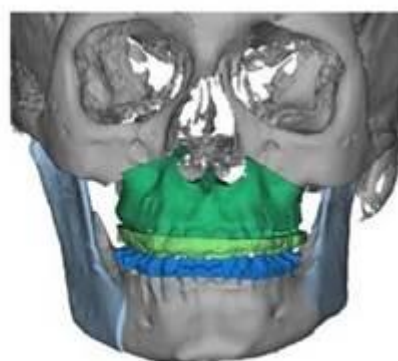
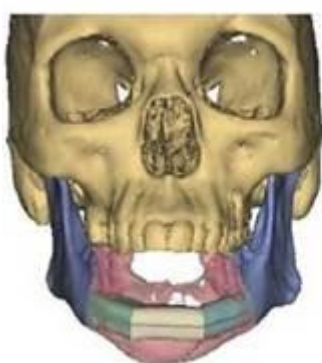


# Oral & Maxillofacial Surgery Evidence Update



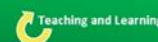
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## Lunchtime Drop-in Sessions

*All sessions last one hour*

March (13.00-14.00)	
8th (Thu)	Statistics
12th (Mon)	Literature Searching
20th (Tue)	Critical Appraisal
28th (wed)	Statistics
April (12.00-13.00)	
5th (Thu)	Literature Searching
9th (Mon)	Critical Appraisal
17th (Tue)	Statistics
25th (Wed)	Literature Searching


### Your Outreach Librarian- Jo Hooper

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**Outreach:** Your Outreach Librarian can help facilitate evidence-based practise for all in the oral and maxillofacial surgery team, as well as assisting with academic study and research. We can help with **literature searching, obtaining journal articles and books**, and setting up individual **evidence update alerts**. We also offer one-to-one or small group training in **literature searching, accessing electronic journals, and critical appraisal**. Get in touch: [library@uhbristol.nhs.uk](mailto:library@uhbristol.nhs.uk)

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## Latest Evidence

**NICE** National Institute for  
Health and Care Excellence

[Long-Term Skeletal Changes After Maxillary Distraction Osteogenesis in Growing Children With Cleft Lip/Palate](#) Source: [PubMed](#) - 14 February 2018 - Publisher: The Journal Of Craniofacial Surgery

[Lip and Oral Cavity Cancer Treatment \(Adult\) \(PDQ®\)–Health Professional Version National Cancer Institute at the National Institutes of Health](#) Source: [National Cancer Institute, USA](#) - 08 February 2018



[Interventions for treating post-extraction bleeding](#)

Online Publication Date: March 2018

[Slow-release fluoride devices for the control of dental decay](#)

Online Publication Date: March 2018

[Orthodontic treatment for deep bite and retroclined upper front teeth in children](#)

Online Publication Date: February 2018

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[Initial evaluation and management of facial trauma in adults](#)

[Management of acquired maxillary and hard palate defects](#)

[Temporomandibular disorders in adults](#)

[Emergency airway management in the adult with direct airway trauma](#)

[Medication-related osteonecrosis of the jaw in patients with cancer](#)

## Recent Database Articles on Oral and Maxillofacial Surgery

Below is a selection of articles on oral and maxillofacial surgery recently added to the healthcare databases, grouped into the following categories:

- Oral surgery
- Bisphosphonate-related osteonecrosis of the jaw
- Maxillofacial
- Cleft lip and palate

If you would like any of the following articles in full text, or if you would like a more focused search on your own topic, then get in touch:

[library@uhbristol.nhs.uk](mailto:library@uhbristol.nhs.uk)

### Oral surgery

#### Use of oral mucosal cell sheets for accelerated oral surgical wound healing

**Author(s):** Roh J.-L.; Lee J.; Jang H.; Kim E.H.; Shin D.

**Source:** Head and Neck; 2018; vol. 40 (no. 2); p. 394-401

**Publication Type(s):** Article

Available at [Head & Neck](#) - from Ovid (Journals @ Ovid)

**Abstract:**Background: We developed a highly efficient in vitro-engineered mucosa equivalent using completely autologous mucosa and blood and investigated its feasibility and efficacy for oral surgical wound healing. Methods: Small oral mucosa samples were obtained from surgical patients, and keratinocytes and fibroblasts were primarily grown in media without animal products for generating 3D cell sheets. Results: Morphological characteristics of the cell sheets were comparable to those of human mucosa, although p63-positive cells were more numerous in cell sheets. In addition, cell sheets were flexible, expandable, and easy to handle or transfer. In further in vivo rat experiments with deep wounding of the buccal mucosa and soft tissues, controls had significantly thinner epithelium and thicker collagen densities than those with cell sheets. Conclusion: Autologous cell sheets can be engineered in vitro from oral keratinocytes, fibroblasts, and fibrin, and can be used clinically to accelerate healing of oral soft tissue defects. Copyright © 2017 Wiley Periodicals, Inc.

#### Utility of 3-Month Surveillance F-18 FDG PET/CT in Surgically Resected Oral Squamous Cell Carcinoma

**Author(s):** Marquardt M.; Anderson C.; Parkhurst J.; Buatti J.; Ginader T.; Pagedar N.; Bayon R.; Clamon G.; Hoover A.

**Source:** Annals of Otolaryngology, Rhinology and Laryngology; Mar 2018; vol. 127 (no. 3); p. 185-191

**Publication Type(s):** Article

**Abstract:** Objectives: To evaluate the performance of surveillance F-18 fluorodeoxyglucose positron emission tomography/computed tomography (PET/CT) 1 year after imaging in oral squamous cell carcinoma (OSCC) patients treated with definitive surgery and adjuvant (chemo)radiotherapy (RT). Methods and Materials: Surveillance PET/CT accuracy was retrospectively evaluated in OSCC patients receiving surgical resection and (chemo)RT. Pathologic risk factors were assessed for influence on accuracy of the post-RT PET/CT. Results: Fifty-four patients with median follow-up of 3.8 years met inclusion criteria. A PET/CT obtained a median of 3.4 months after RT revealed 11 (20.4%) instances of true disease recurrence: 4 locoregional alone, 6 distant alone, and 1 patient with locoregional and distant disease. Locoregional detection sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) were 55.6%, 75.0%, 33.3%, and 88.2%, respectively. For distant recurrence, the respective values were 100%, 95.2%, 77.8%, and 100%. Absence of bone invasion, absence of pT4 disease, and disease within the tongue were independently associated with higher sensitivity ( $P = .048$ ). Perineural invasion was associated with increased specificity ( $P = .027$ ), and tumor location in the tongue was associated with a higher PPV ( $P = .007$ ) on surveillance PET/CT. Conclusions: Post-RT PET/CT accuracy information for surgically managed OSCC patients demonstrates significant associations with pathologic factors. Copyright © 2018, © The Author(s) 2018.

### **Is amalgamated ligno-bupivacaine an answer to complicated minor oral surgical anesthesia? A randomized split-mouth double-blind clinical trial.**

**Author(s):** Mishra, Akshay; Mahajan, Monica; Bande, Chandrashekhar; Joshi, Ajit; Gawande, Mayur; Gupta, M K

**Source:** Oral and maxillofacial surgery; Mar 2018; vol. 22 (no. 1); p. 97-104

**Publication Type(s):** Journal Article

**Abstract:** PURPOSE The purpose of this study was to find a suitable anesthetic combination for complicated and protracted minor oral surgical procedures. METHODS Fifty patients with bilaterally impacted deep-seated mandibular third molars were included in this study and randomly divided on the basis of anesthetic used into two groups. Group A received 2% lignocaine with 1:200,000 adrenaline while in group B, amalgamated mixture of 2% lignocaine and 0.5% bupivacaine was used. The onset time, duration of anesthetic effect, supplementary injections, pain (during local anesthetic deposition, intra and postoperatively), and postoperative analgesia were the study parameters. Chi-square and unpaired t tests were used to compare means. RESULTS The onset time in both the groups was comparable and showed statistically significant difference between the duration of anesthetic effect with notable requirement of supplemental anesthetic injections in group A (54%) ( $p < 0.05$ ). Pain scores also revealed a statistically significant intergroup difference ( $p < 0.05$ ). Requirement of postoperative analgesics was delayed in group B. CONCLUSION The amalgamated mixture of lignocaine and bupivacaine had equivocally rational onset and provided a more profound and in-depth anesthesia especially in complicated and protracted minor oral surgical procedures. Though this mixture is widely used in other surgical fields, its efficacy still remains unexploited and undocumented in oral and maxillofacial surgical procedures.

