

ORAL SURGERY CARE



• **BRENT L. FLORINE, D.D.S.**

4151 Knob Drive, Suite 101
Eagan, MN 55122
(651) 688-8592

Winter 2023/2024

Winter Greetings!

As we ease into the new year and cold weather (in that unusual order), take time in front of the fireplace to review these recent articles.

We are very happy with the success we are seeing with both Straumann and Bicon dental implants. Virtual planning with 3D software and 3D-printed surgical guides have eliminated virtually all guesswork with implant treatment. I would welcome the chance to demonstrate our process with a CE session in our office. Lunch is on us! Contact me if you are interested and we'll find a time convenient for you.

Thank you for your trust in our care of your patients. We look forward to helping wherever your patients have a need.

Best Regards,

Dr. Brent Florine



Oral Surgery Care

Antibiotic Prophylaxis in the Prevention of Dry Socket and Surgical Site Infection after Lower Third Molar Extraction

O Camps-Font, H Sabado-Bundo, et al.
Int J Oral Maxillofac Surg 2023 Aug 21

Clinicians frequently prescribe systemic antibiotics after lower third molar extractions to prevent complications such as surgical site infections and dry socket. A systematic review of randomized clinical trials was conducted to compare the risk of dry socket and surgical site infection after the removal of lower third molars with different prophylactic antibiotics. The occurrence of any antibiotic-related adverse event was also analyzed. Appropriate statistical analysis was performed to establish direct and indirect comparisons of each outcome variable. Sixteen articles involving 2158 patients (2428 lower third molars) were included, and the following antibiotics were analyzed: amoxicillin (with and without clavulanic acid), metronidazole, azithromycin, and clindamycin.

Pooled results favored the use of antibiotics to reduce dry socket and surgical site infection after the removal of a lower third molar, with a number needed to treat of 25 and 18, respectively. *Although antibiotic prophylaxis was found to significantly reduce the risk of dry socket and surgical site infection in patients undergoing lower third molar extraction, the number of patients needed to treat was high. Thus, clinicians should evaluate the need to prescribe antibiotics taking into consideration the patient's systemic status and the individual risk of developing a postoperative infection.*

Effect of a School-based Fluoride Mouth-rinsing Program on Dental Caries

Daisuke Yonezawa, Minoru Yagi, et al.
Int Dent J 2023 Aug;72(4):506-511

The objective of this study was to evaluate the posttreatment effects of a school-based fluoride mouth-rinsing program (FMR) on the prevalence of dental caries. The authors included 364 newly enrolled university students aged 20 to 25 years who were not in any FMR and 187 students who had previously participated in such programs. They calculated the prevalence of dental caries in permanent teeth and the mean decayed, missing, and filled surfaces (DMFS) according to sex, age,

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Dr. Brent Florine received his undergraduate degree from the University of Minnesota College of Liberal Arts and attended the University of Minnesota School of Dentistry. He received postgraduate dental and oral and maxillofacial surgery training at Louisiana State University and Charity Hospital in New Orleans, and the University of Minnesota Hospitals and Clinics. He is certified as a Diplomate of the American Board of Oral and Maxillofacial Surgery and has practiced oral surgery in Eagan since 1987.

Fluoride ...continued

participation in FMR, and dental health behaviors. Appropriate statistical analysis was used to analyze the association between dichotomous variables (caries present or absent) and demographic data, participation in FMR, and dental health behaviors.

The difference in the prevalence of dental caries in permanent teeth between the subjects who participated in the FMR (51.3%) and those who did not (64.5%) was statistically significant. There were 39.6% fewer DMFS in the subjects who participated in the FMR at least during elementary school. Results revealed that subjects who participated in the FMR at least during elementary school were protected against dental caries as compared to those who did not. Age and sex were risk predictors of dental caries in adults, while other variables were not associated with dental caries. *The authors concluded that participation in an FMR, at least during elementary school, is a predictor for the reduction in the prevalence of dental caries in permanent teeth.*

Artificial Intelligence for Oral and Maxillo-facial Surgery

Simon Rasteau, Didier Ernenwein, et al.
J Stomatol Oral Maxillofac Surg 2022 Jun;123(3):276-282

Artificial Intelligence (AI) is a set of technologies that simulate human cognition in order to address a specific problem. The improvement in computing speed, the exponential production and the routine collection of data have led to the rapid development of AI in the health sector. In this review, the authors propose to provide surgeons with the essential technical elements to help them understand the possibilities offered by AI and to review the current applications of AI for oral and maxillofacial surgery (OMFS). The review of the literature reveals a real research boom of AI in all fields in OMFS. The algorithms used are related to machine learning, with a strong representation of the convolutional neural networks specific to deep learning. The complex architecture of these networks gives them the capacity to extract and process the elementary characteristics of an image, and they are therefore particularly used for diagnostic purposes on medical imagery or facial photography.

The investigators identified representative articles dealing with AI algorithms providing assistance in diagnosis, therapeutic decision, preoperative planning, or prediction and evaluation of the outcomes. *Thanks to their learning, classification, prediction and detection capabilities, AI algorithms complement human skills while limiting their imperfections. However, these*

algorithms should be subject to rigorous clinical evaluation, and ethical reflection on data protection should be systematically conducted.

Practice Patterns for Initial Management of Oral Leukoplakia Amongst Otolaryngologists and Oral and Maxillofacial Surgeons

Andrew Birkeland, Deepak Kademani, et al.
Oral Oncol 2023 Apr;139:106341

Oral leukoplakia is encountered frequently by otolaryngologists and oral and maxillofacial surgeons (OMFS). There are no consensus practice management guidelines for oral leukoplakia, resulting in heterogeneity in practice patterns. Characterization of practice patterns of providers who treat oral leukoplakia will be valuable to establish standards of care and future practice guidelines. A survey was designed by the American Head and Neck Society Cancer Prevention Service collecting demographic and practice management data for treating oral leukoplakia. The survey was approved and distributed to members of the American Academy of Otolaryngology-Head and Neck Surgery and American Association of Oral and Maxillofacial Surgeons. Data analysis was performed using appropriate statistical analysis.

396 responses were collected: 83 OMFS, 81 head and neck fellowship-trained providers, and 232 otolaryngologists (non-head and neck fellowship-trained). Providers saw a wide volume of oral leukoplakia (23.0% >30 cases/year, 35.1% 11-30 cases/year, 41.2% 10 or less cases/year), with OMFS seeing more cases of oral leukoplakia. Factors most associated with consideration of initial biopsy included physical exam findings (94.4%), erythroplakia (82.3%), and smoking status (81.6%). The majority of respondents saw patients in follow-up within 1 month (24.8%) or within 1-3 months (46.5%). *This survey identifies a range of practice patterns in initial management of oral leukoplakia, including indications for biopsy, and time for follow-up. This data provide insight into practice patterns amongst different groups of providers and can potentially lead to consensus guidelines for initial management of oral leukoplakia.*

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www.oralSURGERYcare.com
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