after high sugar feedings was stressed, as well as the reduction of any other sweets within the diet.

27. Br Dent J. 2016 Feb 12;220(3):89. doi: 10.1038/sj.bdj.2016.68.

Special care dentistry: Treating autistic children.

Momen S(1).

Comment on

Br Dent J. 2015 Oct 9;219(7):315-6.

28. #28— 28. Spec Care Dentist. 2016 Mar-Apr;36(2):75-9. doi: 10.1111/scd.12157. Epub 2016 Jan 13.

Factors associated with mouth breathing in children with -developmental -disabilities.
de Castilho LS(1), Abreu MH(2), de Oliveira RB(3), Souza E Silva ME(4), Resende VL(4).

OBJECTIVE: To investigate the prevalence and factors associated with mouth breathing among patients with developmental disabilities of a dental service.

METHODS: We analyzed 408 dental records. Mouth breathing was reported by the patients' parents and from direct observation. Other variables were as follows:

history of asthma, bronchitis, palate shape, pacifier use, thumb -sucking, nail biting, use of medications, gastroesophageal reflux, bruxism, gender, age, and diagnosis of the patient. Statistical analysis included descriptive analysis with ratio calculation and multiple logistic regression. Variables with $p < 0.25$ were included in the model to estimate the adjusted OR (95% CI), calculated by the forward stepwise method. Variables with $p < 0.05$ were kept in the model.

RESULTS: Being male ($p = 0.016$) and use of centrally acting drugs ($p = 0.001$) were the variables that remained in the model.

CONCLUSION: Among patients with -developmental disabilities, boys and psychotropic drug users had a greater chance of being mouth breathers.

29. J Clin Pediatr Dent. 2016 Winter;40(1):53-61. doi: 10.17796/1053-4628-40.1.53.

The Effect of Full-Mouth Rehabilitation on Oral Health-Related Quality of Life for Children with Special Health Care Needs.

El-Meligy O, Maashi M, Al-Mushayt A, Al-Nowaiser A, Al-Mubark S.

OBJECTIVES: Changes in oral health-related quality of life (OHRQoL) among 40 children with special health care needs (CSHCN) aged 5-14 years before and 12 months after full-mouth rehabilitation (FMR) under general anesthesia (GA) in two

hospitals in Jeddah city were assessed.

STUDY DESIGN: The questionnaire was delivered to the parents/caregivers at baseline (pre-operative) and at the 12-month post-operative follow-up visit.

Medical and dental histories and clinical findings were correlated accordingly.

RESULTS: The follow-up response rate was 87.5% with 35 children completing a 12-month follow-up visit. The age range was from 5 to 12 years with a mean of 7.3 ± 2.4 years. More than half of the study sample was boys (63%) in the 5-8 year age-group (69%). The impact on OHRQoL was reportedly negative before FMR under GA, with overall scores ranging from 12 to 68 and a mean of 43.34 ± 14.83 . OHRQoL improved significantly in all aspects evaluated ($P < 0.05$) following FMR under GA with overall scores ranging from 4 to 41 and a mean of 18.86 ± 8.54 .

CONCLUSIONS: Treating CSHCN under GA, with 3-month recall visits for the patients, had a significant long-term effect on their OHRQoL extending up to 12 months postoperatively.

30. Int J Paediatr Dent. 2016 Mar;26(2):141-8. doi: 10.1111/ipd.12173. Epub 2015 May 29.

Comparative study of postoperative morbidity in dental treatment under general anesthesia in pediatric patients with and without an underlying disease.

Escanilla-Casal A(1), Ausucua-Ibáñez M(1), Aznar-Gómez M(1), Viaño-García JM(1), Sentís-Vilalta J(2), Rivera-Baró A(1).

OBJECTIVES: To identify and quantify the variables and their influence on postoperative morbidity in dental treatment under general anesthesia (GA) in pediatric patients with and without an underlying disease.

METHODS: A prospective, descriptive, and comparative analysis was conducted of healthy ($n = 49$) and disabled/medically compromised ($n = 81$) children treated under GA. Intra-/post-surgical, clinical epidemiology, technical, care-related, and pharmacologic data were gathered, as were postoperative complications.

RESULTS: The average age of ASA I patients (6.7 ± 4.4 years) was younger than that of ASA II-III patients (9.0 ± 4.5 years). Average hospitalization time was 4.27 ± 6.5 h in ASA I and 7.41 ± 6.8 h in ASA II-III. Significant differences were found between the two groups in fillings, pulpotomies, oral surgery, and scaling. Postoperative morbidity in ASA I and ASA II-III was similar both in frequency and severity and decreased during the first 72 h. The most common complication in both groups was toothache.

CONCLUSION: Postoperative morbidity is high after dental treatment under GA, but it is not higher in disabled/medically compromised patients.

31. Dental Pulp Revascularization of Necrotic Permanent Teeth with Immature Apices.

El Ashiry EA, Farsi NM, Abuzeid ST, El Ashiry MM, Bahammam HA.

OBJECTIVES: The treatment of immature necrotic teeth with apical periodontitis presents challenges in endodontic and pediatric dentistry. Revascularization is a recent treatment for such cases as an alternative to conventional apexification. The purpose is to examine the effect of a pulpal revascularization procedure on immature necrotic teeth with apical periodontitis.

STUDY DESIGN: Twenty patients were enrolled for pulp revascularization procedure by root canal disinfection using a triple antibiotic mixture for 1-2 weeks, followed by creating a blood clot, sealing the root canal orifice using white mineral trioxide aggregate and a coronal seal of composite resin. Patients were recalled periodically for up to 24 months.

RESULTS: During follow-up, all patients were asymptomatic. Three cases of chronic apical periodontitis showed clinical disappearance of the sinus tract 2 weeks after treatment. Radiography revealed progressive periapical radiolucency resolution within the first 12 months. Within 12-24 months, the treated teeth showed progressive increases in dentinal wall thickness, root length and continued root development.

CONCLUSIONS: Clinical and radiographic evidence showed successful revascularization treatments of immature necrotic permanent teeth with apical periodontitis. More studies are necessary to understand the underlying mechanisms and to perform histopathology of the pulp space contents after revascularization procedures.

32. Braz Oral Res. 2016 Nov 10;30(1):e134. doi: 10.1590/1807-3107BOR-2016.vol30.0134.

Efficacy of two soft-bristle toothbrushes in plaque removal: a randomized controlled trial.

Rosing CK(1), Cavagni J(1), Gaio EJ(1), Muniz FW(1), Oballe HJ(1), Ranzan N(1), Friedrich SA(1), Severo RM(1), Gittins E(2), Stewart B(2), Zhang YP(2).

The aim of this study was to compare the efficacy in supragingival plaque removal of two soft-bristle toothbrushes. Seventy volunteers were allocated randomly to the Colgate Slim Soft or Curaprox CS5460 toothbrush groups. At baseline appointment, volunteers underwent plaque examination using the Rustogi Modification of the Navy Plaque Index. Under supervision, they then brushed their teeth for 1 minute with their assigned toothbrushes and the plaque examination was repeated. Volunteers performed daily oral hygiene with their assigned toothbrush and a regular dentifrice provided by the researchers for 7 days. The baseline experimental procedures were then repeated. Separate analyses of variance were performed for the whole-mouth, interproximal, and gumline plaque scores ($p < 0.05$). No difference in baseline pre-brushing scores was found between groups. After a single toothbrushing, the mean plaque score was significantly reduced in both groups ($p < 0.05$), with greater reduction of whole-mouth and interproximal plaque scores observed in the SlimSoft group compared with the Curaprox group ($p < 0.05$). After 7 days, the SlimSoft group showed greater reduction of the whole-mouth and interproximal plaque scores compared with the Curaprox group ($p <$

0.05). In conclusion, the SlimSoft toothbrush presented greater efficacy in supragingival plaque removal than did the Curaprox CS5460 toothbrush, as reflected by whole-mouth and interproximal plaque scores.

33. J Clin Pediatr Dent. 2016;40(6):503-505.

Children Undergoing Chemotherapy: Is It Too Late for Dental Rehabilitation?

Farsi DJ.

Children undergoing cancer therapy encounter a diverse spectrum of oral changes that generally are attributed to immunosuppression and bleeding tendencies caused by the therapeutic agents. Therefore, providing oral health instructions and dental rehabilitation before the initiation of cancer therapy is encouraged. In this article, we discuss the general dental management of pediatric patients with cancer actively undergoing cancer therapy, or for whom it is planned. We also describe the dental rehabilitation performed on a child while he was undergoing chemotherapy for neuroblastoma, using an unconventional approach that varied from the standard management protocol used by King Abdulaziz University Hospital. The importance of close collaboration between the medical and dental teams is highlighted.

34. Anesth Prog. 2016 Summer;63(2):95-104. doi: 10.2344/0003-3006-63.2.95.

Management of Patients With Cardiovascular Implantable Electronic Devices in Dental, Oral, and Maxillofacial Surgery.

Tom J(1).

The prevalence of cardiovascular implantable electronic devices as life-prolonging and life-saving devices has evolved from a treatment of last resort to a first-line therapy for an increasing number of patients. As these devices become more and more popular in the general population, dental providers utilizing instruments and medications should be aware of dental equipment and medications that may affect these devices and understand the management of patients with these devices. This review article will discuss the various types and indications for pacemakers and implantable cardioverter-defibrillators, common drugs and instruments affecting these devices, and management of patients with these devices implanted for cardiac dysrhythmias.

35. Dent Clin North Am. 2016 Oct;60(4):843-55. doi: 10.1016/j.cden.2016.05.004.

Interprofessional Collaboration in Improving Oral Health for Special Populations.

Glassman P(1), Harrington M(2), Namakian M(2), Subar P(3).

People with complex medical, physical, and psychological conditions are among the

most underserved groups in receiving dental care and consequently have the most significant oral health disparities of any group. The traditional dental care delivery system is not able to deliver adequate services to these people with "special needs" for a variety of reasons. New systems of care are evolving that better serve the needs of these groups by using interprofessional teams to reach these individuals and integrate oral health services into social, educational, and general health systems.

36. BMC Oral Health 2016 16:5

Managing patients taking novel oral anticoagulants(NOAs) in dentistry: a discussion paper on clinical implications

Constantides F, et al

37. J Contemp Dent Pract. 2016 Jun 1;17(6):476-9.

Assessment of Oral Status in Pediatric Patients with Special Health Care Needs receiving Dental Rehabilitation Procedures under General Anesthesia: A Retrospective Analysis.

Solanki N(1), Kumar A(2), Awasthi N(3), Kundu A(4), Mathur S(4), Bidhumadhav S(5).

INTRODUCTION: Dental problems serve as additional burden on the children with special health care needs (CSHCN) because of additional hospitalization pressure, they face for the treatment of various serious medical problems. These patients have higher incidence of dental caries due to increased quantity of sugar involved in the drug therapies and lower salivary flow in the oral cavity. Such patients are difficult to treat with local anesthesia or inhaled sedatives. Single-sitting dental treatment is possible in these patients with general anesthesia. Therefore, we conducted this retrospective analysis of oral health status of CSHCN receiving various dental treatments in a given population.

MATERIALS AND METHODS: A total of 200 CSHCN of age 14 years or less reporting in the pediatric wing of the general hospital from 2005 to 2014 that underwent comprehensive dental treatment under general anesthesia were included in the study. Patients with history of any additional systemic illness, any malignancy, any known drug allergy, or previous history of any dental treatment were excluded from the study. Complete mouth rehabilitation was done in these patients under general anesthesia following standard protocols. Data regarding the patient's disability, type, duration, and severity of disability was collected and analyzed. All the results were analyzed by Statistical Package for the Social Sciences (SPSS) software. Chi-square test, Student's t-test, and one-way analysis of variance were used to assess the level of significance.

RESULTS: Statistically significant results were obtained while analyzing the subject's decayed missing filled/decayed extracted filled teeth indices divided based on age. Significant difference was observed only in cases where patients underwent complete crown placement even when divided based on type of disability. While analyzing the prevalence, statistically significant results were observed

in patients when divided based on their age.

CONCLUSION: In CSHCN, dental pathologies and caries indices are increased regardless of the type or extent of disability.

CLINICAL SIGNIFICANCE: Children with special health care needs should be given special oral health care, and regular dental checkup should be conducted as they are more prone to have dental problems.

38. Braz Oral Res. 2016 Jun 14;30(1). pii: S1806-83242016000100266. doi: 10.1590/1807-3107BOR-2016.vol30.0079.

Risk factors for dental caries in children with developmental disabilities.

Braúna AP(1), Abreu MH(1), Resende VL(2), Castilho LS(2).

The aim of the present study was to investigate risk factors for dental caries in children with developmental disabilities who were treated at a clinical reference service for patients with special needs in Belo Horizonte, MG, Brazil. This is a retrospective cohort study that evaluated 401 dental charts of individuals without dental caries or restorations in their first dental appointment. The dependent variable was the time of occurrence of new dental caries or restorations and was measured in months. Gender, age, International Code of Diseases (ICD), mother's education, sugar consumption, use of fluoride toothpaste, oral hygiene, mouth breathing, reports of xerostomia, gingival status, use of psychotropic or asthma drugs, and history of asthma were covariates. The Cox proportional hazards regression model was used to estimate the raw and adjusted hazard ratios and their respective 95% confidence intervals. The average time that individuals remained free of dental caries/restoration was equal to 107.46 months (95%CI 95.41 to 119.51), with a median of caries-free children up to 94 months. For each point increase in the scale of sucrose consumption, the increase in caries risk was 1.07 (95%CI 1.01 to 1.15). Sucrose consumption was the only risk factor for dental caries found in this group of individuals with developmental disabilities.

39. Dent Clin North Am. 2016 Jul;60(3):605-11. doi: 10.1016/j.cden.2016.02.002.

Evidence-based Dentistry and Its Role in Caring for Special Needs Patients.

Queen AN(1).

Evidence-based dentistry is a concept ideally suited and applicable to special needs dentistry. As the special needs of patients varies according to the individual, so should the way we evaluate our patient, prescribe a course of treatment, and implement that treatment plan. Future generations of dental students and residents should be trained in these concepts not just for patients with special needs, but also for the general patient population. It is imperative that the dental community not retreat in the face of what many deem to be

"difficult" patients with special needs. Knowledge and training can overcome many barriers to treatment.

40. Dent Clin North Am. 2016 Jul;60(3):567-91. doi: 10.1016/j.cden.2016.03.001.

Tools and Equipment for Managing Special Care Patients Anywhere.

Levy H(1), Rotenberg LR(2).

This article describes many of the tools and equipment used by dental professionals to successfully treat special care patients in a variety of settings. Such equipment can be used in the dental office, operating room, hospital, surgical center, nursing home, private home, institution, hospice, and even in the field without electricity. Equipment discussed includes seating, laughing gas and sedation systems, body wraps and mouth props, lighting, radiographic exposure and imaging systems, dental isolation devices, and other tools the authors use.

41. Spec Care Dentist. 2016 Jul;36(4):201-12. doi: 10.1111/scd.12177. Epub 2016 Apr 26.

SCDA task force on a special care dentistry residency.

Hicks J(1), Vishwanat L(1), Perry M(2), Messura J(3), Dee K(4).

The Special Care Dentistry Association (SCDA) has acted on a proposal regarding the status of training in the care of patients with special needs. Two phases of action were undertaken. Phase 1: (a) examination of the literature on existing training and curricula in the care of patients with special needs and (b) a survey of existing postdoctoral programs in special needs. Phase 2: establish a group of experts who: (a) submitted to the Commission on Dental Accreditation a request to approve a postdoctoral general dentistry residency program in Special Care Dentistry and (b) created suggested accreditation standards for such postdoctoral programs. This article describes efforts by the SCDA to evaluate: The status of existing training of dental students in the care of patients with special needs. The number and characteristics of postdoctoral general dentistry programs offering formal training in the care of patients with special needs. Whether additional training in the care of patients with special needs is needed for dental students and -dentists. Possible actions by SCDA to impact the numbers of dentists trained each year in the care of patients with -special needs.