### **Most cited publications in oral and maxillofacial surgery: a bibliometric analysis.**

**Author(s):** Aslam-Pervez, Nawaf; Lubek, Joshua E

**Source:** Oral and maxillofacial surgery; Mar 2018; vol. 22 (no. 1); p. 25-37

**Publication Type(s):** Journal Article

**Abstract:** BACKGROUND Citation is one of the most important forms of acknowledgment and recognition received by our peers in academia. This study identifies and characterizes the current

topmost highly cited publications in journals specifically dedicated to the specialty. [ABSTRACT EDITED]

**A Comparative Clinical Evaluation of the Buccal Fat Pad and Extended Nasolabial Flap in the Reconstruction of the Surgical Defect in Oral Submucous Fibrosis Patients.**

**Author(s):** Agrawal, Deepak; Pathak, Richa; Newaskar, Vilas; Idrees, Faisal; Waskle, Rajesh

**Source:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Mar 2018; vol. 76 (no. 3); p. 676

**Publication Type(s):** Journal Article

**Abstract:** PURPOSE The aim of this study was to compare the efficacy of locally available nasolabial and buccal fat pad flaps for increasing postoperative mouth opening in the reconstruction of the defect created after fibrotomy in surgically treated cases of oral submucous fibrosis (OSMF). MATERIALS AND METHODS Of 32 patients selected for the study, 21 patients underwent closure of the surgical defect using the buccal fat pad (group 1) and 11 patients underwent closure of the surgical defect using a nasolabial flap (group 2). Histologically proven cases of OSMF with a mouth opening no larger than 25 mm were included in the study. Patients in groups 1 and 2 were evaluated at regular intervals and mouth opening was documented preoperatively, intraoperatively, and at 3 and 6 months of follow-up. The results were analyzed by paired and unpaired t tests. RESULTS In groups 1 and 2, mouth opening differed substantially at all periods of follow-up from preoperative values. At 3-month follow-up, mean mouth opening increased to 32.41 mm in group 2 compared with 30.47 in group 1. No relevant difference was observed in mouth opening between groups 1 and 2 at the end of 6 months. The effective increase in mouth opening at the end of 6 months compared with the preoperative value was statistically different in group 2 (mean increase, 24.2 mm) compared with group 1 (mean increase, 19.2 mm). CONCLUSION Nasolabial flaps are a good option for the coverage of surgically treated defects in OSMF compared with the buccal fat pad.

**Practice Guidelines for Moderate Procedural Sedation and Analgesia 2018: A Report by the American Society of Anesthesiologists Task Force on Moderate Procedural Sedation and Analgesia, the American Association of Oral and Maxillofacial Surgeons, American College of Radiology, American Dental Association, American Society of Dentist Anesthesiologists, and Society of Interventional Radiology.**

**Author(s):**

**Source:** Anesthesiology; Mar 2018; vol. 128 (no. 3); p. 437-479

**Publication Type(s):** Journal Article

Available at [Anesthesiology](#) - from Ovid (Journals @ Ovid)

**Providing Anesthesia in the Oral and Maxillofacial Surgery Office: A Look Back, Where We Are Now and a Look Ahead.**

**Author(s):** Lieblich, Stuart

**Source:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Feb 2018

**Publication Type(s):** Journal Article Review

**Oral surgery: A helpful wisdom tooth.**

**Author(s):** Liew, J; Beech, A

**Source:** British dental journal; Feb 2018; vol. 224 (no. 4); p. 198

**Publication Type(s):** Journal Article

**A novel rotational matrix and translation vector algorithm: geometric accuracy for augmented reality in oral and maxillofacial surgeries.**

**Author(s):** Murugesan, Yahini Prabha; Alsadoon, Abeer; Manoranjan, Paul; Prasad, P W C

**Source:** The international journal of medical robotics + computer assisted surgery : MRCAS; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:**BACKGROUND Augmented reality-based surgeries have not been successfully implemented in oral and maxillofacial areas due to limitations in geometric accuracy and image registration. This paper aims to improve the accuracy and depth perception of the augmented video. **[ABSTRACT EDITED]**

**Prevalence of neuropathic pain and sensory alterations after dental implant placement in a university-based oral surgery department: A retrospective cohort study.**

**Author(s):** Vázquez-Delgado, Eduardo; Viaplana-Gutiérrez, Marta; Figueiredo, Rui; Renton, Tara

**Source:** Gerodontology; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVE To determine the prevalence and the clinical features of patients with neuropathic pain and sensory alterations after dental implant placement. BACKGROUND Literature is very scarce concerning the prevalence of neuropathic pain after dental implant placement. **[ABSTRACT EDITED]**

**Invitation to the 54th Congress of the French Society of Stomatology, Oral and Maxillofacial Surgery, Marseille, 3-6 October 2018.**

**Author(s):** Thiéry, Gaëtan

**Source:** Journal of stomatology, oral and maxillofacial surgery; Feb 2018

**Publication Type(s):** Editorial

**How do oral and maxillofacial surgeons manage concussion?**

**Author(s):** Hammond, D; Welbury, R; Sammons, G; Toman, E; Harland, M; Rice, S

**Source:** The British journal of oral & maxillofacial surgery; Feb 2018; vol. 56 (no. 2); p. 134-138

**Publication Type(s):** Journal Article

**Abstract:** Craniofacial trauma results in distracting injuries that are easy to see, and as oral and maxillofacial surgeons (OMFS) we gravitate towards injuries that can be seen and are treatable surgically. However, we do tend not to involve ourselves (and may potentially overlook) injuries that are not obvious either visually or radiographically, and concussion is one such. We reviewed the records of 500 consecutive patients who presented with facial fractures at the Queen Elizabeth Hospital, Birmingham, to identify whether patients had been screened for concussion, and how they had been managed. **[ABSTRACT EDITED]**

**Bleeding frequency of patients taking ticagrelor, aspirin, clopidogrel, and dual antiplatelet therapy after tooth extraction and minor oral surgery.**

**Author(s):** Doganay, Ozge; Atalay, Belir; Karadag, Erhan; Aga, Ugur; Tugrul, Mehmet



**Source:** Journal of the American Dental Association (1939); Feb 2018; vol. 149 (no. 2); p. 132-138

**Publication Type(s):** Journal Article

**Abstract:**BACKGROUND Perioperative bleeding complications of ticagrelor, a newer oral antiplatelet, has not been studied in dentistry. Studies about bleeding status after oral surgical procedures in patients receiving continued antiplatelet therapy are also limited. We investigated the effects of continuing aspirin, clopidogrel, ticagrelor, or dual antiplatelet therapy on the frequency of bleeding events in patients undergoing tooth extractions or minor oral surgery. **[ABSTRACT EDITED]**

### **Surgical Safety Checklists Are Underutilized in Ambulatory Oral and Maxillofacial Surgery.**

**Author(s):** Viswanath, Archana; Balint, Andras; Johnson, Robert E; Rosenberg, Morton B

**Source:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Feb 2018; vol. 76 (no. 2); p. 267-272

**Publication Type(s):** Journal Article

**Abstract:**PURPOSE The objective of this study was to determine attitudes toward and the prevalence of using a surgical safety checklist in ambulatory oral and maxillofacial surgery (OMS) practice. **[ABSTRACT EDITED]**

### **Oral/Head and Neck Oncologic and Reconstructive Surgery: The Creation of a Subspecialty in Oral and Maxillofacial Surgery.**

