Methods: Data from three consecutive cycles of the National Health and Nutrition Examination Surveys (NHANES), 2009–2010, 2011–2012, 2013–2014, were used to calculate the extent of clinical manifestations within moderate and severe periodontitis as defined by CDC/AAP. The extent was analyzed as the number and proportion of teeth presenting clinical attachment loss (CAL) ≥4 mm and probing depth (PD) ≥5 mm for moderate periodontitis and CAL ≥6 mm and PD ≥5 mm for severe periodontitis. All participants with periodontal data (30 + years) were included. Data were analyzed for each cycle in SAS using NHANES recommended procedures and variables.

Results: There were small variations in the prevalence of moderate (28% to 30%) and severe (6% to 9%) periodontitis among cycles. Most sites had CAL between 1–3 mm among participants with moderate (75% and 82%) or severe (51%-63%) periodontitis. The distribution of the number of teeth within moderate and severe categories fitting their cut-off points was heavily skewed with approximately 20%-25% having just two teeth matching the criteria and another 20%-25% having 8 or more teeth.

Conclusion: The extent of adult periodontitis in the U.S. is not homogeneous. Most participants with moderate and severe periodontitis have two or three teeth with interproximal sites fitting the case definition. The CDC/AAP moderate and severe classifications are not accurate to represent a unique group of individuals based on disease extension. Furthermore, some individuals classified as moderate or severe based on just two teeth may be subject of misclassification.

PR154

Denosumab and its oral repercussions. Proposal of a clinical guideline protocol

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Background & Aim: Drug therapies to control bone loss mechanisms due to the imbalance between bone resorption and bone formation have been part of hot topics in the last 10 years. In 2010 denosumab, a new drug has been introduced on the market as Prolia® and XGeva® as treatment in osteoporosis and oncological treatments. Denosumab is a monoclonal antibody that inhibits the receptor activator of nuclear factor Kappa-β ligand (RANKL) that blocks the maturation, differentiation, activation and survival of osteoclasts. Up to now, denosumab has started to replace bisphosphonates as they share the same objective: prevent osteoporosis and skeletal-related complications in oncological patients, but there is a limited volume of data identifying risks and complications, in particular jaw osteonecrosis (ONJ). In the dentists and oral surgeons day-to-day practice there is no consensus on clinical decisions and prevention of ONJ secondary to denosumab.

Methods: Review of the current literature available on ONJ due to denosumab and proposal of a clinical guideline protocol for these patients.

Results: A group of clinical trials and studies recorded higher rates of ONJ in patients treated with denosumab compared with zoledronic acid (bisphosphonate); 1.8% vs. 1.3% (Van-den-Wyngaert, 2011). Denosumab has a half-life of 26 days and its clearance is through the reticuloendothelial system. Hence, treatment of ONJ can be facilitated by these distinct features with a cautious successful reversibility and healing of the necrosis.

Conclusion: Although denosumab apparently presents higher rates of developing ONJ, it seems treatment is more predictable. A proposal of a clinical guideline protocol for patients with denosumab treatment, englobing all considerations a dentist should have to control all possible risk factors and know how to perform in case of ONJ onset will be developed.

PR155

Description of oral hygiene index-simplified (OHI-S) among elementary school age children with low body mass index (BMI) in Bandung City, Indonesia

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Background & Aim: Data of the elementary school age children in Bandung City, Indonesia have showed that those children who have low BMI is high enough. Some researchers had proven that this condition may happen due to lack of awareness among the parents regarding to environmental health. In Indonesia, the level of environmental health consciousness still low hence there are numerous of elementary school age children with low BMI. BMI is an index which support the fact of malnourished individual associating to plaque aggregation actually describing oral health that may be measured by using oral hygiene index-simplified (OHI-S). *Aims:* The aim of this research is to evaluate oral health status by using OHI-S among elementary school age children who have low BMI in Bandung City, Indonesia.

Methods: This research was descriptive with consecutive sampling. In this study, 211 children of 6 – 7 year-old who are studying in several elementary school in Bandung City, Indonesia were examined divided in 92 girls and 119 boys. BMI of each subject was calculated and the lowest group of subjects were determined their OHI-S.

Results: Elementary school age children who had low BMI in Bandung City, Indonesia were 42 (19.9%) children, 14 (33.3%) children with moderate OHI-S and 2 (4.75%) children with severe OHI-S.

Conclusion: Severe OHI-S among elementary school age children who have low BMI in Bandung City, Indonesia were low compared to good and moderate categories.

PR156

Dietary intake in relation to oral health in adults with severe periodontitis

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Background & Aim: Periodontitis is a chronic disease which can result in progressive loss of the teeth's supportive tissue. About 40% of the world's population is affected by periodontitis of which approximately 10% have a severe form. Periodontitis can affect the dietary intake for diseased individuals due to mobile teeth that making it painful to eat or by missing teeth. The aim of the study was to investigate self-assessed oral health in relation to dietary intake in adult individuals with severe periodontitis treated in specialist-dental care. The aim was also to study self-assessed oral health and dietary intake in relation to the number of teeth, age and sex.