42. Spec Care Dentist. 2016 Sep;36(5):282-7. doi: 10.1111/scd.12181. Epub 2016 Apr 22.

Overcoming the oral aspects of -self-mutilation: description of a method.

Shapira J(1), Birenboim R(2), Shoshani M(2), Abdel-Kader A(2), Behar O(2), Moskovitz M(2), Ben-Attar Y(3), Chaushu S(4), Becker A(4).

BACKGROUND/AIM: Self-injurious behavior (SIB) is a serious and chronic condition frequently seen in special needs populations, affecting 10% to 17% of individuals diagnosed with intellectual and/or developmental disabilities. A 2.5-year-old infant with SIB, whose presenting symptoms were severe tongue and lip lacerations accompanied by much hemorrhage, is presented here to illustrate the problem and to show how this may be prevented.

MATERIALS AND METHODS: An appliance is described which effectively limits the damage caused by SIB and permits rapid healing of existing injuries.

RESULTS: The method provides for a stable, retentive, and comfortable device on the infant's undererupted and largely nonretentive crowns of the deciduous teeth as well as for all permanent teeth in children, adolescents, and adults.

CONCLUSIONS: The appliance has been successfully employed for the past 10 years in patients with SIB who have attended for treatment in the Special Needs Clinic in our Department.

43. Spec Care Dentist. 2016 Jul;36(4):187-93. doi: 10.1111/scd.12162. Epub 2016 Jan 13.

Oral Health-related quality of life in pediatric patients with cystic fibrosis.

Patrick JR(1), da Fonseca MA(2), Kaste LM(3), Fadavi S(4), Shah N(5), Sroussi H(6).

PURPOSE: To compare the oral health-related quality of life (OHRQoL) of 8- to 12-year-old children and 13- to 17-year-old adolescents diagnosed with cystic fibrosis (CF).

MATERIALS AND METHODS: Participants were recruited from a Midwest CF center. Parents provided demographic information and their assessment of the child's health. Patients completed the Child Oral Health Impact Profile (COHIP).

RESULTS: Thirty-nine child-parent pairs participated. Fifty four percent of the patients were male, 87% Caucasian, and 56% adolescent, with 66% of families reporting an annual income of over \$100,000. Excellent or very good health, including oral health, was reported by 67% of the patients. Individuals taking 10 or more medications reported better OHRQoL while Caucasians reported better oral health and total scores than other races. Adolescents had poorer total COHIP, social-emotional well-being, and self-image scores.

CONCLUSION: Although most patients reported good or excellent oral health, adolescents reported a poorer OHRQoL than younger patients.

44. Acta Odontol Scand. 2017 Jan;75(1):36-58. doi: 10.1080/00016357.2016.1247465. Epub 2016 Oct 31.

Sleep and awake bruxism in adults and its relationship with temporomandibular disorders: A systematic review from 2003 to 2014.

Jiménez-Silva A(1,)(2), Peña-Durán C(3), Tobar-Reyes J(3), Frugone-Zambra R(4,)(5).

OBJECTIVE: In order to establish a relationship between bruxism and temporomandibular disorders (TMDs), a systematic review was performed.

MATERIALS AND METHODS: A systematic research was performed based on PubMed, Cochrane Library, Medline, Embase, BIREME, Lilacs and Scielo data bases, between 2003 and 2014 including all languages. Descriptive clinical cases were identified. Two independent authors selected the articles. PICO format was used to analyse the studies and the Newcastle-Ottawa Scale (NOS) was used to verify the quality of the evidence.

RESULTS: Thirty-nine studies (n = 39) were analysed in this review. According to bruxism diagnosis, articles were grouped as follows: polysomnographic diagnosis (PSG) (n = 7), clinical diagnosis (n = 11) and survey/self-report (n = 21).

Thirty-three articles (n = 33) established a positive relation between bruxism and TMD and six (n = 6) did not. Quality of evidence was low to moderate. In general, the most part of the studies showed shortcomings on their design with bias risk, and also had a low sensitivity on bruxism diagnosis.

CONCLUSIONS: The evidence based on PSG was not as conclusive as the studies that used surveys and clinical exam to diagnosis bruxism, when bruxism was related to TMD. Sleep bruxism could be associated with myofascial pain, arthralgia and joint pathology as disc displacement and joint noises. Although the evidence at present is inconclusive and does not provide information according to the type of bruxism (bruxism sleep and wakefulness), it is possible to suggest that bruxism would be associated with TMD.

45. Braz Oral Res. 2016 Oct 10;30(1):e108. doi: 10.1590/1807-3107BOR-2016.vol30.0108.

Low Intensity laser therapy in patients with burning mouth syndrome: a randomized, placebo-controlled study.

Sugaya NN(1), Silva ÉF(1), Kato IT(2), Prates R(2), Gallo CB(1), Pellegrini VD(1).

The aim of this study was to assess the effectiveness of low intensity laser therapy in patients with Burning Mouth Syndrome (BMS). Thirty BMS subjects were randomized into two groups - Laser (LG) and Placebo (CG). Seven patients dropped out, leaving 13 patients in LG and 10 patients in CG. Each patient received 4 irradiations (laser or placebo) twice a week, for two consecutive weeks (blinded to the type of irradiation received). Infrared laser (AsGaAl) irradiations were

applied to the affected mucosa in scanning mode, wavelength of 790 nm, output power of 20 mW and fluence of 6 J/cm². A visual analogue scale (VAS) was used to assess the therapeutic effect before and after each irradiation, and at all the control time periods: 7, 14, 30, 60 and 90 days after the last irradiation. One researcher delivered irradiation and another recorded the results. Both researchers were blinded, the first to the results, and the second to the type of radiation applied. The results were categorized according to the percentage of symptom level variation, and showed a statistically better response in LG in only two categories of the control checkpoints (p=0.02; Fisher's Exact Test). According to the protocol used in this study, low intensity laser therapy is as beneficial to patients with BMS as placebo treatment, indicating a great emotional component of involvement in BMS symptomatology. Nevertheless, there were positive results in some statistical analyses, thus encouraging further research in BMS laser therapy with other irradiation parameters.

46. J Craniofac Surg. 2016 Sep;27(6):1408-11. doi: 10.1097/SCS.0000000000002821.

Long-Term Surgical and Speech Outcomes Following Palatoplasty in Patients With Treacher-Collins Syndrome.

Golinko MS(1), LeBlanc EM, Hallett AM, Alperovich M, Flores RL.

BACKGROUND: Cleft palate is present in one-third of patients with Treacher-Collins syndrome. The authors present long-term speech and surgical outcomes of palatoplasty in this challenging patient population.
METHODS: A retrospective review of all patients with Treacher-Collins syndrome and cleft palate was conducted over a 35-year period at a single institution. Demographics, palatal, mandibular, airway, and surgical outcomes were recorded. Speech outcomes were assessed by the same craniofacial speech pathologist.
RESULTS: Fifty-eight patients with Treacher-Collins syndrome were identified: 43% (25) had a cleft palate and 16% (9) underwent palatoplasty at our institution. Cleft palate types included 1 Veau I, 5 Veau II, 1 Veau III, and 2 Veau IV. Mean age at the time of palatoplasty was 2.0 years (range, 1.0-6.7 years). Three patients had fistulas (33%) and underwent repairs. Pruzansky classifications included 1 type IIA, 6 type IIB, and 2 type III. Seven patients completed long-term speech evaluations. Mean age at follow-up was 13.9 years (range 2.2-24.3 years). Six patients had articulatory velopharyngeal dysfunction related to Treacher-Collins syndrome. Two patients had structural velopharyngeal dysfunction and required further palatal/pharyngeal surgery.
CONCLUSIONS: Cleft palate repair in patients with Treacher-Collins syndrome has a high incidence of velopharyngeal dysfunction. However, the majority of patients are articulatory-based in whom further surgery would not provide benefit. Patients with Treacher-Collins syndrome and cleft palate require close evaluation by a speech pathologist as the incidence of articulatory dysfunction is high.

47. Periodontol 2000. 2016 Oct;72(1):96-107. doi: 10.1111/prd.12131.

The aging mouth: differentiating normal aging from disease.

Lamster IB, Asadourian L, Del Carmen T, Friedman PK.

Aging is the physiologic change that occurs over time. In humans, this change occurs at different rates and are related to lifestyle, environment and genetics. It can be challenging to differentiate normal aging from disease. In the oral cavity, with increasing age the teeth demonstrate wearing of the enamel, chipping and fracture lines, and a darker color. The pulp chamber and canals are reduced in size as a result of the deposition of secondary dentin. Coronal or root caries, however, represent disease. A limited amount of periodontal attachment loss occurs in association with aging, usually manifesting as recession on the buccal surface of teeth. Severe periodontitis occurs in 10.5-12% of the population, with the peak incidence being observed at 35-40 years of age. Changes to the mucosal tissue that occur with age include reduced wound-healing capacity. However, environmental factors, such as smoking, dramatically increase the risk of mucosal pathology. Reduced salivary gland function is often seen in association with medication usage, as well as with disorders such as diabetes mellitus. Both medication use and chronic disorders are more common in older adults. Masticatory function is of particular importance for older adults. Maintenance of a nutritionally complete diet is important for avoiding sarcopenia and the frailty syndrome. Successful oral aging is associated with adequate function and comfort. A reduced, but functional, dentition of 20 teeth in occlusion has been proposed as a measure of successful oral aging. Healthy oral aging is important to healthy aging from both biological and social perspectives.

48. *Periodontol 2000*. 2016 Oct;72(1):7-12. doi: 10.1111/prd.12157.

Geriatric periodontology: how the need to care for the aging population can influence the future of the dental profession.

Lamster IB.

The world's population is aging, and it has been estimated that by 2050, the number of people 65 years of age and older will reach 1.5 billion. The aging population will be affected by noncommunicable chronic diseases, including diabetes mellitus, cardiovascular disease and cognitive impairment. This important demographic shift includes a reduction in tooth loss/edentulism, particularly in older adults of the developed countries in North America, western Europe and north-east Asia. Therefore, in the future, dental providers will be required to care for an expanded number of older adults who have retained teeth and are medically complex. As the linkage of oral disease and systemic disease has focused on the relationship of periodontitis and noncommunicable chronic diseases, a broad review of 'geriatric periodontology' is both timely and important. This volume of *Periodontology 2000* covers a range of subjects under this heading. Included are the demographics of an aging world; the effect of

aging on stem cell function in the periodontium; the periodontal microbiota associated with aging; the host response in the periodontium of aging individuals; an analysis of the prevalence of periodontitis in the USA on a national, state-wide and community basis; differentiation of physiologic oral aging from disease; treatment of periodontal disease in older adults; implant therapy for older patients; oral disease and the frailty syndrome; the relationship of tooth loss to longevity and life expectancy; and the relationship of periodontal disease to noncommunicable chronic diseases. Although 'geriatric dentistry' is not a recognized specialty in dentistry, and 'geriatric periodontology' is a descriptive title, the subject of this volume of *Periodontology 2000* is critical to the future of clinical dentistry, dental public health and dental research. Any comprehensive focus on older patients can only be accomplished with an emphasis on interprofessional education and practice. If embraced, this shift will allow the dental profession to be more closely aligned with the larger health-care environment, and can improve both oral health and health outcomes for patients seen in the dental office.

49. *J Contemp Dent Pract.* 2016 Jun 1;17(6):504-10.

Oral Cancer-related Inherited Cancer Syndromes: A Comprehensive Review.

Sarode GS(1), Batra A(2), Sarode SC(2), Yerawadekar S(3), Patil S(4).

Oral squamous cell carcinoma is the most common malignancy of the oral cavity, which is usually preceded by a myriad of oral potentially malignant disorders (OPMDs). In the classification of OPMDs, inherited cancer syndromes (ICSs) were proposed as one of the categories. Inherited cancer syndromes are genetic disorders in which inherited genetic mutation in one or more genes predispose the affected individuals to the development of cancer and may also cause its early onset. Many of these syndromes are caused by mutations in tumor suppressor genes, oncogenes, and genes involved in angiogenesis. General dental practitioners frequently come across OPMDs in their day-to-day practice. It becomes of paramount importance to have knowledge about these rare but prognostically important OPMDs. With this view in mind, in this article, efforts have been made to comprehensively discuss about various ICSs that have higher potential of transformation into oral cancer. The ICSs discussed in this article are xeroderma pigmentosum (XP), ataxia telangiectasia (AT), Bloom syndrome (BS), Fanconi's anemia (FA), and Li-Fraumeni syndrome (LFS), with special emphasis on signs, symptoms, and genetic considerations.

50. *Dent Clin North Am.* 2016 Jul;60(3):551-66. doi: 10.1016/j.cden.2016.02.001. Epub 2016 Mar 29.

Mental Health Issues and Special Care Patients.

Clark DB(1).

Mental illness is a major health issue in the world today, yet often remains misunderstood, unrecognized, and undertreated. Patients suffering from severe psychiatric disorders generally display poor oral health, often as a consequence of both lifestyle and avoidant-type behaviors that become exacerbated by their illness. Individuals with severe mental illness display a greater incidence of oral disease compared with a similar demographic not dealing with these particular disorders. Efforts to enhance the oral health of these vulnerable patients will play a significant role in the overall rebuilding of their self-esteem and contribute positively to their journey toward stability and recovery.

51. General Dentistry July/Aug 2016: 24-29

Owens BM, et al

Effect of occlusal calculus utilized as a potential "biological sealant" in special needs patients with gastric feeding tubes: a qualitative in vitro contrast to pit and fissure sealant restorations

52. Br Dent J. 2016 Feb 12;220(3):89. doi: 10.1038/sj.bdj.2016.68.

Special care dentistry: Treating autistic children.

Momen S(1).

53. Oral Surg Oral Med Oral Pathol Oral Radiol. 2016 Mar;121(3):255-61. doi:

10.1016/j.oooo.2015.11.006. Epub 2015 Nov 19.

Characterization of pain originating from oral mucosal lesions.

Abdalla-Aslan R(1), Benoliel R(2), Sharav Y(1), Czerninski R(3).

OBJECTIVE: The aim of the study was to characterize pain associated with oral mucosal lesions.

STUDY DESIGN: A cross-sectional study was performed in patients diagnosed with localized mucosal pain originating from acute ulcers (AUs), herpes infections (HIs), and immune-mediated chronic diseases (IMCDs). Pain-related features, including intensity (VAS-I), perceived unpleasantness (VAS-U), functional impairment (VAS-F), and effect on quality of life (VAS-Q), were recorded using a 10-cm visual analogue scale (VAS). Waking from sleep, provoking, and alleviating factors were assessed by questionnaires.

RESULTS: Sixty-three patients aged 19 to 82 years (47.22 ± 17.20 years) were examined over the study period. These included 18 patients with AUs, 21 with HIs, and 24 with IMCDs. At rest, VAS-U was significantly higher than VAS-I for all groups, and VAS-F was higher for lesions located on the tongue or lips. Up to 80% of patients described the pain as "burning." Differences between groups were not observed for all other parameters measured. Pain woke the patients from sleep in almost half of cases. VAS-I and VAS-U were not related to size or number of lesions.

CONCLUSIONS: Mucosal pain is generally burning in quality, with a higher level of pain-related unpleasantness than pain intensity. In about half of the cases, pain awakens the person from sleep, a feature that correlated to female gender and

pain intensity. Pain intensity or unpleasantness was not related to the size or number of lesions.

54. Acta Odontol Scand. 2016 Jul;74(5):328-34. doi: 10.3109/00016357.2015.1125943. Epub 2016 Jan 12.

Sleep bruxism: an updated review of an old problem.

Castrillon EE(1,)(2), Ou KL(3), Wang K(4,)(5), Zhang J(5), Zhou X(6), Svensson P(1,)(2,)(7).