**Author(s):** Carlson, Eric R

**Source:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Feb 2018; vol. 76 (no. 2); p. 237-247

**Publication Type(s):** Journal Article

### **Ex corpore linguae: A cohort analysis after a unique surgical technique in oral cancer resection.**

**Author(s):** Wilbrand, Jan-Falco; Schmermund, Daniel; Knitschke, Michael; Streckbein, Philipp

**Source:** Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery; Feb 2018; vol. 46 (no. 2); p. 190-194

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVE Resection of posteriorly located oral squamous cell carcinomas (OSCCs) remains challenging for head and neck surgeons. However, several surgical techniques, such as lip and mandibular splitting, as well as submental "visor drop-down" of intraoral soft tissues, have been proposed for this purpose. Merrick et al. suggested that a pedicled genial drop-down surgical approach should be used to resect dorsally located OSCCs. Our study investigated patient outcomes following this surgical procedure, as no previous study has analyzed long-term follow-up data. MATERIAL AND METHODS All patients who underwent surgery using the pedicled genial "visor drop-down" approach at the Maxillofacial Department of the University Hospital Giessen in Germany between 1995 and 2010 were included in this study. In addition, our study required that patients diagnosed with OSCC had no history of other intraoral malignancy or any other form of malignancy. A preliminary questionnaire was completed for each patient based on retrospective analysis of available data from medical reports. RESULTS A total of 51 patients fulfilled all inclusion and exclusion criteria and were evaluated retrospectively. In total, 32 patients were excluded from the study due to OSCC recurrence or acquisition of a different type of malignancy. The male to female distribution of patients in our study was 30 to 21 (58.8%-41.2%), and the mean ages of female and male patients were 57.7 (SD 14.3) and 55.7 (SD 14.4) years, respectively. Approximately 76.5% of tumors were located along the dorsal aspect of the tongue, 17.6% were along the floor of the mouth, 3.9% were

in the dorsal mandibular region, and 1.9% were in the dorsal palatal region. The mean overall operation time was 6.25 h, and 28 patients received microvascular flaps for reconstruction. Results of final histopathological examination suggested primary in-sano resection of the tumor in 84.3% of patients. Overall, the 5-year postoperative survival rate was 52.9%; 31.3% of the patient cohort was not followed up for the full 5-year period. In addition, 15.7% of the patients included in our study died during the study period. Unimpaired functional outcomes in terms of swallowing and speech were observed in 86.3% of patients. **CONCLUSION** The pedicled genial "visor drop-down" approach, also known as the ex corpore linguae, is a suitable method for the radical resection of dorsally located OSCCs, with a promising 5-year survival rate and satisfactory postoperative oral function.

## Bisphosphonate-related osteonecrosis of the jaw

### Oral methotrexate-related lymphoproliferative disease presenting with severe osteonecrosis of the Jaw: A case report and literature review

**Author(s):** Furukawa S.; Oobu K.; Moriyama M.; Kawano S.; Sako S.; Hayashida J.-N.; Matsubara R

**Source:** Internal Medicine; 2018; vol. 57 (no. 4); p. 575-581

**Publication Type(s):** Article

Available at [Internal Medicine](#) - from Europe PubMed Central - Open Access

**Abstract:** Long-term methotrexate (MTX) treatment can cause MTX-related lymphoproliferative disorder (MTX-LPD). We experienced a case of MTX-LPD that was associated with severe osteonecrosis of the jaw mimicking medication-related osteonecrosis of the jaw. The patient was an 81-year-old woman with rheumatoid arthritis (RA) who was treated with MTX and bisphosphonate. After 7 years, she was referred to our department for the assessment of giant ulcer and exposure of the alveolar bone of the left maxilla. Histopathological and immunological analyses confirmed a diagnosis of MTX-LPD. At seven months after the cessation of MTX treatment, the ulcerative and necrotic lesions had markedly decreased in size. A 1-year follow-up examination showed no evidence of recurrence and good RA control. Copyright © 2018 The Japanese Society of Internal Medicine.

### Early removal of sequestrum in patients affected by medication-related osteonecrosis of the jaw

**Author(s):** Kharazmi M.; Hallberg P.

**Source:** British Journal of Oral and Maxillofacial Surgery; 2018

**Publication Type(s):** Article In Press

### Removal of matrix-bound zoledronate prevents post-extraction osteonecrosis of the jaw by rescuing osteoclast function

**Author(s):** Elsayed R.; Abraham P.; Whitford G.M.; Pashley D.H.; Elsalanty M.E.; Awad M.E.

**Source:** Bone; May 2018; vol. 110 ; p. 141-149

**Publication Type(s):** Article

**Abstract:** Unlike other antiresorptive medications, bisphosphonate molecules accumulate in the bone matrix. Previous studies of side-effects of anti-resorptive treatment focused mainly on systemic effects. We hypothesize that matrix-bound bisphosphonate molecules contribute to the pathogenesis of bisphosphonate-related osteonecrosis of the jaw (BRONJ). In this study, we examined the effect of matrix-bound bisphosphonates on osteoclast differentiation in vitro using TRAP staining and resorption assay, with and without pretreatment with EDTA. We also tested the

effect of zoledronate chelation on the healing of post-extraction defect in rats. Our results confirmed that bisphosphonates bind to, and can be chelated from, mineralized matrix in vitro in a dose-dependent manner. Matrix-bound bisphosphonates impaired the differentiation of osteoclasts, evidenced by TRAP activity and resorption assay. Zoledronate-treated rats that underwent bilateral dental extraction with unilateral EDTA treatment showed significant improvement in mucosal healing and micro-CT analysis on the chelated sides. The results suggest that matrix-bound bisphosphonates are accessible to osteoclasts and chelating agents and contribute to the pathogenesis of BRONJ. The use of topical chelating agents is a promising strategy for the prevention of BRONJ following dental procedures in bisphosphonate-treated patients. Copyright © 2018 Elsevier Inc.

### **Effect of different doses and durations of teriparatide therapy on resolution of medication-related osteonecrosis of the jaw: A randomized, controlled preclinical study in rats**

**Author(s):** Zandi M.; Zandipoor N.; Doulati S.; Dehghan A.; Amini P.

**Source:** Journal of Cranio-Maxillofacial Surgery; Mar 2018; vol. 46 (no. 3); p. 398-412

**Publication Type(s):** Article

**Abstract:**Objective: To evaluate the effects of different doses and durations of teriparatide therapy on MRONJ resolution in rats. Subjects and methods: A total of 120 rats that had been affected with MRONJ (after six weekly zoledronate injections and tooth extraction) were randomly divided into eight subgroups: 2, 10, and 20 µg/kg/day teriparatide were administered to L4, M4, and H4 for 4 weeks, and to L8, M8, and H8 for 8 weeks, respectively. C4 and C8 received saline for 4 and 8 weeks, respectively. One week after the final injection, rats were sacrificed and assessed clinically (bone exposure/fistula) and histologically (number of osteocytes in extraction socket and empty lacunae in alveolar bone). Results: MRONJ was clinically improved in 72.2%, 61.5%, and 40% of stage I, II, and III experimental rats, respectively. In the control rats, the results were 20.8% for stage I and no improvement for stages II and III. Aside from L4 and L8, the experimental subgroups had a significantly higher rate of clinical and histological improvement compared with their corresponding controls. There was a significantly higher number of osteocytes and lower number of empty lacunae in M4 and H4 compared with C4, in H4 compared with L4, in M8 and H8 compared with C8, and in H8 compared with L8. Conclusion: Teriparatide therapy improved clinical and histological features of MRONJ in a dose-dependent manner, but clinically relevant doses of teriparatide might not be sufficient for MRONJ resolution in rats. Extending the duration of teriparatide therapy from 4 to 8 weeks did not affect treatment outcomes. Copyright © 2017 European Association for Cranio-Maxillo-Facial Surgery

### **Incidence of medication-related osteonecrosis of the jaw in patients treated with both bone resorption inhibitors and vascular endothelial growth factor receptor tyrosine kinase inhibitors**

**Author(s):** van Cann T.; Loyson T.; Verbiest A.; Clement P.M.; Bechter O.; Vandeweyer R.O.

**Source:** Supportive Care in Cancer; Mar 2018; vol. 26 (no. 3); p. 869-878

**Publication Type(s):** Article

**Abstract:**Background: Several case reports and small case series have suggested a higher incidence of medication-related osteonecrosis of the jaw (MRONJ) in patients treated concomitantly with bone resorption inhibitors (BRIs) and vascular endothelial growth factor receptor tyrosine kinase inhibitors (VEGFR-TKIs), as compared to patients treated with BRIs alone. We aimed to assess ONJ-incidence in patients exposed concomitantly to BRIs and VEGFR-TKIs. **[ABSTRACT EDITED]**

**Zoledronic acid increases the prevalence of medication-related osteonecrosis of the jaw in a dose dependent manner in rice rats (*Oryzomys palustris*) with localized periodontitis**