Methods: The study was a cross-sectional study including 62 participants. The material was collected via questionnaires regarding background and the areas of oral health and dietary intake. Participants were recruited via a special-dental care clinic in Sweden during September 2017. Referred patients diagnosed with severe periodontitis were invited to participate in the study and the participation was confidential. Chi-square test, Fisher's exact test and Mann Whitney U test were used. Alpha was set at $p < 0.05$.

Results: Half of the participants reported that their oral health condition constituted an obstacle to eating the foods they wanted. Participants who had ≥20 teeth ate fruits and berries, red meat, fish and poultry more often than participants with fewer teeth. Participants with ≤19 teeth assessed their chewing and biting ability as poorer than individuals with ≥20 teeth.

Conclusion: The result shows that a large proportion of the participants with periodontitis experience that their oral health affects dietary intake. Multidisciplinary collaboration between dental care and dietitian clinic could increase the ability to prevent and/or treat further ill-health in individuals with periodontitis that adversely affects the energy and nutritional intake due to oral health condition.

PR157

Do diabetics lose more teeth?

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Background & Aim: *Background*: Type 2 diabetes is a public health problem of global importance. Research has suggested that patients with diabetes are at higher risk of developing periodontitis and caries – two major causes of the tooth loss. So far it has not been systematically analyzed whether patients with diabetes lose more teeth. *Aim*: This review critically appraised and analyzed available scientific evidence concerning the number of teeth present in diabetics as compared to controls without diabetes.

Methods: MEDLINE-PubMed, the Cochrane Central Register of Controlled Trials (CENTRAL) and EMBASE databases were searched. Publications reporting on the mean number of teeth in populations with and without diabetes were identified. Reference lists of those studies were checked for additional papers. The Newcastle-Ottawa Scale for observational studies was used to estimate the risk of bias of the included studies. Data relevant for this review were extracted or calculated based on available outcomes and a subsequent meta-analysis was performed.

Results: From an initial search of 124 titles, in total nine articles were eligible for this review. A meta-analysis was of performed based on studies that included altogether 6713 participants. Status praesens of patients with diabetes mellitus showed that they had a smaller number of teeth (19.8) as compared to participants without diabetes (22.4).

Conclusion: Patients with diabetes are prone to lose more teeth than those without diabetes. Although the results showed a significant difference, it is unclear what the clinical relevance is. Depending which tooth types involved seems of major importance for this. Ability to chew, aesthetics are directly impaired by tooth loss which has a negative impact on quality of life. Continued focus on oral health promotion, preventive measures together with education focused on this group of patients may be of benefit for both, oral and general health.

PR158

Does the time-point of orthodontic gap closure after extraction affect the incidence of gingival cleft formation? A randomized controlled clinical trial

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Background & Aim: Formation of gingival clefts or invaginations are frequent during orthodontic gap closure and may impair aesthetics, orthodontic treatment, and periodontal health. Specifically, a gingival cleft (GC) can interfere with and promote re-opening after gap closure, impair oral hygiene, and/or promote plaque accumulation. The present study aimed to assess whether the time-point of orthodontic gap closure after extraction affects the incidence of GC formation.

Methods: In 25 patients requiring bilateral extraction of a premolar, after alignment of the posterior segment, one of the premolars was randomly chosen for extraction 8 weeks before gap closure initiation (i.e., delayed movement, DM), while the contralateral was extracted only one week before (i.e., immediate movement, IM); thus, tooth movement was performed either towards a largely healed or fresh extraction socket ("treatment type"). After 3 and 6 months ("time-point") presence of GC (primary outcome parameter) was recorded and any association with several secondary parameters (i.e., treatment type, time-point, age, gender, jaw, gingival biotype, buccal bone dehiscence after tooth extraction, speed of gap closure) was statistically assessed (random effects logistic regression).

Results: Twenty-one patients (6 male, 15 female; mean age: 19.8, range: 11–44) contributing with 26 jaws (9 upper, 17 lower) were finally included in the analysis. Overall, GC were frequent after 3 (DM: 53.9%; IM: 69.2%) and 6 months (DM: 76.9%; IM: 88.5%). Treatment type ($p = 0.014$) and speed of gap closure ($p = 0.001$) significantly promoted GC development; i.e., IM and faster gap closure resulted in higher GC incidence. Further, presence of buccal bone dehiscence ($p = 0.052$) and a thin gingival biotype ($p = 0.054$) tended to promote GC development.

Conclusion: GC development is a frequent finding during orthodontic gap closure. Forced/fast movement into a fresh extraction socket seems to promote GC development.

PR159

Effect of nicotine on human gingival and periodontal cells. A systematic review of the literature

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Background & Aim: Tobacco smoking is a major risk factor for periodontitis and compromises success of treatment. The specific role of nicotine on periodontitis risk is unclear despite a large number of in vitro studies. The aim of this systematic review was to evaluate the in vitro effects of nicotine on human gingival and periodontal cells.

Methods: MEDLINE, EMBASE and Web of Science were searched up to, and including, May 2017. Primary research studies on human gingival or periodontal cells, using nicotine