Objective To provide an update on what is known about bruxism and some of the major clinical highlights derived from new insights into this old problem in dentistry. **Materials and methods** A selective, non-systematic but critical review of the available scientific literature was performed. **Results** There are two main different types of bruxism, which are related to different circadian periods (sleep and awake bruxism) that may differ in terms of pathophysiology, but they share some common signs and symptoms. Approximately one out of 10 adult individuals may suffer from bruxism, but not all bruxers may need treatment. Bruxism is complicated to diagnose in the clinic and self-report of bruxism may not necessarily reflect the true presence of jaw muscle activity. Better understanding has been acquired of bruxism relationships with sleep stages, arousal responses and autonomic function with the help of polysomnography and controlled sleep studies. Meanwhile, there is still much more to learn about awake bruxism. With the available scientific knowledge it is possible to systematically assess the effects of bruxism and its potential risk factors for oral and general health. Moreover, we can be aware of the realistic possibilities to manage/treat the patient suffering from bruxism. **Conclusion** Bruxism is a parafunctional activity involving the masticatory muscles and probably it is as old as human mankind. Different ways have been proposed to define, diagnose, assess the impact and consequences, understand the pathophysiology and treat or manage bruxism. Despite the vast research efforts made in this field, there are still significant gaps in our knowledge.

55. Pediatric Dent 38(7) Nov/Dec 2016: 466-471

Crystal YO, Niederman R

Silver Diamine Fluoride Treatment Considerations in Children's Caries Management

56. Acta Odontol Scand. 2016;74(3):224-8. doi: 10.3109/00016357.2015.1099730. Epub 2015 Oct 16.

Sleep quality in patients with xerostomia: a prospective and randomized case-control study.

Lopez-Jornet P(1), Lucero Berdugo M(1), Fernandez-Pujante A(1), C CF(1), Lavella

C Z(1), A PF(1), J SR(2), Silvestre FJ(2).

Objectives To investigate sleep quality, anxiety/depression and quality-of-life in patients with xerostomia. **Materials and methods** This prospective, observational, cross-sectional study was conducted among a group of xerostomia patients (n = 30) compared with 30 matched control subjects. The following evaluation scales were used to assess the psychological profile of each patient: the Hospital Anxiety and Depression Scale, the Oral Health Impact Profile-14 (OHIP-14), the Xerostomia Inventory, the Pittsburgh Sleep Quality Index (PSQI) and the Epworth Sleepiness Scale (ESS). **Results** The PSQI obtained 5.33 ± 1.78 for patients with xerostomia compared with 4.26 ± 1.01 for control subjects ($p = 0.006$); ESS obtained 5.7 ± 2.1 for test patients vs 4.40 ± 1 for control subjects ($p = 0.010$). Statistical regression analysis showed that xerostomia was significantly associated with depression ($p = 0.027$). **Conclusions** Patients with xerostomia exhibited significant decreases in sleep quality compared with control subjects.

57. 13. J Oral Rehabil. 2016 Oct;43(10):791-8. doi: 10.1111/joor.12413. Epub 2016 Jun 10.

Is bruxism a disorder or a behaviour? Rethinking the international consensus on defining and grading of bruxism.

Raphael KG(1), Santiago V(2), Lobbezoo F(2),(3).

Inspired by the international consensus on defining and grading of bruxism this commentary examines its contribution and underlying assumptions for defining sleep bruxism (SB). The consensus' parsimonious redefinition of bruxism as a behaviour is an advance, but we explore an implied question: might SB be more than behaviour? Behaviours do not inherently require clinical treatment, making the consensus-proposed 'diagnostic grading system' inappropriate. However, diagnostic grading might be useful, if SB were considered a disorder. Therefore, to fully appreciate the contribution of the consensus statement, we first consider standards and evidence for determining whether SB is a disorder characterised by harmful dysfunction or a risk factor increasing probability of a disorder. Second, the strengths and weaknesses of the consensus statement's proposed 'diagnostic grading system' are examined. The strongest evidence-to-date does not support SB as disorder as implied by 'diagnosis'. Behaviour alone is not diagnosed; disorders are. Considered even as a grading system of behaviour, the proposed system is weakened by poor sensitivity of self-report for direct polysomnographic (PSG)-classified SB and poor associations between clinical judgments of SB and portable PSG; reliance on dichotomised reports; and failure to consider SB behaviour on a continuum, measurable and definable through valid behavioural observation. To date, evidence for validity of self-report or clinician report in placing SB behaviour on a continuum is lacking, raising concerns about their potential utility in any bruxism behavioural grading system, and handicapping future study of whether SB may be a useful risk factor for, or itself a disorder requiring treatment.

58. BMC Oral Health. 2016 Sep 1;16(1):87. doi: 10.1186/s12903-016-0280-2.

Utilization of dental care among patients with severe mental illness: a study of a National Health Insurance database.

Teng PR(1), Lin MJ(1), Yeh LL(2).

BACKGROUND: The oral health of patients with severe mental illness is poor, in general, and this may be attributed, in part, to inadequate dental care. This study investigated dental care utilization among patients with severe mental illness using a national representative sample.

METHODS: This study used Taiwan's National Health Insurance Research Dataset for 2009. Patients with the diagnosis of severe mental illness (ICD-9-CM: 290-298) were recruited as the study sample, and others comprised the control. Any visit to a dentist was defined as positive in terms of dental care utilization.

Regression analyses were applied to determine the odds of dental care utilization for each diagnostic entity of severe mental illness, compared with the general population and controlling for potential covariates.

RESULTS: Only 40 % of 19,609 patients with severe mental illness visited the dentist within 12 months. This was significantly lower than the dental visit rate of 48.3 % for the control population (odds ratio [OR] = .72, 95 % confidence interval [CI] = .69-.74; $P < 0.0001$). The odds of dental care utilization differed among the severe mental illness diagnostic categories; e.g., the odds were lowest among those with alcohol psychoses (OR = .54, CI = .43-.68), senile dementia (OR = .55, CI = .52-.59) and other organic psychoses (OR = .58, CI = .52-.65), and highest among those with mood disorder (OR = .89, CI = .85-.94), with schizophrenic patients occupying a mid-level position (OR = .63, CI = .59-.67).

CONCLUSIONS: Patients with severe mental illness received less dental care than the general population. Health care providers and caregivers of patients with severe mental illness should encourage them to visit the dentist regularly, in order to improve the oral health of these vulnerable patient groups.

59. Eur J Paediatr Dent. 2016 Sep;17(3):220-222.

Tongue-tie assessment: clinical aspects and a new diode laser technique for its management.

Crippa R(1), Paglia M(2), Ferrante F(3), Ottonello A(3), Angiero F(3).

BACKGROUND Often breastfeeding problems experienced by mothers and their babies may be attributed to the abnormal attachment of the infant's tongue (ankyloglossia) and/or maxillary lip-tie. Proper breastfeeding depends upon an infant's ability to correctly latch onto its mother's breast. If born with oral soft tissue abnormalities such as tongue-tie or lip-tie, it may be almost impossible for the infant to breastfeed. During the oral evaluation of an infant

presenting with breastfeeding problems, one factor that is often overlooked and undiagnosed - and thus untreated - is the attachment of the upper lip to the maxillary gingival tissue. CASE REPORT: The case is reported of tongue-tie and breastfeeding difficulties, treated with a novel technique: the diode laser (980 nm).

60. J Contemp Dent Pract. 2016 Jul 1;17(7):609-13.

Molar Incisor Hypomineralization.

Rao MH(1), Aluru SC(2), Jayam C(3), Bandlapalli A(4), Patel N(5).

Molar incisor hypomineralization (MIH) is a developmental defect affecting teeth. High prevalence rates of MIH and its clinical implications are significant for both the patients and clinicians. A wide variation in defect prevalence (2.4-40.2%) is reported. It seems to differ with regions and various birth cohorts. Some of the recent prevalence studies are tabulated. Patient implications include hypersensitive teeth, rapid progression of caries, mastication impairment due to rapid attrition, and esthetic repercussions. Implications for clinicians include complexity in treatment planning and treatment implementation, poor prognosis of the restorations, difficulty in achieving pain control during treatment, and behavior management problems. Intention of this paper is to review the etio-pathogenesis, prevalence, clinical features, diagnostic features, and eventually present a sequential treatment approach, i.e., in accordance with current clinical practice guidelines.

61. Eur J Paediatr Dent. 2016 Jun;17(2):129-35.

The need for repeated dental care under general anaesthesia in children.

Bücher K(1), Rothmaier K(1), Hickel R(1), Heinrich-Weltzien R(2), Kühnisch J(1).

AIM: Though the use of advanced behaviour management may facilitate dental treatment in children, some patients still require comprehensive care under general anaesthesia (GA). This is especially true for young children and/or medically compromised children. Thus, this study aimed to provide information about children undergoing GA with regard to age, sex and medical conditions (ICD-10), repeated treatments, dental procedures and recall.

MATERIALS AND METHODS: A total of 464 medically compromised children treated under GA in a dental university clinic between 2004 and 2012 were included. Patients' records were analysed retrospectively using SPSS (Version 21.0) and R for statistical analysis.

RESULTS: More than 75% of the patients were younger than six years when receiving initial GA. The proportion of children subjected to repeated treatments was low, at 11% for a second and <2% for a third round of GA. The greatest proportion of dental care consisted of restorative therapy and tooth extractions. The recall behaviour observed between the first and second GA revealed no significant

influence on the time elapsed in between events ($p>0.05$).

CONCLUSION: Oral care in children with medical conditions is mostly caries-related, and repeated treatment may be necessary, though it was generally uncommon in this university-based study population.

62. Eur J Oral Implantol. 2016;9 Suppl 1:S45-57.

Patient information on treatment alternatives for missing single teeth - Systematic review.

Edelmayer M, Woletz K, Ulm C, Zechner W, Tepper G.

AIM: This study systematically evaluates existing evidence-based literature covering the topic of patient information about different treatment alternatives for missing single teeth, in order to summarise current evidence.

MATERIAL AND METHODS: Three scientific databases - Pubmed, OvidSP and Scopus - were searched for publications up to July 2015, relating to patient information on treatment options for missing single teeth. References of publications and the google scholar database were screened additionally leading to a total of 183 journal articles written in English. Following the selection criteria, 33 articles were included. Twenty-nine questionnaire- based publications were compared by descriptive analysis of six key parameters - awareness of treatment options, source of information, knowledge, attitude to treatment, preference of treatment option and reason for refusal.

RESULTS: Included studies consisted of data from 23,702 responding participants and which were performed in 16 countries. Mean values and standard deviations revealed variations between and within countries. The level of awareness and attitude to treatment in most countries is acceptable. Insufficient knowledge as well as a high demand for knowledge was found. Clinicians are the most important source of information followed by media, family and friends. Dental Implants and FPDs were preferred and high costs would be the major reason for refusal.

CONCLUSION: Clinicians play an important role in improving awareness and knowledge of patients about treatment alternatives. Non-uniform study designs could lead to variations in results. This systematic review can be considered in further studies, in order to standardise methods using key parameters and a representative study population.

63. Dent Update. 2016 Mar;43(2):159-60, 163-6.

Training Plates: A Solution for Patients Unable to Tolerate a Removable Prosthesis.

Laverty DP, Damien Walmsley A.

Dealing with patients who are unable to tolerate dentures can present a challenge to the general dental practitioner (GDP). Careful assessment of patients and their dentures will identify any causes of the intolerance to dentures. Training

plates are a useful technique that can be used to allow patients to become accustomed to removable prosthesis but will inevitably lengthen the treatment process. CPD/Clinical Relevance: Training plates offer a possible solution to general dental practitioners who treat patients who are struggling to tolerate dentures.

64. Oral Maxillofac Surg Clin North Am. 2016 Aug;28(3):247-60. doi: 10.1016/j.coms.2016.03.007.

Chronic Orofacial Pain and Behavioral Medicine.

Merrill RL(1), Goodman D(2).

Patients with chronic orofacial pain disorders have significant psychological distress that plays an important role in modulating and maintaining their pain. For many patients, doing procedures or giving them medications does not relieve their pain. This article discusses the role of cognitive behavioral therapy and other related types of therapy, including mindfulness practices in modulating their pain disorders and helping patients to understand and participate in exercises and practices that will downregulate their pain and add to their toolbox of things they can do to gain relief..

65. Dent Update. 2016 Mar;43(2):186-8, 191.

Antimuscarinics in Older People: Dry Mouth and Beyond.

Bostock C, McDonald C.

Many common prescription and over-the-counter medications have antimuscarinic effects. Antimuscarinics are a well recognized cause of dry mouth, with potential to cause other physical and cognitive adverse effects. A comprehensive medication review in a patient presenting with dry mouth can lead to overall health improvements. Scoring systems can be helpful in identifying antimuscarinic drugs and their adverse effects. CPD/Clinical Relevance: Antimuscarinic drug use is prevalent and a common cause of dry mouth. Older people are particularly susceptible to antimuscarinic adverse effects.

66. Arch Oral Biol. 2017 Jan;73:16-20. doi: 10.1016/j.archoralbio.2016.08.035. Epub 2016 Sep 1.

Differences between the activity of the masticatory muscles of adults with cerebral palsy and healthy individuals while at rest and in function.

Matsui MY(1), Giannasi LC(2), Batista SR(2), Amorim JB(2), Oliveira CS(3), Oliveira LV(3), Gomes MF(2).

OBJECTIVE: The aim of the present study was to compare the electromyographic activity of masticatory muscles of adult patients with different degrees of oral motor impairment (cerebral palsy) with the electromyographic activity of healthy individuals in a control group. Electromyographic activity was compared when the masticatory muscles were at rest and in motion.

DESIGN: Thirty adult patients with cerebral palsy and 30 subjects without neuromotor disorders were enrolled in the present study. Oral motor function impairment was classified for each subject according to the Orofacial Motor Function Assessment Scale. Surface electromyography was bilaterally recorded in the masseter and anterior temporalis muscles at rest, during maximal voluntary clench and mouth opening. Comparisons between the groups were statistically assessed using Mann-Whitney test.

RESULTS: At rest and mouth opening, electromyographic values were higher among patients with cerebral palsy than control group. During maximal voluntary clench, the opposite occurred. The degree of oral motor impairment affected mouth opening.

CONCLUSION: There are significant differences in masticatory muscle activity between adult patients with CP and healthy individuals, and the degree of oral motor impairment is important.

SIGNIFICANCE: To improve the masticatory function of these patients, muscle therapy should approach rest, mouth opening and clenching differently.

67. J Clin Pediatr Dent. 2016;40(5):375-87. doi: 10.17796/1053-4628-40.5.375.

Oral Health Quality of Life in Children with Cerebral Palsy: Parental Perceptions.

El Ashiry EA, Alaki SM, Nouri SM.

OBJECTIVE: To assess the parents' perception of the oral health-related quality of life (OHRQOL) in children with Cerebral Palsy (CP) and compare it with normally developing children.

STUDY DESIGN: 63 children with CP were recruited from 8 disability centers, and 99 healthy controls were recruited from 5 elementary schools. The ages of the children in both groups were from 6-12 years. The Franciscan Hospital for Children Oral Health-Related Quality of Life (FHC-OHRQOL) was used to measure the OHRQOL and an oral examination was conducted in the schools/centers of the children to assess the teeth, gingival health, and oral hygiene.

RESULTS: The FHC-OHRQOL showed a significant difference in 3 out of 4 sections indicating lower OHRQOL in the CP group. The examination showed no significant difference in the dental and gingival health and in the level of oral hygiene.

CONCLUSION: The OHRQOL of children with CP is significantly lower than that of normally developing children although the oral health status of children with CP is not significantly different from that of normally developing children.

68. J Contemp Dent Pract. 2016 Aug 1;17(8):670-4.

Intricate Assessment and Evaluation of Effect of Bruxism on Long-term Survival and Failure of Dental Implants: A Comparative Study.