**Author(s):** Messer J.G.; Mendieta Calle J.L.; Jiron J.M.; Castillo E.J.; Kimmel D.B.; Aguirre J.I.

**Source:** Bone; Mar 2018; vol. 108 ; p. 79-88

**Publication Type(s):** Article

Available at [Bone](#) - from PubMed Central

**Abstract:**Objective Investigate role of dose/duration of zoledronic acid (ZOL), a powerful anti-resorptive (pAR), on prevalence of medication-related osteonecrosis of the jaw (MRONJ) in rice rats (*Oryzomys palustris*), a species with natural susceptibility to food impaction-induced localized periodontitis (FILP). We hypothesize that ZOL induces MRONJ lesions in rice rats with FILP, and that the prevalence of MRONJ rises with increasing dose and duration of ZOL treatment. Methods We performed a toxicology experiment with clinically-relevant doses of ZOL in female rats (N = 230) fed standard (STD) rodent chow. At age 4 weeks (baseline), 12 rats were necropsied. The rest were randomized into five groups that began to receive 0, 8, 20, 50 or 125 mug/kg ZOL IV/q 4 weeks. After 12, 18, 24 and 30 weeks, subgroups (N = 9-16) from each of the dose groups were necropsied. High-resolution macroscopic photos of all jaw quadrants were given a gross quadrant grade (GQG) (0-4 or MRONJ) that classified FILP lesion severity and determined presence of gross MRONJ. Quadrants with GQG  $\geq$  1 were examined histopathologically. Logistic regression analysis (ZOL dose/duration) of MRONJ prevalence was completed. Results We found: 1) 75% of 0 mug/kg ZOL rats developed FILP lesions; 2) baseline rats and rats treated with 0 mug/kg ZOL had no MRONJ; 3) 29 gross MRONJ cases were identified; 4) all gross MRONJ cases were confirmed histopathologically by the observation of exposed necrotic bone, and 53 new cases were discovered (total = 82); 5) ZOL dose ( $P < 0.001$ ), but not duration ( $P = 0.326$ ), was a significant predictor of MRONJ prevalence; 6) 13% prevalence of gross MRONJ among all rats, with 22% prevalence among rats exposed to ZOL oncologic doses (20-125 mug/kg); 7) 38% prevalence of histopathologic MRONJ among all rats, with 73% prevalence among rats exposed to ZOL oncologic doses. Conclusions This is the first experiment to show a dose response relationship between clinically relevant doses of ZOL and MRONJ prevalence. Copyright © 2017 The Authors

**Microbial population changes in patients with medication-related osteonecrosis of the jaw treated with systemic antibiotics.**

**Author(s):** De Bruyn, Lieselotte; Coropciuc, Ruxandra; Coucke, Wim; Politis, Constantinus

**Source:** Oral surgery, oral medicine, oral pathology and oral radiology; Mar 2018; vol. 125 (no. 3); p. 268-275

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVEThis study aimed to investigate the bacterial population in patients with medication-related osteonecrosis of the jaw (MRONJ) after treatment with doxycycline and metronidazole.STUDY DESIGNA total of 38 patients with MRONJ (age range 55-88, mean age 73 + 8.82 standard deviation) treated with doxycycline first and with metronidazole second were enrolled in this study. Two swabs were taken at the margin of the infected MRONJ lesion after applying pressure on the marginal mucosa, and visible pus was secreted. Real-time polymerase chain reaction was used to analyze 20 periopathogenic and commensal species and the total bacterial level. Bacterial counts were compared between antibiotic treatments and with a control group of orally healthy patients who didn't have periodontal pockets of more than 3 mm (n = 29) by means of a Mann-Whitney U test. Comparisons between the two antibiotic treatments were performed by a paired Wilcoxon signed rank test.RESULTSThe total bacterial level was significantly higher in the MRONJ patients treated with systemic antibiotics compared with the control group. However, significant lower bacterial amounts were found for 12 of the 20 investigated bacteria. We couldn't

establish a significant advantage of metronidazole administration after doxycycline treatment. **CONCLUSION** Our findings suggest that the total bacterial level in MRONJ patients is higher even when treated with systemic antibiotics. The significantly different bacterial amounts of the selected species suggest an alteration in the microbial population.

#### **Medication-related osteonecrosis of the jaw: Surgical or non-surgical treatment?**

**Author(s):** Favia, G; Tempesta, A; Limongelli, L; Crincoli, V; Maiorano, E

**Source:** Oral diseases; Mar 2018; vol. 24 (no. 1-2); p. 238-242

**Publication Type(s):** Journal Article

**Abstract:** Medication-related osteonecrosis of the jaw (MRONJ) is a severe side effect of antiresorptive (bisphosphonates and denosumab) and anti-angiogenic therapy used in the management of oncologic and, less frequently, osteoporotic patients. While there is good international agreement on the diagnostic and staging criteria of MRONJ and the cessation of antiresorptive/anti-angiogenic treatments, the gold standard of treatment is still controversial, in particular between non-surgical and surgical approaches. The former usually includes antiseptic mouth rinse, cyclic antibiotic therapy, low-level laser therapy and periodic dental checks; the latter consists of surgical necrotic bone removal. The purpose of this retrospective study was to describe the therapeutic approaches and outcomes of 131 lesions from 106 MRONJ patients treated at the Policlinic of Bari. Non-surgical treatments were chosen for 24 lesions that occurred in 21 patients who, due to comorbidities and/or the impossibility of stopping oncologic therapies, could not undergo surgical treatment. As to the outcome, all the surgically treated lesions (107) showed complete healing, with the exception of 13.5% of the lesions, all of which were stage III, which did not completely heal but showed reduction to stage I. The 24 non-surgically treated lesions never completely healed and, rather, generally remained stable. Only two cases exhibited a reduction in staging. Based on our observations, MRONJ occurring both in neoplastic and non-neoplastic patients benefits more from a surgical treatment approach, whenever deemed possible, as non-surgical treatments do not seem to allow complete healing of the lesions.

#### **Differences between osteoradionecrosis and medication-related osteonecrosis of the jaw.**

**Author(s):** Akashi, Masaya; Wanifuchi, Satoshi; Iwata, Eiji; Takeda, Daisuke; Kusumoto, Junya

**Source:** Oral and maxillofacial surgery; Mar 2018; vol. 22 (no. 1); p. 59-63

**Publication Type(s):** Journal Article

**Abstract:** **PURPOSE** The appearance of osteoradionecrosis (ORN) and medication-related osteonecrosis of the jaw (MRONJ) is similar, but clinically important differences between ORN and MRONJ exist. The aim of this study was to compare the clinical data between ORN and MRONJ and to reveal the critical differences between these diseases. **METHODS** We retrospectively reviewed the epidemiological data, clinical findings, and treatment in 27 ORN and 61 MRONJ patients. Radiographic signs before the initiation of treatment were also assessed. **RESULTS** The median age ( $P = 0.0474$ ) and the ratio of female to male patients ( $P < 0.0001$ ) were significantly higher in MRONJ patients. There were significantly more MRONJ patients who reported a history of pain when compared with ORN patients ( $P = 0.0263$ ). As an aetiological factor, tooth extraction was significantly more relevant to MRONJ than ORN ( $P = 0.0352$ ). When assessing the radiographic signs on computed tomographic images, periosteal reaction was found only in MRONJ patients ( $P = 0.0158$ ). Minimal debridement was performed significantly more frequently for MRONJ ( $P = 0.0093$ ), and by contrast, surgical resection was performed more frequently for ORN ( $P = 0.0002$ ). **CONCLUSIONS** Understanding the clinical and underlying pathological differences between ORN and MRONJ probably contributes to the selection of appropriate treatment for each patient.

**The risk of osteonecrosis on alveolar healing after tooth extraction and systemic administration of antiresorptive drugs in rodents: a systematic review**

**Author(s):** Poubel V.L.D.N.; Silva C.A.B.; Mezzomo L.A.M.; De Luca Canto G.; Rivero E.R.C.

**Source:** Journal of Cranio-Maxillofacial Surgery; Feb 2018; vol. 46 (no. 2); p. 245-256

**Publication Type(s):** Review

**Abstract:** Purpose: There is much concern about the increasing number of patients with medication-related osteonecrosis of the jaw (MRONJ), and many studies have been published in an attempt to understand the pathophysiology of this condition. This study aimed to systematically review the literature on MRONJ arising in rodents under antiresorptive drug therapy after tooth extraction. Methods: A search of electronic databases, including LILACS, PROQUEST, PubMed, SCOPUS, and the Web of Science. Results: The search resulted in 2319 titles after removing the duplicates, and one paper was identified using the reference list. Ninety-eight full-text papers were then screened for eligibility, resulting in 20 for inclusion in the final qualitative synthesis. The quality of the articles was assessed using the 'ARRIVE' tool. Conclusion: Despite the wide heterogeneity of the methodologies used by the authors, the current available evidence suggests that the combination of bisphosphonate and/or denosumab therapy and tooth extraction is associated with osteonecrosis of the jaw in rodents. Copyright © 2017 European Association for Cranio-Maxillo-Facial Surgery