Yadav K(1), Nagpal A(2), Agarwal SK(2), Kochhar A(2).

INTRODUCTION: Dental implants are one of the common lines of treatment used for the treatment of missing tooth. Various risk factors are responsible for the failure of the dental implants and occurrence of postoperative complications.

Bruxism is one such factor responsible for the failure of the dental implants.

The actual relation between bruxism and dental implants is a subject of long-term controversy. Hence, we carried out this retrospective analysis to assess the complications occurring in dental implants in patients with and without bruxism.

MATERIALS AND METHODS: The present study included 1100 patients which were treated for rehabilitation by dental implant procedure at 21 dental offices of Ghaziabad (India) from 2004 to 2014. Analyzing the clinical records of the patients along with assessing the photographs of the patients was done for confirming the diagnosis of bruxism. Clinical re-evaluation of the patients, who came back for follow-up, was done to confirm the diagnosis of bruxism. Systemic questionnaires as used by previous workers were used to evaluate the patients about the self-consciousness of the condition. Estimation of the mechanical complications was done only in those cases which occurred on the surfaces of the restoration of the dental implants. All the results were analyzed by Statistical Package for Social Sciences (SPSS) software. Student's t-test and Pearson's chi-square test were used to evaluate the level of significance.

RESULTS: In both bruxer and non-bruxers, maximum number of dental implants was placed in anterior maxillary region. Significant difference was obtained while comparing the two groups for dimensions of the dental implants used. On comparing the total implant failed cases between bruxers and non-bruxers group, statistically significant result was obtained. Statistically significant difference was obtained while comparing the two study groups based on the health parameters, namely hypertension, diabetes, and smoking habit.

CONCLUSION: Success of dental implant is significantly affected by bruxism.

Special attention is required in such patients while doing treatment planning.

CLINICAL SIGNIFICANCE: For the long-term clinical success and survival of dental implants in patients, special emphasis should be given on the patient's deleterious oral habits, such as bruxism as in long run, they influence the stability of dental implants.

69. Braz Dent J. 2016 Jul-Aug;27(4):381-6. doi: 10.1590/0103-6440201600663.

Anesthetic Efficacy in Irreversible Pulpitis: A Randomized Clinical Trial.

Allegretti CE(1), Sampaio RM(2), Horliana AC(3), Armonia PL(1), Rocha RG(2),

Tortamano IP(2).

Inferior alveolar nerve block has a high failure rate in the treatment of mandibular posterior teeth with irreversible pulpitis. The aim of this study was to compare the anesthetic efficacy of 4% articaine, 2% lidocaine and 2% mepivacaine, all in combination with 1:100,000 epinephrine, in patients with irreversible pulpitis of permanent mandibular molars during a pulpectomy procedure. Sixty-six volunteers from the Emergency Center of the School of Dentistry, University of São Paulo, randomly received 3.6 mL of local anesthetic as a conventional inferior alveolar nerve block (IANB). The subjective signal of lip numbness, pulpal anesthesia and absence of pain during the pulpectomy procedure were evaluated respectively, by questioning the patient, stimulation using an electric pulp tester and a verbal analogue scale. All patients reported the subjective signal of lip numbness. Regarding pulpal anesthesia success as measured with the pulp tester, the success rate was respectively 68.2% for mepivacaine, 63.6% for articaine and 63.6% for lidocaine. Regarding patients who reported no pain or mild pain during the pulpectomy, the success rate was, respectively 72.7% for mepivacaine, 63.6% for articaine and 54.5% for lidocaine. These differences were not statistically significant. Neither of the solutions resulted in 100% anesthetic success in patients with irreversible pulpitis of mandibular molars.

70. J Contemp Dent Pract. 2016 Jul 1;17(7):592-6.

Effect of Topical Anesthesia with Lidocaine-prilocaine (EMLA) Cream and Local Pressure on Pain during Infiltration Injection for Maxillary Canines: A Randomized Double-blind clinical trial.

Milani AS(1), Zand V(1), Abdollahi AA(2), Froughreyhani M(1), Zakeri-Milani P(3), Jafarabadi MA(4).

OBJECTIVES: This study compared the effect of local pressure and topical lidocaine-prilocaine (EMLA) cream on pain during infiltration injection for maxillary canine teeth.

MATERIALS AND METHODS: A total of 140 volunteer students participated in this split-mouth design randomized clinical trial. The subjects were randomly divided into four groups (n = 35). Before administration of anesthesia, in each group, one side was randomly selected as the experimental and the opposite side as the control. In group 1, finger pressure was applied on the alveolar mucosa on the experimental side and on the tooth crown on the control side. In group 2, 5% EMLA cream and placebo; in group 3, finger pressure and 5% EMLA cream; and in group 4, 5% EMLA cream and 20% benzocaine gel were applied. In all the groups, a buccal infiltration procedure was carried out. Pain during injection was recorded with visual analog scale (VAS). Wilcoxon and McNemar tests were used for statistical analysis of the results. Statistical significance was set at $p < 0.05$.

RESULTS: The results showed that EMLA reduced the injection pain significantly more than benzocaine ($p = 0.02$). Also, injection pain was significantly lower with the use of EMLA in comparison to placebo ($p = 0.00$). Application of local

pressure reduced the injection pain, but the difference from the control side was not significant ($p = 0.05$). Furthermore, the difference between application of local pressure and EMLA was not statistically significant ($p = 0.08$).

CONCLUSION: Topical anesthesia of 5% EMLA was more effective than 20% benzocaine in reducing pain severity during infiltration injection. However, it was not significantly different in comparison to the application of local pressure.

71. Evid Based Dent. 2016 Jun;17(2):44-5. doi: 10.1038/sj.ebd.6401167.

Efficacy of using Carisolv in the removal of decayed tooth structure in primary teeth.

Keenan AV(1), Congiusta MA(1).

Comment on

Acta Odontol Scand. 2015;73(8):569-80.

Data sources Medline, Web of Science and Scopus were searched using a unique search strategy. Study selection Two authors independently reviewed and selected Clinical Trials, Randomised Clinical trials and Controlled Trials assessing the efficacy on primary dentition of Carisolv compared to traditional caries removal with drilling instruments. Only studies where total caries removal in each group was completed using Carisolv systems or rotary instruments used without any time limit were considered suitable. Studies assessing the complete caries removal by different methods from the clinical criteria selected (ie using a sharp probe) were excluded. Data extraction and synthesis The outcomes considered for the review were: the caries removal rate (binary yes/no), the time required to complete the tissue removal (continuous) and the pain threshold during the procedure, assessed through the need for local anaesthesia by the patients (binary yes/no). For dichotomous data Odds Ratio (OR) was calculated along with 95% Confidence intervals (CIs) and for continuous data, the Mean Difference (MD) with 99% Confidence Intervals (CIs) was calculated. Meta-analysis was performed with studies analysing the same outcomes. Results From 195 studies identified, 28 were analysed. Ten met eligibility criteria. The trials included involved a total of 348 patients for 532 treated teeth. Three studies evaluated clinical efficacy in caries removal. When the data were collected in a meta-analysis no statistically significant difference was observed in regard of the clinical efficacy between Carisolv and the rotary instruments ($p = 0.50$, $OR = 0.33$ 95% CI 0.01-8.22). In seven studies the length of time to perform the procedures was evaluated and data analysis demonstrated a statistically significant difference ($p < 0.01$, MD 310.92, 99% CI 234.57- 387.27) with the Carisolv system, which required a greater amount of time than the conventional drill technique. With regard to pain threshold, a near statistically significant difference was found ($p = 0.06$, $OR = 0.09$ 95% CI 0.01-1.07) with less anaesthesia required by patients treated using the Carisolv system technique. Conclusions The systematic review indicates that the clinical efficacy of chemo-mechanical removal with Carisolv seems as reliable as

with rotary instruments. However, the results should be interpreted cautiously due to the heterogeneity among study designs and to the shortage of available data. Further large-scale, well-designed randomised controlled trials are needed.

72. *Oral Maxillofac Surg.* 2016 Sep;20(3):265-71. doi: 10.1007/s10006-016-0565-2. Epub 2016 Jun 18.

Analgesic efficacy of celecoxib in patients after oral surgery: special reference to time to onset of analgesia and duration of analgesic effect.

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PURPOSE: Cyclooxygenase-2 inhibitor celecoxib is also used in the dental field for analgesia. However, there are few reports on the time to onset and duration of analgesia. We investigated the analgesic effect of celecoxib after oral surgery.

METHODS: A total of 138 patients undergoing unilateral mandibular third molar surgery under local anesthesia were enrolled. After surgery, the patients who felt pain and requested an analgesic were instructed to take celecoxib 400 mg and to record the time. Primary efficacy outcome measures were time to onset of analgesia. In addition, the conditions of pain at the time of taking celecoxib, at the onset time of analgesia, and 2 and 6 h after taking the drug were recorded. Pain assessments were evaluated using a 10-cm visual analog scale and four-point verbal rating score. These data were documented in the questionnaire forms handed to the patients and retrieved by post.

RESULTS: Effective responses without missing were returned from 103 patients. The median time to onset of the efficacy was 35 min. The pain scales at celecoxib administration was significantly higher compared with the time of onset of analgesia, 2 hours after administration and 6 hours hours administration ($P < 0.05$, respectively). The pain scales at the onset time of analgesia were significantly higher compared to that after 2 or 6 h of taking the drug ($P < 0.05$, respectively). There were no statistically significant differences in the pain scales between 2 and 6 h after taking the drug ($P > 0.05$).

CONCLUSION: The analgesic effect of celecoxib was exhibited quickly and sustained after oral surgery.

73. *J Oral Maxillofac Surg.* 2016 Oct;74(10):1946.e1-6. doi: 10.1016/j.joms.2016.05.015. Epub 2016 May 24.

Comparison of the Effects of Daily Single-Dose Use of Flurbiprofen, Diclofenac Sodium, and Tenoxicam on Postoperative Pain, Swelling, and Trismus: A Randomized Double-Blind Study.

Kaplan V(1), Eroğlu CN(2).

PURPOSE: The aim of the present study was to compare the effects of daily single-dose use of flurbiprofen, diclofenac sodium, and tenoxicam on pain, swelling, and trismus that occur after surgical extraction of impacted wisdom teeth using local anesthesia.

MATERIALS AND METHODS: The present study included 3 groups with 30 patients in each group. Those volunteering to participate in this double-blind randomized study (n = 90) were selected from a patient population with an indication for extraction of impacted wisdom teeth. Group 1 patients received 200 mg flurbiprofen, group 2 patients received 100 mg diclofenac sodium, and group 3 patients received 20 mg tenoxicam. All doses were once a day, starting preoperatively. Pain was evaluated postoperatively at 1, 2, 3, 6, 8, and 24 hours and at 2 and 7 days using a visual analog scale (VAS). For comparison with the preoperative measurements, the patients were invited to postoperative follow-up visits 2 and 7 days after extraction to evaluate for swelling and trismus. The statistical analysis was performed using descriptive statistics in SAS, version 9.4 (SAS Institute, Cary, NC), software. Statistical analysis of the pain, swelling, and trismus data was performed using the Kruskal-Wallis, Dunn, and Wilcoxon-Mann-Whitney U tests. The statistical level of significance was accepted at P = .05 and power of 0.80.

RESULTS: Clinically, tenoxicam showed better analgesic and anti-inflammatory efficacy compared with diclofenac sodium and, in particular, flurbiprofen. Although the VAS scores in the evaluation of pain showed statistically significant differences at 2 days, no statistically significant difference was found for swelling and trismus.

CONCLUSIONS: Our study evaluated the analgesic and anti-inflammatory effects with a daily single dose of flurbiprofen, diclofenac sodium, and tenoxicam. Daily 20 mg tenoxicam can be accepted as an adequate and safe option for patients after a surgical procedure.

74. *Anesth Prog.* 2016 Summer;63(2):80-3. doi: 10.2344/15-00010R1.1.

Anesthetic Management of a Patient With Charcot-Marie-Tooth Disease.

Ohshita N(1), Oka S(2), Tsuji K(3), Yoshida H(3), Morita S(3), Momota Y(1), Tsutsumi YM(4).

Charcot-Marie-Tooth disease (CMTD) is a hereditary peripheral neuropathy and is characterized by progressive muscle atrophy and motor-sensory disorders in all 4 limbs. Most reports have indicated that major challenges with general anesthetic administration in CMTD patients are the appropriate use of nondepolarizing muscle relaxants and preparation for malignant hyperthermia in neuromuscular disease. Moderate sedation may be associated with the same complications as those of general anesthesia, as well as dysfunction of the autonomic nervous system, reduced perioperative respiratory function, difficulty in positioning, and sensitivity to intravenous anesthetic agents. We decided to use intravenous sedation in a CMTD patient and administered midazolam initially and propofol

continuously, with total doses of 1.5 mg and 300 mg, respectively. Anesthesia was completed in 3 hours and 30 minutes without adverse events. We suggest that dental anesthetic treatment with propofol and midazolam may be effective for patients with CMTD.

75. *Anesth Prog.* 2016 Summer;63(2):55-61. doi: 10.2344/0003-3006-63.2.55.

Clinical Comparison: Fast-Acting and Traditional Topical Dental Anesthetic.

DiMarco AC(1),(2), Wetmore AO(3).

A randomized, nonblinded clinical trial compared the effectiveness of an application method of a fast-acting refrigerant topical agent to a 20% benzocaine gel topical. In a split-mouth design, right and left anterior middle superior alveolar injections (N = 30) were administered with a 27-gauge needle at least 24 hours apart with preinjection topicals. Using a cotton-tipped applicator, a refrigerant topical was applied for 5 seconds and 20% benzocaine gel for 2 minutes on opposite sides at 2 separate appointments. Subjects self-reported pain perception after each injection using a visual analog scale (VAS). The mean VAS ratings demonstrated no significant difference between the 5-second application of the refrigerant (M = 16.2, SD = 17.7) and the 2-minute application of 20% benzocaine topical gel anesthetic (M = 17.9, SD = 18.2). Fifty-seven percent of the subjects reported greater pain reduction with the refrigerant, 33% reported greater pain reduction with 20% benzocaine, and 10% reported no difference. Results suggest the described method of application of a refrigerant as an oral topical anesthetic has a faster onset and provides similar benefit in pain reduction compared with 20% benzocaine gel. The refrigerant was easy to accomplish and well received by subjects, indicating potential for routine use in dentistry.

76. *Dent Clin North Am.* 2016 Jul;60(3):593-604. doi: 10.1016/j.cden.2016.02.006. Epub 2016 Mar 29.

Ensuring Maintenance of Oral Hygiene in Persons with Special Needs.

Buda LV(1).

Patients with special needs often must rely on inadequately trained caregivers for oral health maintenance. Consequently, full compliance is often not achieved. It is crucial that dentists carefully consider restorative materials and restoration design to maximize durability and facilitate cleansing in these challenging circumstances. This article discusses materials selection, prosthetic design, and oral hygiene techniques for caregivers to ensure longevity and maintenance of oral health in the special needs population.

77. Int J Oral Maxillofac Surg. 2016 Oct;45(10):1283-92. doi: 10.1016/j.ijom.2016.05.005. Epub 2016 May 30.

Palatal injection for removal of maxillary teeth: is it required? A systematic review.

Badenoch-Jones EK(1), Lincoln T(2).

There is a growing body of work examining whether a palatal injection is necessary for the extraction of maxillary teeth with contemporary local anaesthetics. The available literature was reviewed systematically by conducting a search of the PubMed, EMBASE, and Cochrane CENTRAL databases for trials examining outcomes of maxillary tooth extraction where buccal injection of local anaesthetic only was used for one or more test groups. The selected studies were reviewed for study type, sample size, quality, participant characteristics and methodology, outcome variables, and findings. Fifteen studies met the inclusion criteria. Six of the studies were randomized controlled trials. Four studies were controlled clinical trials that did not report randomization. Five were clinical trials that were not controlled and examined outcomes of one or more test groups. The pain of local anaesthetic injection(s) in the test group (buccal injection only) versus control group (buccal and palatal injection), number of cases requiring supplemental buccal or palatal injection in cases of unsuccessful local anaesthesia, and pain during the procedure were designated as primary outcomes. Pain on probing of the mucosa was designated as a secondary outcome. All nine controlled studies that assessed pain during the procedure found no statistically significant difference between the test and control groups.

78. Dent Today. 2016 Apr;35(4):126-7.

Seven Protective Reflexes Every Dentist Should Know.

Flores JR.

79. Br Dent J. 2016 May 27;220(10):533-7. doi: 10.1038/sj.bdj.2016.378.

Reducing health inequalities in people with learning disabilities: a multi-disciplinary team approach to care under general anaesthesia.

Clough S(1), Shehabi Z(1), Morgan C(1).

Background There remains significant inequality in health and healthcare in people with learning disabilities (LD). A lack of coordination and the episodic

nature of care provision are contributory factors. Recognising the need to improve outcomes for this group, we evaluate a multi-disciplinary team (MDT) approach to care whereby additional medical procedures are carried out under the same episode of general anaesthesia (GA) as dental treatment for people with severe LD. This is the first published evaluation of its kind in the UK. Aim To evaluate the need and outcomes of an MDT approach to care among people with severe LD receiving dental treatment under GA. Method One hundred patients with severe LD and behaviour that challenges attended Barts Health Dental Hospital for dental assessment and subsequent treatment under GA. Details of failed or forthcoming medical interventions were determined. Where appropriate, care was coordinated with the relevant medical team. Findings Twenty-one percent (n = 21/100) had recent medical interventions attempted that had been abandoned, and 7.0% (n = 7/100) had future investigations or treatment planned under GA with medical specialties. An MDT approach was indicated in 28.0% (n = 28/100). For such complex cases, a successful MDT outcome was achieved in 89.3% (n = 25/28). This included ophthalmological/orthoptic, ENT and gastroenterological interventions in addition to medical imaging. Conclusion An MDT approach to care for people with LD offers improved patient-centred outcomes in addition to financial and resource efficiency. It requires a high level of cooperation between specialties, with consideration of the practicalities of a shared surgical space and equipment needs. Re-shaping of services and contractual flexibility are essential to support the future implementation of MDTs and to ensure long-term sustainability. Adoption of a holistic culture in the care of this vulnerable patient group is encouraged.

80. J Clin Periodontol. 2016 Sep;43(9):754-66. doi: 10.1111/jcpe.12565. Epub 2016 Jul 15.

Intra-pocket anaesthesia and pain during probing, scaling and root planing: a systematic review and meta-analysis.

Wambier LM(1), de Geus JL(1), Chibinski AC(1), Wambier DS(1), Rego RO(2), Loguercio AD(1), Reis A(1).

AIM: A systematic review/meta-analysis was performed to evaluate pain during probing, scaling and root planing using intra-pocket anaesthesia versus placebo in adult patients.

METHODS: A search was performed in PubMed, Scopus, Web of Science, Latin American and Caribbean Health Sciences Literature database, Brazilian Library in Dentistry, Cochrane Library and Grey literature. IADR abstracts, unpublished trials registries, dissertations and theses were also searched for randomized clinical trials comparing the clinical effectiveness of intra-pocket anaesthesia and placebo. Risk/intensity of pain was the primary outcome. The risk of bias tool from the Cochrane Collaboration was used for quality assessment.

Meta-analysis was performed on studies considered at low risk of bias.

RESULTS: A total of 1740 articles were identified. Eleven remained in the qualitative synthesis, and nine studies were considered at "low" risk of bias for meta-analysis. Standardized Hedge's g mean difference for pain intensity using

visual analogue scale and Heft-Parker pain scales was -0.576 (95% confidence interval [CI] -0.94 to -0.22; p = 0.002) and for verbal rating scale pain scale it was -1.814 (95% CI -3.38 to -0.245; p = 0.023). The odds ratio for the risk of pain was 0.025 (95% CI 0.003 to 0.25; p = 0.002) and the odds ratio for the need for rescue anaesthesia it was 0.358 (95% CI 0.174 to 0.736; p = 0.005).
CONCLUSIONS: The anaesthetic gel decreases the risk and intensity of pain during probing/SRP.

81. Dent Clin North Am. 2016 Apr;60(2):445-71. doi: 10.1016/j.cden.2015.12.001.

Updates of Topical and Local Anesthesia Agents.

Boyce RA(1), Kirpalani T(2), Mohan N(2).

As described in this article, there are many advances in topical and local anesthesia. Topical and local anesthetics have played a great role in dentistry in alleviating the fears of patients, eliminating pain, and providing pain control. Many invasive procedures would not be performed without the use and advances of topical/local anesthetics. The modern-day dentist has the responsibility of knowing the variety of products on the market and should have at least references to access before, during, and after treatment. This practice ensures proper care with topical and local anesthetics for the masses of patients entering dental offices worldwide.

82. Spec Care Dentist. 2016 Jul;36(4):237-40. doi: 10.1111/scd.12170. Epub 2016 Mar 2.

General anesthesia for dental care management of a patient with epidermolysis bullosa: 24-month follow-up.

Mello BZ(1), Neto NL(2), Kobayashi TY(3), Mello MB(4), Ambrosio EC(5), Yaedú RY(6), Machado MA(7), Oliveira TM(8).

Epidermolysis bullosa comprises a group of uncommon skin-related diseases, characterized by the formation of blisters on mucocutaneous regions occurring spontaneously, following a trauma, exposure to heat, or as a result of minimal mechanical trauma. The dental treatment of the patient with epidermolysis bullosa raises many questions and discussions, due to the difficulty of carrying out the procedures. This report aimed to detail the clinical considerations of the treatment under general anesthesia of a patient with epidermolysis bullosa. The extraction of all deciduous teeth under general anesthesia was recommended based on the clinical and radiographic examinations. At 24-month follow-up, the patient had great improvement in oral hygiene without new caries lesions. The patient has been followed-up at every month for caries lesion prevention and permanent tooth

development. The treatment under general anesthesia provided the ideal safe conditions and was beneficial for the patient.

155. Br Dent J. 2016 Feb 12;220(3):117-20. doi: 10.1038/sj.bdj.2016.93.

83. Articaine buccal infiltration vs lidocaine inferior dental block - a review of the literature.

Bartlett G(1), Mansoor J(2).

AIM: This paper aims to compare the effectiveness of articaine buccal infiltrations (BIs) and lidocaine inferior alveolar nerve blocks (IANBs) for inducing pulpal anaesthesia in mandibular molars.

METHOD: Studies which compared articaine BIs with lidocaine IANBs were identified by completing a full literature search using the MEDLINE, EMBASE and Cochrane Central Register of Controlled Trials databases. Only studies that used permanent mandibular molars were included. Two papers were accepted for appraisal.

RESULTS: It was found that 55.6-69.2% and 65.4-70.4% of lidocaine IANBs and articaine BIs were successful, respectively. Neither study was able to determine a significant difference between the two techniques.

CONCLUSIONS: Articaine BIs are no more effective than lidocaine IANBs and the decision of which method to practice should be based on patient selection, cost and time efficiency. The studies present a number of weaknesses in their design, hence, the level of evidence they provide is inconclusive. Further investigation in this field is warranted.

84. Compend Contin Educ Dent. 2016 Jan;37(1):22-5; quiz 26.

General Anesthesia for Dental Treatment in a Patient With Huntington's Chorea.

Haimov-Kaldess I(1), Haim D(2), Garfunkel A(3).

General dentists may be challenged with treating patients with neurodegenerative brain disorders. The primary goal in general anesthesia for these patients is to provide airway protection and a rapid and safe recovery. This article discusses factors that are of significant concern to the dentist-anesthesiologist team treating patients with Huntington's disease and other neurodegenerative conditions. It includes a case report that describes the treatment of a patient with a neurodegenerative disease characterized by uncontrolled movements and which required general anesthesia. The safety of the used necessary medication is accentuated.

85. Med Oral Patol Oral Cir Bucal. 2016 Sep 1;21(5):e579-86.

Current methods of sedation in dental patients - a systematic review of the literature.

Corcuera-Flores JR(1), Silvestre-Rangil J, Cutando-Soriano A, López-Jiménez J.

OBJECTIVE: The main objective of this systematic literature review is to identify the safest and most effective sedative drugs so as to ensure successful sedation with as few complications as possible.

STUDY DESIGN: A systematic literature review of the PubMed MEDLINE database was carried out using the key words "conscious sedation," "drugs," and "dentistry." A total of 1,827 scientific articles were found, and these were narrowed down to 473 articles after applying inclusion and exclusion criteria. These 473 studies were then individually assessed for their suitability for inclusion in this literature review.

RESULTS: A total of 21 studies were selected due to their rigorous study design and conduciveness to further, more exhaustive analysis. The selected studies included a total of 1,0003 patients classified as ASA I or II. Midazolam was the drug most frequently used for successful sedation in dental surgical procedures. Ketamine also proved very useful when administered intranasally, although some side effects were observed when delivered via other routes of administration. Both propofol and nitrous oxide (N₂O) are also effective sedative drugs.

CONCLUSIONS: Midazolam is the drug most commonly used to induce moderate sedation in dental surgical procedures, and it is also very safe. Other sedative drugs like ketamine, dexmedetomidine and propofol have also been proven safe and effective; however, further comparative clinical studies are needed to better demonstrate which of these are the safest and most effective.

86. Dent Clin North Am. 2016 Apr;60(2):309-46. doi: 10.1016/j.cden.2015.11.009.

Conscious Intravenous Sedation in Dentistry: A Review of Current Therapy.

Southerland JH(1), Brown LR(2).

Several sedation options are used to minimize pain, anxiety, and discomfort during oral surgery procedures. Minimizing or eliminating pain and anxiety for dental care is the primary goal for conscious sedation. Intravenous conscious sedation is a drug-induced depression of consciousness during which patients respond purposefully to verbal commands. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate as well as cardiovascular function. Patients must retain their protective airway reflexes, and respond to and understand verbal communication. The drugs and techniques used must therefore carry a broad margin of safety.

87. Dent Clin North Am. 2016 Apr;60(2):295-307. doi: 10.1016/j.cden.2015.11.002.

Oral Sedation in the Dental Office.

Sebastiani FR(1), Dym H(2), Wolf J(1).

This article highlights the commonly used medications used in dentistry and oral surgery. General dentists and specialists must be knowledgeable about the pharmacology of the drugs currently available along with their risks and benefits. Enteral sedation is a useful adjunct for the treatment of anxious adult and pediatric patients. When enteral sedation is used within the standards of care, the interests of the public and the dental profession are served through a cost-effective, effective service that can be widely available. Oral sedation enables dentists to provide dental care to millions of individuals who otherwise would have unmet dental needs.

88. Dent Update. 2016 Jan-Feb;43(1):83-6, 89.

Benzodiazepines: Sedation and Agitation.

Gallagher C.

Dental anxiety is common and frequently poses a barrier to necessary dental treatment. The increasing availability of conscious sedation in dental practice has made treatment much more accessible for anxious patients. At present, benzodiazepines are the most commonly used drugs in sedation practice and provide a pleasant experience for most, but not all, patients. An understanding of the mechanism of action of benzodiazepines should inform our practice and deepen our understanding of why and how sedation may fail. CPD/CLINICAL RELEVANCE: As an increasing number of dentists provide sedation for their patients an update on benzodiazepines is timely.

89. BMC Oral Health. 2016 Aug 2;17(1):32. doi: 10.1186/s12903-016-0264-2.

Parallel study about the effects of psychotherapy on patients with dental phobia determined by anxiety scores and saliva secretion and composition.

Naumova EA(1), Faber S(1), Lindner P(2), Wannemueller A(2), Sandulescu T(1), Joehren P(2), Arnold WH(3).

BACKGROUND: The aim of this study was to determine the success of psychotherapeutic treatment for dental phobia by measurement of anxiety using the dental anxiety score (DAS), the state trait anxiety score (STAI state), salivary cortisol and protein concentrations and the salivary secretion rate. Primary endpoint of the study was the comparison of the data before and after psychotherapeutic treatment.

METHODS: Forty patients were included into the study. Twenty-four were allocated to the phobic group, 16 to the control group. Saliva was collected upon entering the dental clinic and again after three weeks of psychotherapy. The results were compared with those of a control group. The DAS and STAI questionnaires were completed at each visit.

RESULTS: A reduction in DAS values was found after psychotherapy. However, the values remained significantly higher in the phobic group than in the controls. Similar results were found for STAI scores. A slightly higher salivary cortisol level was found in the phobic group. No changes occurred in cortisol or protein concentrations. The salivary secretion rate increased in the phobic patients after psychotherapy.

CONCLUSIONS: It could be concluded that psychotherapy is effective in the treatment of dental phobic patients.

90. Community Dent Health. 2016 Jun;33(2):121-6.

Dental anxiety, concomitant factors and change in prevalence over 50 years.

Svensson L, Hakeberg M, Boman UW.

OBJECTIVE: To analyse the prevalence of Dental Anxiety (DA) in the general adult population of Sweden, to study concomitant factors of DA and also to compare the prevalence of DA in 1962 with that in 2013.

METHOD: The national study for 2013 included 3,500 individuals, randomly selected from the Swedish population. The data sampling was performed as a telephone survey including 38 questions and this report is a selection of those questions with the focus on DA. The national study from 1962 was a face-to-face survey of 1,331 individuals randomly selected from the Swedish population. Both surveys were conducted by the same company.

RESULTS: In 2013, severe DA was reported in 4.7%, moderate DA in 4.5%, low DA in 9.8% and no DA in 80.9% of the subjects. Most (72.9%) of the subjects who reported severe DA attended dental care regularly. Important predictive factors of DA were age, gender, education, and self-rated poor oral and general health. The analysis showed a decrease in the prevalence of DA between 1962 and 2013, specifically a change towards more individuals reporting no dental anxiety (38.5% vs. 80.9%) but also smaller proportions of individuals having low and high DA (46.4% vs 9.8% and 15.1% vs 9.2%, respectively).

CONCLUSIONS: In this national representative sample of Swedish adults the prevalence of severe DA was 4.7%. The main finding revealed a significant decrease of the prevalence of DA over 50 years.

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91. J Dent Hyg. 2016 Apr;90(2):111-20.

Interventions for the Reduction of Dental Anxiety and Corresponding Behavioral Deficits in Children with Autism Spectrum Disorder.

Elmore JL, Bruhn AM, Bobzien JL.

PURPOSE: Autism Spectrum Disorder (ASD) can greatly inhibit a child's communication and social interaction skills, impacting their comfort during dental hygiene treatment and services. Children with ASD may exhibit sensory sensitivities, fear of the unfamiliar and lack of socio-cognitive understanding, leading to anxiety and corresponding behavioral deficits. Since the prevalence rates for ASD have risen significantly in the past decade, increased emphasis has been placed on educational and behavior guidance techniques, which can be helpful for children with ASD because of their increased capabilities in visual-processing. The purpose of this literature review is to summarize the interventions available to reduce dental anxiety in children with ASD, and to determine which strategies are best suited for implementation by the dental hygienist. Advancements in technology and socio-behavioral interventions were assessed for appropriate use, efficacy and engagement in the target population. Interventions were categorized into the following groups: picture cards, video technologies and mobile applications.

92. *J Dent Child (Chic)*. 2016;83(1):22-8.

Clinical Efficiency of Three Caries Removal Systems: Rotary Excavation, Carisolv, and Papacarie.

Hegde S(1), Kakti A(2), Bolar DR(1), Bhaskar SA(1).