**Denosumab-related osteonecrosis of the jaw following non-surgical periodontal therapy: A case report.**

**Author(s):** Diniz-Freitas, Márcio; Fernández-Feijoo, Javier; Diz, Pedro; Pousa, Xiana; Limeres, Jacobo

**Source:** Journal of clinical periodontology; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:** INTRODUCTION Osteonecrosis of the jaw associated with bisphosphonates is currently called medication-related osteonecrosis of the jaw (MRONJ), given that in addition to bisphosphonates, jaw osteonecrosis has been related to the administration of other antiresorptive and antiangiogenic drugs, such as denosumab, sunitinib, bevacizumab and ipilimumab. CASE PRESENTATION A 77-year-old patient with osteoporosis treated with subcutaneous injections of denosumab at an interval of 6 months is presented. The patient developed MRONJ after receiving a non-surgical periodontal therapy. Although the MRONJ was initially classified as a stage I lesion in this patient, cone beam computed tomography images confirmed the presence of a significant osteolytic lesion. Treatment consisted of the administration of chlorhexidine mouthwash and systemic doxycycline, exodontia of the involved teeth, sequestrectomy and complete surgical debridement of the necrotic bone. CONCLUSION To our knowledge, this is the first case reported in the literature of MRONJ following nonsurgical periodontal therapy in a patient with osteoporosis treated with denosumab. The risk of MRONJ development after a periodontal procedure and how to prevent this complication are still unknown. This article is protected by copyright. All rights reserved.

**Pharmacology: MRONJ risk factor.**

**Author(s):** Patel, D; Patel, V

**Source:** British dental journal; Feb 2018; vol. 224 (no. 4); p. 198

**Publication Type(s):** Journal Article

**Bone mineralization and vascularization in bisphosphonate-related osteonecrosis of the jaw: an experimental study in the rat.**

**Author(s):** Kün-Darbois, Jean-Daniel; Libouban, Hélène; Mabilieu, Guillaume

**Source:** Clinical oral investigations; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVES Pathogenesis of bisphosphonate-related osteonecrosis of the jaws (BRONJ) is not fully explained. An antiangiogenic effect of bisphosphonates (BPs) or an altered bone quality have been advocated. The aims of the present study were to analyze alveolar mandibular vascularization and bone quality in rats with BRONJ. **[ABSTRACT EDITED]**

**CT imaging features of antiresorptive agent-related osteonecrosis of the jaw/medication-related osteonecrosis of the jaw.**

**Author(s):** Baba, Akira; Goto, Tazuko K; Ojiri, Hiroya; Takagiwa, Mutsumi; Hiraga, Chiho

**Source:** Dento maxillo facial radiology; Feb 2018 ; p. 20170323

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVES Antiresorptive agent-related osteonecrosis of the jaw (ARONJ)/medication-related osteonecrosis of the jaw (MRONJ) include both bisphosphonate-related osteonecrosis of jaw (BRONJ) and denosumab-related osteonecrosis of jaw (DRONJ). The purpose of this study is to study radiological characteristics of ARONJ/MRONJ. These imaging features may serve as one useful aid for assessing ARONJ/MRONJ. **[ABSTRACT EDITED]**

**Patients' osteometabolic control improves the management of medication-related osteonecrosis of the jaw.**

**Author(s):** Colapinto, Gianluca; Volpi, Raffaele; Forino, Giovanni; Tricarico, Vito

**Source:** Oral surgery, oral medicine, oral pathology and oral radiology; Feb 2018; vol. 125 (no. 2); p. 147-156

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVES Osteonecrosis of the jaw (ONJ) is a concern in patients taking anti-resorptive drugs. The aim of this study was to test the hypothesis that preoperative individualized pharmacologic control of the patient's osteometabolic profile could lead to predictable healing of the surgically treated region and minimize the incidence of complications. **STUDY DESIGN** This prospective study included 95 test patients (53 with osteoporosis and 42 with cancer), and 94 control patients (49 with osteoporosis and 45 with cancer) who were on anti-resorptive therapy and were candidates for ONJ treatment. Test patients underwent osteometabolic profile assessment and personalized pharmacologic supplementation before intervention. In all cases, a drug holiday was scheduled for 3 months before and at least 3 months after the intervention. Healing was assessed clinically and radiographically. **RESULTS** In the test group, after a mean follow-up of  $28.2 \pm 7.8$  months, there was only 1 ONJ recurrence, and it was successfully resolved after the pharmacologic protocol was resumed. Five patients reported minor complications. Overall, 100% treatment success was observed. In the control group, after  $28.1 \pm 4.9$  months follow-up, 6 fistulae, 19 abscesses, and 34 dehiscences occurred. In total, 62.8% of patients in the control group had complications or adverse events. The difference between the 2 groups was highly significant. **CONCLUSIONS** Strict osteometabolic control should be a routine measure in the management of patients taking anti-resorptive drugs.

## Maxillofacial

**A novel rotational matrix and translation vector algorithm: Geometric accuracy for augmented reality in oral and maxillofacial surgeries**

**Author(s):** Murugesan Y.P.; Alsadoon A.; Prasad P.W.C.; Manoranjan P.

**Source:** International Journal of Medical Robotics and Computer Assisted Surgery; 2018

**Publication Type(s):** Article In Press

**Abstract:**Background: Augmented reality-based surgeries have not been successfully implemented in oral and maxillofacial areas due to limitations in geometric accuracy and image registration. This paper aims to improve the accuracy and depth perception of the augmented video. Methodology: The proposed system consists of a rotational matrix and translation vector algorithm to reduce the geometric error and improve the depth perception by including 2 stereo cameras and a translucent mirror in the operating room. Results: The results on the mandible/maxilla area show that the new algorithm improves the video accuracy by 0.30-0.40 mm (in terms of overlay error) and the processing rate to 10-13 frames/s compared to 7-10 frames/s in existing systems. The depth perception increased by 90-100 mm. Conclusion: The proposed system concentrates on reducing the geometric error. Thus, this study provides an acceptable range of accuracy with a shorter operating time, which provides surgeons with a smooth surgical flow. Copyright © 2018 John Wiley & Sons, Ltd.

### **Negative pressure wound therapy in complex cranio-maxillofacial and cervical wounds**

**Author(s):** Novelli G.; Daleffe F.; Birra G.; Mazzoleni F.; Boni P.; Sozzi D.; Bozzetti A.; Canzi G.

**Source:** International Wound Journal; 2018; vol. 15 (no. 1); p. 16-23

**Publication Type(s):** Article

**Abstract:**The care and the management of the healing of difficult wounds at the level of the skull-facial face many problems related to patient compliance and the need to perform multiple dressings, with long periods of healing and, occasionally, a very long hospitalisation period. The introduction and evolution of negative pressure wound therapy (NPWT) in the treatment of difficult wounds has resulted in better healing, with a drastic reduction in terms of time and biological costs to the patient and cost to the health care system. The main aim of this study is to describe and discuss, using out our experience, the usefulness of NPWT in the cranial-facial-cervical region. **[ABSTRACT EDITED]**

### **Microbiological analysis of conjunctival secretion in anophthalmic cavity, contralateral eye and ocular prosthesis of patients with maxillofacial abnormalities**

**Author(s):** Guiotti A.M.; da Silva E.V.F.; Catanoze I.A.; de Carvalho K.H.T.; Malavazi E.M.; Goiato M.C

**Source:** Letters in Applied Microbiology; 2018; vol. 66 (no. 2); p. 104-109

**Publication Type(s):** Article

**Abstract:**The purpose of this study was to identify and analyse the micro-organisms present in the conjunctival secretion in anophthalmic cavities of wearers of ocular prostheses, as well as on the prostheses used by them, correlating them with the microbiota of the contralateral eye. **[ABSTRACT EDITED]**

### **Systematic review of benefits or harms of routine anaesthetist-inserted throat packs in adults: practice recommendations for inserting and counting throat packs: An evidence-based consensus statement by the Difficult Airway Society (DAS), the British Association of Oral and Maxillofacial Surgery (BAOMS) and the British Association of Otorhinolaryngology, Head and Neck Surgery (ENT-UK)**

**Author(s):** Athanassoglou V.; Pandit J.J.; Patel A.; McGuire B.; Higgs A.; Dover M.S.; Brennan P.A

**Source:** Anaesthesia; 2018



**Publication Type(s):** Article In Press

**Abstract:**Throat packs are commonly inserted by anaesthetists after induction of anaesthesia for dental, maxillofacial, nasal or upper airway surgery. However, the evidence supporting this practice as routine is unclear, especially in the light of accidentally retained throat packs which constitute 'Never Events' as defined by NHS England. On behalf of three relevant national organisations, we therefore conducted a systematic review and literature search to assess the evidence base for benefit, and also the extent and severity of complications associated with throat pack use. Other than descriptions of how to insert throat packs in many standard texts, we could find no study that sought to assess the benefit of their insertion by anaesthetists. Instead, there were many reports of minor and major complications (the latter including serious postoperative airway obstruction and at least one death), and many descriptions of how to avoid complications. As a result of these findings, the three national organisations no longer recommend the routine insertion of throat packs by anaesthetists but advise caution and careful consideration. Two protocols for pack insertion are presented, should their use be judged necessary. Copyright © 2018 The Association of Anaesthetists of Great Britain and Ireland.

### **Postoperative nausea and vomiting after oral and maxillofacial surgery: A prospective study**

**Author(s):** Dobbeleir M.; Coucke W.; Politis C.; De Coster J.

**Source:** International Journal of Oral and Maxillofacial Surgery; 2018

**Publication Type(s):** Article In Press

**Abstract:**Postoperative nausea and vomiting (PONV) is one of the most unpleasant experiences after surgery. It reduces patient satisfaction and also increases hospital costs due to longer hospitalizations. The aim of this prospective study was to determine whether orthognathic surgery is associated with more PONV than less invasive maxillofacial surgery. Three hundred and eight patients aged 8-87 years who underwent maxillofacial surgery were included. The PONV score, based on the Apfel score, was calculated preoperatively. PONV occurred in 142 (46.1%) patients during the first three postoperative days; these patients were further categorized as having postoperative nausea (PON) and/or postoperative vomiting (POV). PON was most frequent after orthognathic surgery to the mandible (75%), and POV was most frequent after maxillary surgery, including bimaxillary surgery, Le Fort I osteotomy, and surgically assisted rapid palatal expansion (SARPE) (43.1%). There was a small significant relationship between the preoperative PONV score and the incidence of PONV: patients experienced more PONV when the PONV score calculated preoperatively was higher. The incidence of PONV after orthognathic surgery was very high compared with the incidence after dental extractions and other minor surgeries. Further investigation is required to establish a strategy to reduce PONV after orthognathic surgery. Copyright © 2017 The Authors.

### **3D reconstruction images of cone beam computed tomography applied to maxillofacial fractures: A case study and mini review.**

**Author(s):** Bai, Liyun; Li, Linlin; Su, Kexin; Bleyer, Anthony; Zhang, Yuanyuan; Ji, Ping

**Source:** Journal of X-ray science and technology; 2018; vol. 26 (no. 1); p. 115-123

**Publication Type(s):** Journal Article

**Abstract:**Maxillofacial injuries can be complex and are clinically important due to their functional and cosmetic significance. Maltreated and missed fractures might cause deformity of the face; thus, accurate evaluation of the fracture provided by X-ray images is critical. In this study, we explore the application of cone-beam computed tomography (CBCT) for diagnosis of severe maxillofacial traumas. **[ABSTRACT EDITED]**

**Effect of chemical disinfectants and accelerated aging on maxillofacial silicone elastomers: An In vitro Study.**

**Author(s):** Babu, Anna Serene; Manju, V; Gopal, Vinod Kumar

**Source:** Indian journal of dental research : official publication of Indian Society for Dental Research; 2018; vol. 29 (no. 1); p. 67-73

**Publication Type(s):** Journal Article

Available at [Indian Journal of Dental Research](http://Indian Journal of Dental Research) - from ijdr.in

**Abstract:**ContextMaxillofacial prostheses need frequent refabrication due to degradation of color and deterioration of physical properties of the elastomer.AimsThis study attempted to evaluate the change in color stability, Shore A hardness, and surface roughness of two maxillofacial silicones, A-2186 and Cosmesil M511, when submitted to chemical disinfection and accelerated aging.Settings and DesignThis was a comparative in vitro study.Subjects and MethodsThe materials included two silicone elastomers - A-2186 and Cosmesil M511 (Factor II Incorporated) - functional intrinsic red pigment and three disinfectants - Fittydent tablet, chlorhexidine gluconate 4%, and neutral soap. The specimens in each group of elastomer were evaluated initially for color, hardness, and surface roughness, which were further divided into subgroups and subjected to disinfection and accelerated aging. The evaluation of color was performed with the help of an ultraviolet reflectance spectrophotometer. Shore A hardness was evaluated using a durometer and surface roughness, with a digital roughness tester followed by scanning electron microscopy analysis.Statistical Analysis Used: Analysis of variance and Tukey's multiple comparison test were used for statistical analysis.ResultsAccelerated aging caused a significant decrease in color, increase in Shore A hardness, and variation in surface roughness in both silicone elastomer groups. Chemical disinfection presented significant changes in color and surface roughness whereas no significant effect on Shore hardness, irrespective of the disinfectant used.ConclusionsThe maxillofacial silicone elastomers presented deterioration in color, hardening, and significant variations in surface roughness when subjected to chemical disinfection and accelerated aging, which provides a valid baseline for future research.

**Effects of preoperative oral carbohydrate therapy on perioperative glucose metabolism during oral- maxillofacial surgery: randomised clinical trial.**

**Author(s):** Esaki, Kanako; Tsukamoto, Masanori; Sakamoto, Eiji; Yokoyama, Takeshi

**Source:** Asia Pacific journal of clinical nutrition; 2018; vol. 27 (no. 1); p. 137-143

**Publication Type(s):** Journal Article

Available at [Asia Pacific journal of clinical nutrition](http://Asia Pacific journal of clinical nutrition) - from EBSCO (MEDLINE Complete)

**Abstract:**BACKGROUND AND OBJECTIVESPreoperative oral carbohydrate therapy has been suggested to attenuate postoperative insulin resistance. The purpose of this study was to investigate the effect of a carbohydrate-rich beverage given preoperatively on intraoperative glucose metabolism.METHODS AND STUDY DESIGNThis study was a randomised, open-label, placebo-controlled trial. Patients undergoing oral-maxillofacial surgery were divided into two groups. In the glucose group, patients took glucose (50 g/278 mL, p.o.) 2 h before anaesthesia induction after overnight fasting; control-group patients took mineral water. Primary outcome was blood concentrations of ketone bodies (KBs); secondary outcomes were blood concentrations of free fatty acids, insulin and glucose. Concentrations were measured 2 h before anaesthesia (T0), induction of anaesthesia (T1), and 1 h (T2), 3 h (T3), and 5h after anaesthesia start (T4).RESULTSIn the control group (n=11), KBs increased continuously from anaesthesia induction. In the glucose group (n=12), KBs were maintained at low concentrations for 3h after beverage consumption but increased remarkably at T3. At T1 and T2, concentrations of KBs in the glucose group were significantly lower

than those in the control group (T1,  $p=0.010$ ; T2,  $p=0.028$ ). In the glucose group, glucose concentrations decreased significantly at T2 temporarily, but in the control group, glucose concentrations were stable during this study (T2,  $p<0.001$ : glucose vs control). **CONCLUSIONS** Preoperative intake of glucose (50 g, p.o.) can alleviate ketogenesis for 3 h after consumption but can cause temporary hypoglycaemia after anaesthesia induction.