PURPOSE: The removal of dentinal caries using the rotary method of excavation is most often associated with pain and anxiety in children. Chemo-mechanical caries removal may eliminate some of the drawbacks of the rotary technique and improve patient comfort. The purpose of this study was to compare the efficiency of the rotary, Carisolv, and Papacarie methods for caries removal in primary teeth, length of time needed, influence on child behavior, pain perception, and treatment preference of the child.

METHODS: This controlled, split-mouth study with a cross-over design compared three caries removal methods in the primary molars of 50 five- to 12-year-old children.

RESULTS: The rotary method was the most efficient and least time-consuming ($P<0.001$). Pain perception, however, was highest with this method ($P<0.05$). Papacarie exhibited a higher efficiency and required fewer applications than Carisolv ($P<0.01$). The Papacarie method was the most preferred, and the rotary method the least-preferred ($P<0.05$).

CONCLUSIONS: Chemo-mechanical caries removal may be a promising alternative treatment procedure, particularly for anxious young patients.

93. *Anesth Prog*. 2016 Spring;63(1):42-8; quiz 49. doi: 10.2344/0003-3006-63.1.42.

Potent Inhalational Anesthetics for Dentistry.

Satuito M(1), Tom J(2).

Nitrous oxide and the volatile inhalational anesthetics have defined anxiety and pain control in both dentistry and medicine for over a century. From curious experimentation to spectacular public demonstrations, the initial work of 2 dentists, Horace Wells and William T. G. Morton, persists to this day in modern surgery and anesthesia. This article reviews the history, similarities, differences, and clinical applications of the most popular inhalational agents used in contemporary dental surgical settings.

94. Oral Surg Oral Med Oral Pathol Oral Radiol. 2016 Mar;121(3):290-300.e2. doi: 10.1016/j.oooo.2015.10.020. Epub 2015 Oct 26.

A novel multimodal optical imaging system for early detection of oral cancer.

Malik BH(1), Jabbour JM(1), Cheng S(1), Cuenca R(1), Cheng YS(2), Wright JM(2), Jo JA(1), Maitland KC(3).

OBJECTIVES: Several imaging techniques have been advocated as clinical adjuncts to improve identification of suspicious oral lesions. However, these have not yet shown superior sensitivity or specificity over conventional oral examination techniques. We developed a multimodal, multi-scale optical imaging system that combines macroscopic biochemical imaging of fluorescence lifetime imaging with subcellular morphologic imaging of reflectance confocal microscopy for early detection of oral cancer. We tested our system on excised human oral tissues.

STUDY DESIGN: In total, 4 tissue specimens were imaged. These specimens were diagnosed as either clinically normal, oral lichen planus, gingival hyperplasia, or superficially invasive squamous cell carcinoma. The optical and fluorescence lifetime properties of each specimen were recorded.

RESULTS: Both quantitative and qualitative differences among normal, benign, and squamous cell carcinoma lesions can be resolved with fluorescence lifetime imaging reflectance confocal microscopy. The results demonstrate that an integrated approach based on these two methods can potentially enable rapid screening and evaluation of large areas of oral epithelial tissue.

CONCLUSIONS: Early results from ongoing studies of imaging human oral cavity illustrate the synergistic combination of the 2 modalities. An adjunct device based on such optical characterization of oral mucosa can potentially be used to detect oral carcinogenesis in early stages.

95. Eur J Paediatr Dent. 2016 Sep;17(3):248-250.

Oral manifestations of gastrointestinal diseases in children. Part 3: Ulcerative colitis and gastro-oesophageal reflux disease.

Mantegazza C(1), Angiero F(2), Zuccotti GV(1).

BACKGROUND: Alterations of the oral cavity are common in children: 22% of children aged less than 4 years and 44% of those aged more than 12 develop dental erosion, 9-95% of children in Europe and in North America develop gingivitis, with adolescents showing a prevalence of more than 60% [Italian Ministry of Health, Guidelines 2013]. Alterations within the oral cavity can be the first sign of systemic diseases and may thus allow for an early diagnosis and treatment. In particular, being the oral cavity a part of the gastrointestinal system, oral alterations can be an expression of a gastrointestinal disease. Pyostomatitis vegetans can be a sign of ulcerative colitis. Dental erosion with enamel loss in facial, occlusal, and lingual surfaces, and an increased risk of dental caries have been reported in children and adolescents with gastro-oesophageal reflux with varying prevalence. A prompt recognition of systemic diseases through a careful examination of the oral cavity could allow proper investigations and management in a timely fashion.

96. *J Oral Sci.* 2016;58(1):133-6. doi: 10.2334/josnusd.58.133.

Temporomandibular joint dislocation in a post-stroke patient with dysphagia caused by gastroesophageal reflux-related vomiting.

Kaneko T(1), Endo M, Uematsu A, Nakamura S, Horie N, Shimoyama T.

Temporomandibular joint dislocation (TMJ) is sometimes found in post-stroke patients, and most cases occurs involuntarily. This report describes a rare case of repeated, voluntary, TMJ in a 73-year-old woman with dysphagia and dysarthria. The cause of dislocation was suspected to be voluntary excessive mouth opening associated with gastroesophageal reflux-related vomiting and the desire to eject oral deposits resulting from hypoglossal and facial nerve paralyses. After an oral hygiene intervention, the frequency of TMJ dislocation decreased and finally disappeared. Thorough oral hygiene seemed to contribute to protection against TMJ dislocation. (*J Oral Sci* 58, 133-136, 2016).

97. *Arch Oral Biol.* 2016 Jun;66:55-60. doi: 10.1016/j.archoralbio.2016.02.008. Epub 2016 Feb 12.

Microscopic structure of dental hard tissues in primary and permanent teeth from individuals with Prader-Willi syndrome.

Saeves R(1), Klinge RF(2), Risnes S(3).

OBJECTIVE: severe tooth wear, in terms of both erosive wear and attrition, is a significant problem in individuals with Prader-Willi syndrome (PWS). The purpose

of the present study was to describe the structure of enamel and dentine in primary and permanent teeth from individuals with PWS.

DESIGN: thirty-two primary and 10 permanent teeth representing 16 individuals with PWS were investigated in the study. The enamel surface was studied using scanning electron microscopy (SEM). The microscopic structure of enamel and dentine was studied using SEM, microradiography and light microscopy.

RESULTS: the microscopic structure of enamel and dentine was found to be normal with the exception of a slight increase of interglobular dentine (IGD). Severe erosive defects were observed in primary teeth and also in permanent teeth with long exposure to the oral environment.

CONCLUSION: the erosive enamel defects in individuals with PWS seem more related to the factors in the oral environment than to enamel structure which appeared normal. The occurrence of IGD indicate deficient mineralization but is probably of minor clinical significance. Gastro-oesophageal reflux is worthy of further investigation in individuals with Prader-Willi syndrome.

98. J Oral Rehabil. 2016 Feb;43(2):103-10. doi: 10.1111/joor.12349. Epub 2015 Oct 3.

An examination of factors related to aspiration and silent aspiration in older adults requiring long-term care in rural Japan.

Sakai K(1), Hirano H(2), Watanabe Y(3), Tohara H(4), Sato E(1), Sato K(1), Katakura A(1).

Swallowing disorders are a growing problem among the elderly in long-term care (LTC), and they can cause aspiration pneumonia. In order to detect swallowing disorders early, simple tools are needed to assess aspiration and silent aspiration (SA). To compile a sample of elderly people requiring LTC, and categorise them as having suspected aspiration and/or SA using simple screening tools. In addition, oral ability, severity of dementia, vital functions and nutritional status were compared in these groups. A total of 393 elderly people in LTC (89 men and 304 women; age ranging from 65 to 100 years) were included in the study. The modified water swallow test, cervical auscultation and cough test were used to assess swallowing function. The participants were categorised as having suspected aspiration and/or SA, and the following assessments were performed: (i) oral ability (lips function, tongue function, rinsing and gargling ability), (ii) dementia severity, (iii) vital functions and (iv) nutritional status. Suspected aspiration was apparent in 50.5% of patients, of which 24.0% had suspected SA. Those with suspected aspiration showed worsened oral ability, dementia severity, vital functions and nutritional status. Similarly, those with suspected SA showed worsened dementia severity, vital functions and nutritional status. Logistic regression analysis revealed that lip closure, lingual movement and rinsing ability were significantly associated with suspected aspiration. Dementia severity was the best predictor of suspected SA. Simple screening tools

can be used to identify suspected aspiration and SA, which may facilitate early detection of aspiration pneumonia or swallowing disorder risk.

99. Oral Maxillofac Surg Clin North Am. 2016 Aug;28(3):261-73. doi: 10.1016/j.coms.2016.03.006.

A Model for Opioid Risk Stratification: Assessing the Psychosocial Components of Orofacial Pain.

Kulich RJ(1), Backstrom J(2), Brownstein J(3), Finkelman M(4), Dhadwal S(5), DiBenedetto D(6).

This article describes a model of opiate risk stratification with a special focus on dentistry and oral surgery. A brief overview covers the scope of the US opioid abuse and misuse epidemic, and the role of the dentist in mitigating the problems of diversion and misuse of controlled substances. The expanding role of dentistry is summarized. An assessment outlines gathering critical risk information, screening questionnaires, access to state prescription monitoring programs, and communication with cotreating providers. Special populations are discussed. Barriers and possible solutions for effective implementation of these strategies are summarized.

100. J Mass Dent Soc. 2016 Winter;64(4):18-21.

Substance Abuse and Tooth Destruction.

Makonahally D, Alexander SA.

101. J Dent Res. 2016 Jul;95(7):814-21. doi: 10.1177/0022034516640478. Epub 2016 Mar 18.

Methamphetamine Users Have Increased Dental Disease: A Propensity Score Analysis.

Shetty V(1), Harrell L(2), Clague J(2), Murphy DA(3), Dye BA(4), Belin TR(3).

Methamphetamine (MA) users are assumed to have a high burden of tooth decay. Less clear is how the distribution and severity of dental caries in MA users differ from the general population. Using a covariate-balancing propensity score strategy, we investigated the differential effects of MA use on dental caries by comparing the patterns of decayed, missing, and filled teeth in a community sample of 571 MA users with a subset of 2,755 demographically similar control individuals selected from a National Health and Nutrition Examination Survey (NHANES) cohort. Recruited over a 2-y period with a stratified sampling protocol, the MA users underwent comprehensive dental examinations by 3 trained and

calibrated dentists using NHANES protocols. Propensity scores were estimated with logistic regression based on background characteristics, and a subset of closely matched subjects was stratified into quintiles for comparisons. MA users were twice as likely to have untreated caries (odds ratio [OR] = 2.08; 95% confidence interval [95% CI]: 1.55 to 2.78) and 4 times more likely to have caries experience (OR = 4.06; 95% CI: 2.24 to 7.34) than the control group of NHANES participants. Additionally, MA users were twice as likely to have 2 more decayed, missing, or filled teeth (OR = 2.08; 95% CI: 1.29 to 2.79) than the NHANES participants. The differential involvement of the teeth surfaces in MA users was quite distinctive, with carious surface involvement being highest for the maxillary central incisors, followed by maxillary posterior premolars and molars. Users injecting MA had significantly higher rates of tooth decay compared with noninjectors (P = 0.04). Although MA users experienced decayed and missing dental surfaces more frequently than NHANES participants, NHANES participants had more restored surfaces, especially on molars. The high rates and distinctive patterns of dental caries observed could be used 1) to alert dentists to covert MA use in their patients and 2) as the basis for comprehensive management strategies.

102. Northwest Dent. 2016 Jan-Feb;95(1):37-41.

Smoking, Smokeless Tobacco, and Alcohol Consumption as Contributing Factors to Periodontal Disease.

Chatzopoulos G.

103. Compend Contin Educ Dent. 2016 Jan;37(1):29-32; quiz 34.

Opioid Prescribing in Dentistry: Keys for Safe and Proper Usage.

Dionne R(1), Moore PA(2).

Although dentists typically prescribe opioids for pain control in lower doses and for shorter periods of time than other healthcare providers, they need to be mindful of potential unintended consequences, such as dependency by the patients for whom they are prescribed and diversion of the unused pills to others, including drug dealers and substance abusers. Due to public health issues related to the misuse or abuse of prescription drugs, dentists must be aware of which drugs are most commonly misused or abused; be able to identify individuals who may be at risk for prescription drug abuse; and be prepared to manage patients at risk in the dental setting. They should also be cognizant of alternatives or modified approaches to using opioids--including long-acting anesthetics, NSAIDs, and combining non-opioid drugs with differing mechanisms of action to enhance their ability to control pain due to an additive effect.

104. BMC Oral Health. 2016 Sep 2;16(1):88. doi: 10.1186/s12903-016-0284-y.

Current stress and poor oral health.

Vasiliou A(1), Shankardass K(2),(3),(4), Nisenbaum R(5),(6), Quiñonez C(1),(6).

BACKGROUND: Psychological stress appears to contribute to poor oral health systemically in combination with other chronic diseases. Few studies directly examine this relationship.

METHODS: Data from a cross-sectional study of 2,412 participants between the ages of 25-64 years old living in the City of Toronto between 2009 and 2012 were used to examine the relationship between current stress and two self-rated oral health outcomes (general oral health and oral pain). Dental care utilization and access to dental insurance were examined as effect modifiers.

RESULTS: A positive relationship between current stress and poor oral health was observed for both outcomes (oral pain coefficient 0.32, 95 % CI 0.26-0.38; general oral health coefficient 0.28, 95 % CI 0.19-0.36). Effects on oral pain were stronger for the uninsured, while effects on general oral health were stronger with decreasing socioeconomic position.

CONCLUSIONS: Our findings suggest that individuals with greater perceived stress also report poorer oral health, and that this relationship is modified by dental insurance and socioeconomic position. These findings warrant a greater focus on the role of psychological stress in the development of oral disease, including how perceived stress contributes to health inequities in self-reported oral health status. Patients experiencing stressful lives may differentially require closer monitoring and more vigilant maintenance of their oral health, above and beyond that which is needed to achieve a state of health in the oral environment of less stressed individuals. There may be health promoting effects of addressing psychosocial concerns related to dental care - particularly for the poor and uninsured.

105. Periodontol 2000. 2016 Oct;72(1):76-95. doi: 10.1111/prd.12145.

Periodontitis prevalence in adults \geq 65 years of age, in the USA.

Eke PI, Wei L, Borgnakke WS, Thornton-Evans G, Zhang X, Lu H, McGuire LC, Genco RJ.

The older adult population is growing rapidly in the USA and it is expected that by 2040 the number of adults \geq 65 years of age will have increased by about 50%. With the growth of this subpopulation, oral health status, and periodontal status in particular, becomes important in the quest to maintain an adequate quality of life. Poor oral health can have a major impact, leading to tooth loss, pain and discomfort, and may prevent older adults from chewing food properly, often leading to poor nutrition. Periodontitis is monitored in the USA at the national level as part of the Healthy People 2020 initiative. In this report, we provide estimates of the overall burden of periodontitis among adults \geq 65 years of age

and after stratification according to sociodemographic factors, modifiable risk factors (such as smoking status), the presence of other systemic conditions (such as diabetes) and access to dental care. We also estimated the burden of periodontitis within this age group at the state and local levels. Data from the National Health and Nutrition Examination Survey 2009/2010 and 2011/2012 cycles were analyzed. Periodontal measures from both survey cycles were based on a full-mouth periodontal examination. Nineteen per cent of adults in this subpopulation were edentulous. The mean age was 73 years, 7% were current smokers, 8% lived below the 100% Federal Poverty Level and < 40% had seen a dentist in the past year. Almost two-thirds (62.3%) had one or more sites with ≥ 5 mm of clinical attachment loss and almost half had at least one site with probing pocket depth of ≥ 4 mm. We estimated the lowest prevalence of periodontitis in Utah (62.3%) and New Hampshire (62.6%) and the highest in New Mexico, Hawaii, and the District of Columbia each with a prevalence of higher than 70%. Overall, periodontitis is highly prevalent in this subpopulation, with two-thirds of dentate older adults affected at any geographic level. These findings provide an opportunity to determine how the overall health-care management of older adults should consider the improvement of their oral health conditions. Many older adults do not have dental insurance and are also likely to have some chronic conditions, which can adversely affect their oral health.