### **Management of Oral and Maxillofacial Infections**

**Author(s):** Ferneini E.M.; Goldberg M.H.

**Source:** Journal of Oral and Maxillofacial Surgery; Mar 2018; vol. 76 (no. 3); p. 469-473

**Publication Type(s):** Article

### **Is the routine practice of antibiotic prescription and microbial culture and antibiotic sensitivity testing justified in primary maxillofacial space infection patients? A prospective, randomized clinical study**

**Author(s):** Kumari S.; Mohanty S.; Sharma P.; Dabas J.; Kohli S.; Diana C.

**Source:** Journal of Cranio-Maxillofacial Surgery; Mar 2018; vol. 46 (no. 3); p. 398-412

**Publication Type(s):** Article

**Abstract:** Purpose: The purpose of this prospective, randomized, comparative clinical study was to compare treatment outcome of removal of foci and incision and drainage, with or without oral antibiotic therapy, in the management of single primary maxillofacial space infection with a known focus. **[ABSTRACT EDITED]**

### **Changes in maxillofacial morphology and velopharyngeal function with two-stage maxillary distraction-mandibular setback surgery in patients with cleft lip and palate**

**Author(s):** Susami T.; Ohkubo K.; Takahashi M.; Hirano Y.; Saijo H.; Takato T.; Mori Y.

**Source:** International Journal of Oral and Maxillofacial Surgery; Mar 2018; vol. 47 (no. 3); p. 357-365

**Publication Type(s):** Article

**Abstract:** Maxillary distraction is increasingly used for the correction of severe maxillary retrusion in patients with cleft lip and palate. However, control of the maxillary movement is difficult, and the need to wear visible distractors for a long period of time causes psychosocial problems. A two-stage surgical approach consisting of maxillary distraction and mandibular setback was developed to overcome these problems. In this study, changes in maxillofacial morphology and velopharyngeal function were examined in 22 patients with cleft lip and palate who underwent this two-stage approach. Lateral cephalograms taken just before the first surgery, immediately after the second surgery, and at completion of the active post-surgical orthodontic treatment were used to examine maxillofacial morphology. **[ABSTRACT EDITED]**

### **Multiple correspondence analysis as a strategy to explore the association between categories of qualitative variables related to oral-maxillofacial trauma and violent crimes at the community level**

**Author(s):** de Macedo Bernardino I.; Santos L.M.; Ferreira A.V.P.; de Almeida Lima T.L.M.

**Source:** International Journal of Oral and Maxillofacial Surgery; Mar 2018; vol. 47 (no. 3); p. 339-344

**Publication Type(s):** Article

**Abstract:** The main objective of this study was to show the applicability of multiple correspondence analysis (MCA) in the detection and representation of underlying structures in large datasets used to

investigate oral-maxillofacial lesions. A cross-sectional study was conducted involving the analysis of the medical-forensic and social records of 992 people who experienced oral-maxillofacial trauma resulting from non-fatal violent crimes that occurred in the community. **[ABSTRACT EDITED]**

**Intimate partner violence against women, circumstances of aggressions and oral-maxillofacial traumas: A medical-legal and forensic approach**

**Author(s):** de Macedo Bernardino I.; Santos L.M.; Ferreira A.V.P.; de Almeida Lima T.L.M.

**Source:** Legal Medicine; Mar 2018; vol. 31 ; p. 1-6

**Publication Type(s):** Article

**Abstract:**Introduction Intimate partner violence (IPV) is a serious public health problem that frequently results in oral-maxillofacial traumas, generating high social and economic costs. The aim of this study was to describe the profile of women victims of IPV and determine the pattern of oral-maxillofacial traumas, according to a medical-legal and forensic perspective. An exploratory study of 1361 suspected cases of women victims of IPV was carried out based on database of an Institute of Legal Medicine and Forensic Dentistry of Northeastern Brazil during a period of 4 years. **[ABSTRACT EDITED]**

**Autologous Fat Transfer for Maxillofacial Reconstruction.**

**Author(s):** Diepenbrock, Ryan M; Green, J Marshall

**Source:** Atlas of the oral and maxillofacial surgery clinics of North America; Mar 2018; vol. 26 (no. 1); p. 59-68

**Publication Type(s):** Journal Article Review

**Gorham disease involving the maxillofacial bones: A perplexing entity**

**Author(s):** Lova F.; Vengal M.; Ahsan A.; KR A.; Peter T.; Gangadharan H.

**Source:** Radiology Case Reports; Feb 2018; vol. 13 (no. 1); p. 96-100

**Publication Type(s):** Article

Available at [Radiology Case Reports](#) - from Europe PubMed Central - Open Access

**Abstract:**Gorham disease is a rare disorder with progressive osteolysis which leads to the vanishing of bones. Its etiology and ideal management strategy are still an enigma. A case of Gorham disease involving the maxillofacial region in a 25-year-old male with an emphasis on etiology and diagnosis is discussed. Copyright © 2017 The Authors

**Risk factors for intraoperative bradycardia during ear, nose, throat and maxillofacial surgery**

**Author(s):** Ivosevic T.; Stojanovic M.; Stevanovic K.; Kalezic N.; Milicic B.; Dimitrijevic M.; Ivanovic B.

**Source:** European Archives of Oto-Rhino-Laryngology; Feb 2018; vol. 275 (no. 2); p. 579-586

**Publication Type(s):** Article

**Abstract:**Intraoperative bradycardia (IOB) is one of the most common cardiac arrhythmias observed in clinical anaesthetic practice. Controlled hypotension, as a strategy of lowering patient's blood pressure during anesthesia has been practiced for decades in head and neck surgery. The aim of our study was to determine the incidence and the risk factors for intraoperative bradycardia in maxillofacial, ear, nose and throat surgery, as well as to determine whether controlled hypotension affects the occurrence of IOB. The retrospective study included 2304 patients who underwent maxillofacial, ear, nose or throat surgery. We studied the influence of: sex, age, comorbidity, type of

surgery, duration of anesthesia and controlled hypotension on the occurrence of IOB. IOB was registered in 473 patients (20.5%). Patients with controlled hypotension had IOB significantly more often than patients without controlled hypotension (33.9 vs 15.1%) ( $p = 0.000$ ). The significant predictors of IOB were: age (OR = 1.158; 95% CI = 1.068-1.256;  $p = 0.000$ ), sex (OR = 0.786; 95% CI = 0.623-0.993;  $p = 0.043$ ), ischemic heart disease (OR = 2.016; 95% CI = 1.182-3.441;  $p = 0.010$ ); ear surgery (OR = 1.593; 95% CI = 1.232-2.060;  $p = 0.000$ ), anesthesia duration, (OR = 1.006; 95% CI = 1.004-1.007;  $p = 0.000$ ) and controlled hypotension (OR = 2.204; 95% CI = 1.761-2.758;  $p = 0.000$ ). IOB is common in maxillofacial, ear, nose and throat surgery, particularly in male, older age and patients with ischemic heart disease. The ear surgery, longer anesthesia duration and controlled hypotension raise the risk for occurrence of IOB. Copyright © 2017, Springer-Verlag GmbH Germany, part of Springer Nature

### **The provision of surgical tracheostomies by maxillofacial surgeons in the UK: time for a dedicated tracheostomy team?**

**Author(s):** Chohan P.; Elledge R.; Viridi M.K.; Walton G.M.

**Source:** Annals of the Royal College of Surgeons of England; Feb 2018; vol. 100 (no. 2); p. 116-119

**Publication Type(s):** Article

Available at [Annals of the Royal College of Surgeons of England](#) - from EBSCO (MEDLINE Complete)

**Abstract:** Surgical tracheostomy is a commonly provided service by surgical teams for patients in intensive care where percutaneous dilatational tracheostomy is contraindicated. A number of factors may interfere with its provision on shared emergency operating lists, potentially prolonging the stay in intensive care. We undertook a two-part project to examine the factors that might delay provision of surgical tracheostomy in the intensive care unit. The first part was a prospective audit of practice within the University Hospital Coventry. This was followed by a telephone survey of oral and maxillofacial surgery units throughout the UK. In the intensive care unit at University Hospital Coventry, of 39 referrals, 21 (53.8%) were delayed beyond 24 hours. There was a mean (standard deviation) time to delay of 2.2 days (0.9 days) and the most common cause of delay was surgeon decision, accounting for 13 (61.9%) delays. From a telephone survey of 140 units nationwide, 40 (28.4%) were regularly involved in the provision of surgical tracheostomies for intensive care and 17 (42.5%) experienced delays beyond 24 hours, owing to a combination of theatre availability (76.5%) and surgeon availability (47.1%). There is case for having a dedicated tracheostomy team and provisional theatre slot to optimise patient outcomes and reduce delays. We aim to implement such a move within our unit and audit the outcomes prospectively following this change.