106. J Dent Educ. 2016 Jun;80(6):697-704.

Patient-Centered Communication: Exploring the Dentist's Role in the Era of e-Patients and Health 2.0.

Seymour B(1), Yang H(2), Getman R(2), Barrow J(2), Kalenderian E(2).

In today's digital era, people are increasingly relying on the Internet-including social media-to access health information and inform their health decisions. This article describes an exploratory initiative to better understand and define the role of dentists in patient education in the context of e-patients and Health 2.0. This initiative consisted of four phases. In Phase I, an interdisciplinary expert advisory committee was assembled for a roundtable discussion about patients' health information-seeking behaviors online. In Phase II, a pilot case study was conducted, with methods and analysis informed by Phase I recommendations. Phase III consisted of a debriefing conference to outline future areas of research on modernizing health communication strategies. In Phase IV, the findings and working theories were presented to 75 dental students, who then took a survey regarding their perspectives with the objective of guiding potential curriculum design for predoctoral courses. The results of the survey showed that the validity of online content was often secondary to the strength of the network sharing it and that advocacy online could be more effective if it allowed for emotional connections with peers rather than preserving accuracy of the information. Students expressed high interest in learning how to harness

modern health communications in their clinical care since the role of the dentist is evolving from giving information to giving personalized guidance against the backdrop of an often contradictory modern information environment. The authors recommend that the dental profession develop patient-centered health communication training for predoctoral students and professional development and continuing education for practicing professionals.

107. Collaboration Between Medical Providers and Dental Hygienists in Pediatric Health Care.

Braun PA(1), Cusick A(2).

Basic preventive oral services for children can be provided within the medical home through the collaborative care of medical providers and dental hygienists to expand access for vulnerable populations. **BACKGROUND:** Because dental caries is a largely preventable disease, it is untenable that it remains the most common chronic disease of childhood. Leveraging the multiple visits children have with medical providers has potential to expand access to early preventive oral services. Developing interprofessional relationships between dental providers, including dental hygienists, and medical providers is a strategic approach to symbiotically expand access to dental care. Alternative care delivery models that provide dental services in the medical home expand access to these services for vulnerable populations. The purpose of this article is to explore 4 innovative care models aimed to expand access to dental care.

METHODS: Current activities in Colorado and around the nation are described regarding the provision of basic preventive oral health services (eg, fluoride varnish) by medical providers with referral to a dentist (expanded coordinated care), the colocation of dental hygiene services into the medical home (colocated care), the integration of a dental hygienist into the medical care team (integrated care), and the expansion of the dental home into the community setting through telehealth-enabled teams (virtual dental home). Gaps in evidence regarding the impacts of these models are elucidated.

CONCLUSION: Bringing preventive and restorative dental services to the patient both in the medical home and in the community has potential to reduce long-standing barriers to receive these services, improve oral health outcomes of vulnerable patients, and decrease oral health disparities.

108. Caries Res. 2016;50 Suppl 1:45-9. doi: 10.1159/000444268. Epub 2016 Apr 22.

Fluoride Varnish for Caries Prevention: Efficacy and Implementation.

Bonetti D(1), Clarkson JE.

Many reviews support fluoride varnish (FV) as a caries-inhibitory agent. Evidence from 6 Cochrane systematic reviews involving 200 trials and more than 80,000 participants further confirms the effectiveness of FV, applied professionally 2-4 times a year, for preventing dental caries in both primary and permanent teeth. The relative benefit of FV application seems to occur irrespective of baseline caries risk, baseline caries severity, background exposure to fluorides, use of fluoride toothpaste and application features such as prior prophylaxis, concentration of fluoride or frequency of application. While the efficacy of FV is acknowledged in clinical practice guidelines globally, the implementation of this recommendation may still be an issue. Factors that may facilitate FV application in the USA include Medicaid eligibility, relationships with dentists/community centers and strong cooperation and communication between physicians and support staff. Barriers include insufficient time to integrate oral health services into well-child visits, difficulty in applying FV (lack of skills/training) and resistance among colleagues and staff. Research in the UK/Scotland also suggests encouraging clinicians in their motivation to perform this treatment and addressing professional and parental concerns relating to possible negative consequences may be influential. Further research targeting cost-effectiveness and how FV in routine care may fit in with political agendas relating to, for example, inequalities in health care provision and access will also play a key part in stakeholder decisions to put resources into this issue.

109. Braz Oral Res. 2016;30. pii: S1806-83242016000100203. doi: 10.1590/1807-3107BOR-2016.vol30.0006. Epub 2015 Dec 15.

Evaluation of toothbrush disinfection via different methods.

Basman A(1), Peker I(2), Akca G(3), Alkurt MT(2), Sarikir C(2), Celik I(3).

The aim of this study was to compare the efficacy of using a dishwasher or different chemical agents, including 0.12% chlorhexidine gluconate, 2% sodium hypochlorite (NaOCl), a mouthrinse containing essential oils and alcohol, and 50% white vinegar, for toothbrush disinfection. Sixty volunteers were divided into five experimental groups and one control group (n = 10). Participants brushed their teeth using toothbrushes with standard bristles, and they disinfected the toothbrushes according to instructed methods. Bacterial contamination of the toothbrushes was compared between the experimental groups and the control group. Data were analyzed by Kruskal-Wallis and Duncan's multiple range tests, with 95% confidence intervals for multiple comparisons. Bacterial contamination of toothbrushes from individuals in the experimental groups differed from those in the control group (p < 0.05). The most effective method for elimination of all tested bacterial species was 50% white vinegar, followed in order by 2% NaOCl, mouthrinse containing essential oils and alcohol, 0.12% chlorhexidine gluconate, dishwasher use, and tap water (control). The results of this study show that the most effective method for disinfecting toothbrushes was submersion in 50% white

vinegar, which is cost-effective, easy to access, and appropriate for household use.

110. Spec Care Dentist. 2016 Sep;36(5):260-4. doi: 10.1111/scd.12180. Epub 2016 Apr 26.

Retrospective study of dental trauma in children with autism spectrum disorders: a paired study.

Andrade NS(1), Dutra TT(1), Fernandes RF(2), Moita Neto JM(3), Mendes RF(4), Prado Júnior RR(5).

The objective was to evaluate the history of traumatic dental injury (TDI) among children with and without autism spectrum disorders (ASD) at the Centro Integrado de Educação Especial (CIES), in Teresina, Brazil. The dental records of 228 children, 114 with ASD (SG = study group) and 114 without ASD (CG = control group), paired by age, gender and socioeconomic characteristics between January 2007 and September 2014 were reviewed. Data were analyzed using chi-square test and multivariate logistic regression (alpha = 5.0%). Dental trauma in SG was lower than in the CG (24.6% and 41.2%, respectively, $p = 0.007$). The risk of trauma was lower among males in SG (OR: 0.35; 95%CI: 0.18 to 0.67). The likelihood of TDI in SG was 3.17 higher in females than that of males ($p = 0.040$). The prevalence of TDI was lower in ASD individuals compared to controls. Dental trauma was higher among ASD girls than ASD boys.

111. J Dent Hyg. 2016 Apr;90(2):111-20.

Interventions for the Reduction of Dental Anxiety and Corresponding Behavioral Deficits in Children with Autism Spectrum Disorder.

Elmore JL, Bruhn AM, Bobzien JL.

PURPOSE: Autism Spectrum Disorder (ASD) can greatly inhibit a child's communication and social interaction skills, impacting their comfort during dental hygiene treatment and services. Children with ASD may exhibit sensory sensitivities, fear of the unfamiliar and lack of socio-cognitive understanding, leading to anxiety and corresponding behavioral deficits. Since the prevalence rates for ASD have risen significantly in the past decade, increased emphasis has been placed on educational and behavior guidance techniques, which can be helpful for children with ASD because of their increased capabilities in visual-processing. The purpose of this literature review is to summarize the interventions available to reduce dental anxiety in children with ASD, and to determine which strategies are best suited for implementation by the dental hygienist. Advancements in technology and socio-behavioral interventions were assessed for appropriate use, efficacy and engagement in the target population.

Interventions were categorized into the following groups: picture cards, video technologies and mobile applications.

112. *J Dent Child (Chic)*. 2016;83(1):16-21.

Effectiveness of the D-TERMINED Program of Repetitive Tasking for Children with Autism Spectrum Disorder.

AlHumaid J(1), Tesini D(2), Finkelman M(3), Loo CY(2).

PURPOSE: The purpose of this study was to compare the effectiveness of the D-TERMINED Program with standard behavior guidance techniques (SBGTs) used for children with autism spectrum disorder (ASD) in a private dental setting.

METHODS: A retrospective data analysis was performed from records of children with ASD who received treatment using either the D-TERMINED program or SBGTs at two private dental practices. Data were analyzed using chi-square, Fisher's exact, Wilcoxon Signed Rank, and Mann-Whitney U tests and logistic regression.

RESULTS: Forty-four charts (22 in each group) were selected from office visits between 1999 and 2012. Children in the D-TERMINED group were significantly younger ($P=0.01$). There were no significant differences between groups regarding gender and dental care characteristics. Patients treated with the D-TERMINED program showed a significantly greater improvement in behavioral scores compared to the control group ($P=0.03$). Additionally, children treated with the D-TERMINED program had significantly lower referrals for dental treatment under general anesthesia ($P=0.04$).

CONCLUSION: The D-TERMINED program may help children with ASD learn the cooperation skills necessary to receive treatment in a dental practice, which might impact health care cost effectiveness.

113. *Spec Care Dentist*. 2016 Jan;36(1):32-8. doi: 10.1111/scd.12127. Epub 2015 Aug 11.

Management of patient with acrometageria for routine dental treatment: A case report.

Young AS(1), Cooke MR(2), Taiclet LM(3).

The population of special needs patients in dental offices is growing. Therefore, the demand for well-trained, educated practitioners must increase to fit the need. Conditions such as intellectual developmental disorder, Down syndrome, and autism spectrum disorder are more readily encountered in dental settings. However, it is equally appropriate to identify management techniques for patients with less common conditions. A case is reported in which a 38-year-old Caucasian

male with a history significant for acrometageria and associated signs of Mallampati Class IV, micrognathia, decreased mouth opening, decreased thyromental distance, and decreased cervical range of motion presented for routine dental treatment under intravenous sedation. Providers should recognize appropriate management techniques to safely and effectively care for a wide patient demographic.

114. Int J Paediatr Dent. 2016 Mar;26(2):157-9. doi: 10.1111/ipd.12161. Epub 2015 Mar 25.

Autoextraction of twelve permanent teeth in a child with autistic spectrum disorder.

Williams AC(1).

BACKGROUND: This report discusses self-injurious behaviour; this is not unusual in people with autistic spectrum disorders but is not commonly experienced as autoextraction.

CASE REPORT: This case concerns a 12 year old child who presented as a new patient with two teeth missing. He then went on to remove a further ten teeth over a relatively short space of time.

CONCLUSION: The recognition of autoextraction by the dental team is important. its management involves a multidisciplinary team which includes professionals from education, health and social care who work together to prevent progressive self-injury.

115. Eur J Paediatr Dent. 2016 Sep;17(3):173.

Pit and fissure sealants or fluoride varnishes?

Paglia L(1).

Despite the general advances in dental care, dental caries is still a global health problem affecting many children. Occlusal surfaces of first permanent molars are the most susceptible sites in the developing permanent dentition. Dentists should use sealants or fluoride varnish - as well as other means - to limit the onset of tooth decay. Application of sealants is a recommended procedure to prevent or control caries. Sealing occlusal surfaces of newly erupted permanent molars in children and teenagers delays caries onset up to 48 months compared with unsealed teeth. However longer follow-ups shows a reduction

of the preventive effect [Tikhonova et al., 2015]. A review of 2013 pointed out how sealants are effective in high risk children, however information about the benefits of sealing in other conditions is still scant [Ahovuo-Saloranta et al., 2013]. Fluoride varnishes are frequently used to prevent early childhood caries and reduce caries increment in very young children [Weintraub et al., 2006] and in the most vulnerable populations, where the prevalence of caries is higher and specialist visits are occasional [Chu et al., 2010]. Many studies have reported the effectiveness of different types and forms of fluoride agents in preventing dental caries among children and adolescents [Divaris et al., 2013]. A review clarifies that professional application of a 5% sodium fluoride varnish leads to remineralisation of early enamel caries in children. Solutions of 38% silver diamine fluoride are effective in arresting active dentine caries [Gao et al., 2016]. The last systematic review [Ahovuo-Saloranta et al., 2016], comparing pit and fissure sealants with fluoride varnishes explains that the pooled estimate slightly favours resin sealants over fluoride varnishes at two years. At four and nine years, the only comparative study (with high drop-out rates) found more caries on fluoride-varnished occlusal surfaces than on resin-sealed surfaces. There is evidence suggesting the superiority of resin-based fissure sealants over fluoride varnishes for prevention of occlusal caries in permanent molars, however it is not relevant. Eventually, Ahovuo-Saloranta et al. state that current data do not allow to draw definitive conclusions on whether to apply sealants or fluoride varnishes on occlusal surfaces of permanent molars [2016]. We will publish your opinion and experiences related to this topic in the next EJPD issue: join the discussion and write a letter to the editor!

116. J Dent Hyg. 2016 Apr;90(2):75-8.

Effectiveness of Professionally-Applied Silver Diamine Fluoride in Arresting Dental Caries.

Bowen DM.

The purpose of Linking Research to Clinical Practice is to present evidence based information to clinical dental hygienists so that they can make informed decisions regarding patient treatment and recommendations. Each issue will feature a different topic area of importance to clinical dental hygienists with A BOTTOM LINE to translate the research findings into clinical application.

117. Compend Contin Educ Dent. 2016 Feb;37(2):93-8; quiz100.

Clinical Use of Silver Diamine Fluoride in Dental Treatment.

Mei ML(1), Lo EC(1), Chu CH(1).

The use of a topical fluoride solution, namely silver diamine fluoride (SDF), in

dental treatment has been drawing increasing attention. SDF has been used in some countries in Asia, including Japan and China, as a caries-arresting and anti-hypersensitivity agent. It was recently cleared by the Food and Drug Administration in the United States as a fluoride to manage hypersensitive teeth. Topical application of SDF is a noninvasive procedure that is quick and simple to use. Promising results of laboratory studies and clinical trials have suggested that SDF is more effective than other fluoride agents to halt the caries process. A review concluded that SDF is a safe, effective, efficient, and equitable caries control agent that has a potentially broad application in dentistry and may meet the criteria of both the WHO Millennium Development Goals and the US Institute of Medicine's criteria for 21st century medical care. This article provides an overview of the clinical use of SDF in dental treatment.

118. J Calif Dent Assoc. 2016 Jan;44(1):16-28.

UCSF Protocol for Caries Arrest Using Silver Diamine Fluoride: Rationale, Indications and Consent.

Horst JA, Ellenikiotis H, Milgrom PL.

Comment in

J Calif Dent Assoc. 2016 Mar;44(3):151.

The Food and Drug Administration recently cleared silver diamine fluoride for reducing tooth sensitivity. Clinical trials document arrest and prevention of dental caries by silver diamine fluoride. This off-label use is now permissible and appropriate under U.S. law. A CDT code was approved for caries arresting medicaments for 2016 to facilitate documentation and billing. We present a systematic review, clinical indications, clinical protocol and consent procedure to guide application for caries arrest treatment.

119. BMC Oral Health. 2016 Feb 1;16:12. doi: 10.1186/s12903-016-0171-6.

Caries remineralisation and arresting effect in children by professionally applied fluoride treatment - a systematic review.

Gao SS(1), Zhang S(2), Mei ML(3), Lo EC(4), Chu CH(5).

BACKGROUND: As a low-cost and easily operated treatment, the use of professionally applied topical fluoride was approved for preventing dental caries and remineralising early enamel caries or white spot lesions. It is also used to arrest dentine caries. The aim of this study is to investigate the clinical efficacy of professional fluoride therapy in remineralising and arresting caries

in children.

METHOD: A systematic search of publications from 1948 to 2014 was conducted using four databases: PubMed, Cochrane Library, ISI Web of Science and Embase. The key words used were (fluoride) AND (remineralisation OR remineralization OR arresting) AND (children caries OR early childhood caries). The title and abstract of initially identified publications were screened. Clinical trials about home-use fluorides, laboratory studies, case reports, reviews, non-English articles and irrelevant studies were excluded. The full texts of the remaining papers were retrieved. Manual screening was conducted on the bibliographies of the remaining papers to identify relevant articles.

RESULTS: A total of 2177 papers were found, and 17 randomised clinical trials were included in this review. Ten studies investigated the remineralising effect on early enamel caries using silicon tetrafluoride, fluoride gel, silver diamine fluoride or sodium fluoride. Seven studies reported an arresting effect on dentine caries using silver diamine fluoride or nano-silver fluoride.

Meta-analysis was performed on four papers using 5 % sodium fluoride varnish to remineralise early enamel caries, and the overall percentage of remineralised enamel caries was 63.6 % (95 % CI: 36.0 % - 91.2 %; $p < 0.001$). Meta-analysis was also performed on five papers using 38 % silver diamine fluoride to arrest dentine caries and the overall proportion of arrested dentine caries was 65.9 % (95 % CI: 41.2 % - 90.7 %; $p < 0.001$).

CONCLUSION: Professionally applied 5 % sodium fluoride varnish can remineralise early enamel caries and 38 % silver diamine fluoride is effective in arresting dentine caries.

120. *Int Dent J.* 2016 Apr;66(2):71-7. doi: 10.1111/idj.12207. Epub 2015 Dec 22.

Prevention of secondary caries by silver diamine fluoride.

Mei ML(1), Zhao IS(1), Ito L(1), Lo EC(1), Chu CH(1).

PURPOSE: This study aimed to investigate the use of 38% silver diamine fluoride (SDF) as a treatment for preventing secondary caries in glass ionomer cement (GIC) and composite resin (CR) restorations.

METHODS: Six extracted human sound premolars were collected. Four cavities (4 × 2 × 2 mm(3)) were prepared on each premolar and then allocated to the following restoration groups: group 1, SDF conditioning and GIC restoration; group 2, GIC restoration; group 3, SDF conditioning and CR restoration; and group 4, CR restoration. After thermal cycling and sterilisation, the teeth were soaked in a 5% sucrose solution containing *Streptococcus mutans* and *Lactobacillus acidophilus* for 28 days. Micro-computed tomography was used to study demineralisation. The outer lesion depth (OLD) and wall lesion depth (WLD) of the tooth-restoration interface were measured. The OLD and WLD were directly related to the extent of secondary caries. Two-way analysis of variance was used to analyse the effects of SDF conditioning and restorative materials on OLD.

RESULTS: The mean ± standard deviation OLD values were 156 ± 45 µm, 235 ± 33 µm, 153 ± 20 µm and 232 ± 24 µm for groups 1-4, respectively. The OLD was less in

restorations with SDF conditioning ($P < 0.001$) than in those without SDF conditioning. No interaction effect on OLD was found between the restorative materials and SDF conditioning ($P = 0.062$). The WLD was detected only in groups 3 and 4.

CLINICAL SIGNIFICANCE: Conditioning with 38% SDF can increase resistance of GIC and CR restorations to secondary caries.

121. Spec Care Dentist. 2016 Mar-Apr;36(2):85-92. doi: 10.1111/scd.12153. Epub 2015 Dec 21.

An alternate technique of care using silver fluoride followed by stannous fluoride in the management of root caries in aged care.

Deutsch A(1),(2).

An alternate technique of care to prevent, arrest and manage root caries using aqueous silver fluoride followed by stannous fluoride ($\text{AgF}+\text{SnF}_2$) in aged care is demonstrated by three case studies. With increasing age, the inability to maintain ones own oral care from dementia, illness or frailty and polypharmacy induced salivary gland hypofunction will result in dental caries becoming a progressively greater burden for the elderly. Future generations of elders will live longer and need to maintain many more teeth longer than earlier generations. Both silver diamine fluoride (SDF) and $\text{AgF}+\text{SnF}_2$ arrest and prevent caries and are easy to use in residential aged care facilities. Clinical differences between SDF and $\text{AgF}+\text{SnF}_2$ are discussed. However, in aged care, $\text{AgF}+\text{SnF}_2$ may offer advantages over SDF. $\text{AgF}+\text{SnF}_2$ used to arrest and prevent caries in children can be modified to provide effective but minimally invasive care for an ageing and frail population. These techniques are rapid, inexpensive and nonthreatening suited to treat frail elders, dementia patients exhibiting challenging behaviours and patients with multiple rapidly progressing decay. Silver fluoride, applied before placing glass-ionomer cement (GIC) restorations is an important adjunct to the atraumatic restorative technique and may retard caries reactivation more than GIC used alone.

122. Clin Oral Investig. 2016 Jul;20(6):1151-7. doi: 10.1007/s00784-015-1603-4. Epub 2015 Sep 23.

Silver diamine fluoride and glass ionomer differentially remineralize early caries lesions, in situ.

Nantanee R(1), Santiwong B(1), Trairatvorakul C(2), Hamba H(3), Tagami J(3).

OBJECTIVES: The aim of the present study was to evaluate the percent mean mineral density (MD) change of early caries lesions after the application of silver diamine fluoride (SDF) or glass ionomer cement (GIC).

MATERIALS AND METHODS: This double-blind, crossover study involved two experimental phases of 28 days each. Thirty-two pairs of enamel slabs were

created from the proximal surfaces of 16 premolars. Each pair of artificial carious slabs was randomly divided into the control or test group (38 % SDF or GIC). The slabs were attached to orthodontic brackets and bonded to the maxillary first permanent molars of 16 subjects for 28 days. After a 7-day washout period between phases, the subjects received the other material for the second phase. The mean MD of the lesions was measured by microcomputed tomography. RESULTS: SDF yielded a percent mean MD increase at a depth of 0-84 μm , although increase in the GIC group was observed at a depth of 24-108 μm . The percent mean MD changes of the SDF and GIC groups were similar ($p = 0.100$) and significantly higher than in control ($p < 0.001$, $p = 0.003$, respectively). CONCLUSIONS: The two materials increased the percent mean MD change of early proximal caries lesions to a similar extent, but with different spatial patterns. CLINICAL RELEVANCE: Due to deeper level of GIC remineralization, the refractive index of the GIC applied enamel might be closer to sound enamel. Hence, GIC is recommended for remineralization of anterior teeth. SDF staining makes it unsuitable for use in anterior teeth; thus, it is reserved for use in posterior teeth.

123. Med Oral Patol Oral Cir Bucal. 2016 Sep 1;21(5):e587-94.

Impact of rare diseases in oral health.

Molina-García A(1), Castellanos-Cosano L, Machuca-Portillo G, Posada-de la Paz M.

BACKGROUND: Rare diseases (RD) are those that present a lower prevalence than 5 cases per 10.000 population. The main objective of this review was to study the effect on oral health in rare diseases, while the secondary objective of the study is theme upgrade.

MATERIAL AND METHODS: Comparative observational case-control studies were analysed and a systematic review was conducted in PubMed. Each rare disease listed on the statistical data record of the Health Portal of the Ministry of Equality, Health and Social Policies Board of Andalusia was associated with "oral health". The variables studied included dental, oral mucosa and occlusion alterations, oral pathologies (caries, periodontal disease) and other alterations (mouth breathing, parafunctional habits, etc). A bias analysis of the variable caries was conducted.

RESULTS: Six RD were selected through our inclusion and exclusion criteria (hypogammaglobulinemia, Rett syndrome, Marfan syndrome, Prader-Willi syndrome, cystic fibrosis and Cri du chat syndrome) in a total of 8 publications, of which four trials were classified as high risk of bias and one of them as medium risk. There were not trials with low risk of bias.

CONCLUSIONS: The main statistically significant differences found by Syndrome compared to a control group were in Hypogammaglobulinemia with a greater tendency to enamel hypoplasia and dry mouth. The Rett syndrome had, as well, a greater tendency to an anterior open bite, ogival palate, bruxism, mouth breathing and tongue thrusting. Prader-Willi syndrome had a tendency of dental erosion, and Cri du chat syndrome showed a higher association to *Tannerella forsythia*.

124. Oral Maxillofac Surg Clin North Am. 2016 Aug;28(3):397-407. doi: 10.1016/j.coms.2016.03.003.

Orofacial Movement Disorders.

Clark GT(1), Ram S(2).

Orofacial movement disorders (OMDs) include dystonia, dyskinesia, drug-induced extrapyramidal reactions, and bruxism. The definition, epidemiology, pathophysiology, clinical features, and management are detailed. OMDs are often disabling and affect patients' overall quality of life with pain, difficulty chewing food, speech difficulty, drooling, and social embarrassment. Management involves medications, botulinum toxin injections, and peripheral or central surgery. Botulinum toxin injections are the most effective management, often used in conjunction with medications. Surgery is the last resort for patients who fail to respond to medications or develop resistance to botulinum toxin type A.

125. BMC Oral Health. 2016 May 26;16(1):59. doi: 10.1186/s12903-016-0218-8.

Sympathomimetic effects of chronic methamphetamine abuse on oral health: a cross-sectional study.

Rommel N(1), Rohleder NH(2), Koerdt S(2), Wagenpfeil S(3), Härtel-Petri R(4), Wolff KD(2), Kesting MR(2).

BACKGROUND: Methamphetamine, a highly addictive sympathomimetic stimulant, is currently widely abused worldwide and has been associated with devastating effects on oral health, resulting in the term "meth mouth". However, "meth mouth" pathology is primarily based on case reports with a lack of systematic clinical evaluation. Therefore, we have conducted a systematic study to investigate (1) the pharmacological impact of methamphetamine on oral health with regard to saliva function, including the parameters saliva flow rate and total saliva production (ml/5 min) and the buffering capacity of saliva; (2) the contribution of the symptoms of bruxism and muscle trismus to potential oral health damage.

METHODS: We assessed the data of 100 chronic methamphetamine abusers and 100 matched-pair comparison participants. Primarily, we conducted an anamnesis with all methamphetamine abusers with regard to saliva dysfunctions, jaw clenching and pain in the temporomandibular joint. Subsequently, in the first part of the clinical enquiry, we tested the saliva flow rate and the total saliva production (ml/5 min) by using the sialometry method and the buffer capacity of saliva by determining the pH-value. In the second part of the clinical enquiry, we evaluated bruxism symptoms with respect to generalized tooth attrition, dentine

exposure and visible enamel cracks and examined a potential muscle trismus by measuring the maximal opening of the mouth.

RESULTS: The majority of methamphetamine abusers reported a dry mouth (72 %) and jaw clenching (68 %). Almost half of all methamphetamine abusers experienced pain in the temporomandibular joint (47 %). With regard to the clinical findings, methamphetamine abusers showed significantly lower total saliva production (ml/5 min) ($p < 0.001$), lower pH-values of their saliva ($p < 0.001$) and more bruxism symptoms ($p < 0.001$). However, we found no relevant trismus symptoms on comparing the two groups ($p > 0.05$).

CONCLUSIONS: The sympathomimetic effects of chronic methamphetamine abuse may lead to dry mouth and extensive bruxism and therefore can increase the risk for caries decay, periodontal lesions and tooth wear. Furthermore, a significant decline of saliva buffer capacity in methamphetamine abusers may trigger the risk for dental erosions. Methamphetamine abusers and practitioners should be aware of these symptoms.

126. J Oral Rehabil. 2016 Sep;43(9):683-91. doi: 10.1111/joor.12417. Epub 2016 Jun 12.

Factors associated with mucosal pain in patients with partial removable dental prostheses.

Kumagai H(1), Fueki K(1), Yoshida-Kohno E(1), Wakabayashi N(1).

The aim of this study was to investigate factors associated with mucosal pain in patients with partial removable dental prostheses (PRDPs). In this hospital-based cross-sectional study, 333 patients wearing 500 PRDPs (mean age 71.4 years, men 33.3%) were consecutively recruited from prosthetic clinic of a dental hospital in Japan. Subjects rated pain intensity and frequency of denture-bearing mucosa. An examiner recorded age, gender and systemic diseases as well as dental, mucosa, denture, sensory, behavioural- and psychological-related characteristics that were possibly associated with the mucosal pain. Multivariate analyses were performed to analyse factors related to mucosal pain. Pain intensity was rated as more than score 0 (presence) in 34.2% (171/500) PRDPs, and pain was experienced after denture delivery in 42.8% (214/500) PRDPs. Logistic regression analyses showed that younger age, mucosal damage, poor mucosal condition, bone prominence, poor residual ridge, higher pain sensitivity, presence of awake bruxism, perception of oral dryness, interim denture wear and high number of missing teeth were significant independent predictors for the presence of the mucosal pain intensity and/or frequency ($P < 0.05$). Multiple factors are associated with mucosal pain in patients with PRDPs. Oral mucosal characteristics, age, pain sensitivity and behavioural factors seem to be more critical for mucosal pain than distribution of missing teeth and number of abutment teeth.

127. Dent Update. 2016 Jan-Feb;43(1):90-2.

A Case of Undiagnosed Harlequin Syndrome Presenting in General Dental Practice.

Edwards K, Schaefer A, Greenwood M, Staines K.

Harlequin syndrome is a rare, clinically striking syndrome characterized by distinctly demarcated asymmetric facial flushing and sweating. It may be of idiopathic aetiology or caused by demonstrable ipsilateral damage to the sympathetic nervous system. A case is described where a patient presented to her general dental practitioner complaining of distinctly demarcated unilateral facial flushing and sweating. Onward referral resulted in a diagnosis of Harlequin syndrome. CPD/CLINICAL RELEVANCE: This article highlights the neurological signs and symptoms of Harlequin syndrome, making it easier to recognize if it presents in general dental practice.

128. J Dent. 2016 Jan;44:13-9. doi: 10.1016/j.jdent.2015.10.015. Epub 2015 Nov 2.

The survival of direct composite restorations in the management of severe tooth wear including attrition and erosion: A prospective 8-year study.

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OBJECTIVES: Survival of directly placed composite to restore worn teeth has been reported in studies with small sample sizes, short observation periods and different materials. This study aimed to estimate survival for a hybrid composite placed by one clinician up to 8-years follow-up.

METHODS: All patients were referred and recruited for a prospective observational cohort study. One composite was used: Spectrum[®] (DentsplyDeTrey). Most restorations were placed on the maxillary anterior teeth using a Dahl approach.

RESULTS: A total of 1010 direct composites were placed in 164 patients. Mean follow-up time was 33.8 months (s.d. 27.7). 71 of 1010 restorations failed during follow-up. The estimated failure rate in the first year was 5.4% (95% CI 3.7-7.0%). Time to failure was significantly greater in older subjects ($p=0.005$) and when a lack of posterior support was present ($p=0.003$). Bruxism and an increase in the occlusal vertical dimension were not associated with failure. The proportion of failures was greater in patients with a Class 3 or edge-to-edge incisal relationship than in Class 1 and Class 2 cases but this was not statistically significant. More failures occurred in the lower arch (9.6%) compared to the upper arch (6%) with the largest number of composites having been placed on the maxillary incisors ($n=519$).

CONCLUSION: The worn dentition presents a restorative challenge but composite is an appropriate restorative material.

CLINICAL SIGNIFICANCE: This study shows that posterior occlusal support is necessary to optimise survival.