### **Ewing's sarcoma of the maxillofacial region in Greek children: Report of 6 cases and literature review**

**Author(s):** Iatrou I.; Theologie-Lygidakis N.; Schoinohoriti O.; Tzermpos F.; Mylonas A.I.

**Source:** Journal of Cranio-Maxillofacial Surgery; Feb 2018; vol. 46 (no. 2); p. 213-221

**Publication Type(s):** Article

**Abstract:** Background: The rarity of Ewing's sarcoma (ES) in the maxillofacial region of children, coupled with the technical challenge of resection and associated functional and cosmetic impairment has resulted in deficient data regarding the optimal local control of the disease. Objective: To describe our experience in the management of primary maxillofacial ES in children, focusing on the therapeutic modalities for local control of the disease. Study design: Single institution observational study. **[ABSTRACT EDITED]**

**Proceedings of the American Association of Oral and Maxillofacial Surgeon's 2017 Clinical and Scientific Innovations in Oral and Maxillofacial Surgery (CSIOMS)**

**Author(s):** Cillo J.E.; Aghaloo T.; Basi D.; Bouloux G.F.; Campbell J.A.; Chou J.; Dodson T.

**Source:** Journal of Oral and Maxillofacial Surgery; Feb 2018; vol. 76 (no. 2); p. 248-257

**Publication Type(s):** Article

**Abstract:**The sixth biennial Clinical and Scientific Innovations in Oral and Maxillofacial Surgery, formerly the Research Summit, of the American Association of Oral and Maxillofacial Surgeons and its Committee on Research Planning and Technology Assessment was held in Rosemont, Illinois from April 28 to 30, 2017. **[ABSTRACT EDITED]**

**Histopathological evaluation of oral and maxillofacial lesions managed at a tertiary care teaching hospital in Karachi, Pakistan**

**Author(s):** Alam J.; Khan S.; Siddiqui A.A.; Mian R.I.; Mirza A.J.; Alam M.K.

**Source:** International Medical Journal; Feb 2018; vol. 25 (no. 1); p. 42-44

**Publication Type(s):** Article

**Abstract:**Objective: This is a baseline study that will facilitate diagnosis and planning of oral health care services and further serve as a guide for future referrals and related studies in the local population. Methodology: This is an observational descriptive study with cross sectional design that involves analysis of 100 cases of oro-facial lesions diagnosed at the Department of Oral Maxillofacial and Dental Surgery at the Jinnah postgraduate medical training center Karachi (JPMC) from January 2014-October 2015. Results: Out of a total of 100 orofacial lesions, 56 were benign and 46 malignant with posterior mandible as the most affected site. Squamous cell carcinoma was the most prevalent pathology amongst them. The soft tissue lesion were prevalent in 40% males and 36% females of 4th 5th 6th decades of life. These included pyogenic granuloma 15.0%, fibrous epulis 10.0%, squamous cell carcinoma (well differentiated) 31.0%. Conclusion: Oral squamous cell carcinoma presented the highest occurrence reported affecting the adolescence and elderly with posterior mandibular region being the most common site. Copyright © 2018 Japan Health Sciences University & Japan International Cultural Exchange Foundation

**Interactive audience response systems in oral and maxillofacial radiology undergraduate lectures.**

**Author(s):** de Oliveira-Santos, Christiano; Tirapelli, Camila; Rodrigues, Clarissa Teles

**Source:** European journal of dental education : official journal of the Association for Dental Education in Europe; Feb 2018; vol. 22 (no. 1); p. e63

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVESTo evaluate the impact of audience response systems (ARS) on student participation (SP) during Oral and Maxillofacial Radiology (OMR) undergraduate lectures and on final examination scores (FES). Furthermore, an analysis of unanimity assessed the influence of ARS on students' responses. Students' perceptions were also assessed. **[ABSTRACT EDITED]**

**3D Printed Surgical Simulation Models as educational tool by maxillofacial surgeons.**

**Author(s):** Werz, S M; Zeichner, S J; Berg, B-I; Zeilhofer, H-F; Thieringer, F

**Source:** European journal of dental education : official journal of the Association for Dental Education in Europe; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:**INTRODUCTIONThe aim of this study was to evaluate whether inexpensive 3D models can be suitable to train surgical skills to dental students or oral and maxillofacial surgery residents. Furthermore, we wanted to know which of the most common filament materials, acrylonitrile butadiene styrene (ABS) or polylactic acid (PLA), can better simulate human bone according to surgeons' subjective perceptions.MATERIALS AND METHODSUpper and lower jaw models were produced with common 3D desktop printers, ABS and PLA filament and silicon rubber for soft tissue simulation. Those models were given to 10 blinded, experienced maxillofacial surgeons to perform sinus lift and wisdom teeth extraction. Evaluation was made using a questionnaire.RESULTSBecause of slightly different density and filament prices, each silicon-covered model costs between 1.40-1.60 USD (ABS) and 1.80-2.00 USD (PLA) based on 2017 material costs. Ten experienced raters took part in the study. All raters deemed the models suitable for surgical education. No significant differences between ABS and PLA were found, with both having distinct advantages.CONCLUSIONThe study demonstrated that 3D printing with inexpensive printing filaments is a promising method for training oral and maxillofacial surgery residents or dental students in selected surgical procedures. With a simple and cost-efficient manufacturing process, models of actual patient cases can be produced on a small scale, simulating many kinds of surgical procedures.

#### **Complications of a poly-L-lactic acid and polyglycolic acid osteosynthesis device for internal fixation in maxillofacial surgery.**

**Author(s):** Sukegawa, Shintaro; Kanno, Takahiro; Matsumoto, Kenichi; Sukegawa-Takahashi, Yuka

**Source:** Odontology; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:**The purpose of this study was to retrospectively evaluate and examine the incidence of complications using poly-L-lactic acid and polyglycolic acid (PLLA/PGA) copolymer plate system in maxillofacial osteosynthesis. The retrospective study included 87 patients (50 men, 37 women), who needed maxillofacial surgery. We examined the proportion of complications and their factors from clinical data. A comparison was also made for plate decomposition using the molecular weight of the plate without plate exposure and complications. Osteosynthesis sites healed in all patients. Ten cases (11.5%) showed plate exposure-related complications, with all occurring at intraoral surgical sites. There was no significant difference in molecular weight changes of plates in resorbable process. Statistical analysis of study variables between patients with and without exposed plates showed that the plate thickness was significantly associated with the risk of exposed plates ( $p < 0.05$ ). The commercially available PLLA/PGA device could be a useful rapid resorbable material for maxillofacial osteosynthesis. When thick plates are used on the intraoral site, it may be necessary to pay attention to the complication of plate exposure. Even if exposure-related complications have occurred, resorption and degradation of this material proceeds, suggesting the ease of appropriate risk management.

#### **Comparison of Nasal Intubations by GlideScope With and Without a Bougie Guide in Patients Who Underwent Maxillofacial Surgeries: Randomized Clinical Trial.**

**Author(s):** Pourfakhr, Pejman; Ahangari, Ailar; Etezadi, Farhad; Moharari, Reza Shariat;

**Source:** Anesthesia and analgesia; Feb 2018

**Publication Type(s):** Journal Article

Available at [Anesthesia and analgesia](#) - from Ovid (Journals @ Ovid)

**Abstract:**BACKGROUND Nasotracheal intubation is commonly performed to provide a secure airway for the maintenance of general anesthesia in maxillofacial surgeries. Routine nasotracheal intubation is performed under general anesthesia by direct laryngoscopy, frequently with the aid of Magill forceps. This method can be time-consuming and may cause bleeding in the field of view. A gum

elastic bougie (GEB) is a cheap, slender, and flexible device that could expedite nasotracheal intubation. The aim of this study was to evaluate the use of a GEB during nasotracheal intubation to facilitate the procedure and reduce the rate of complications. **METHODS**In this randomized clinical trial study, 110 patients with American Society of Anesthesiologists (ASA) physical status I-II from 15 to 65 years of age were randomized into 2 equal groups. In both groups, a GlideScope and armored tube were used. In the GEB group, GEB was used to facilitate nasal intubation while the nasal intubation was performed without the aid of GEB in the routine group. The difficult intubation (defined as >1 attempt for intubation) was the primary outcome, and the duration of the intubation, the presence of traces of bleeding, the need for a tube replacement, and the usage of Magill forceps were the secondary outcomes. **RESULTS**The incidence of bleeding in the GEB group was 1.81% vs 43.63% in the routine group ( $P < .001$ ). In 5.5% of the GEB group, Magill forceps were used to advance the tube versus 67.3% in the routine group ( $P < .001$ ). The mean time for intubation in GEB group was  $48.63 \pm 8.53$  vs  $55.9 \pm 10.76$  seconds in the routine group ( $P < .001$ ). **CONCLUSIONS**The GEB is a useful aid to nasotracheal intubation, reducing bleeding, the requirement for Magill forceps and, to a small degree, intubation time. A case exists for its routine use for this purpose.

### **Development of a 3D printable maxillofacial silicone: Part II. Optimization of moderator and thixotropic agent.**

**Author(s):** Jindal, Swati K; Sherriff, Martyn; Waters, Mark G; Smay, James E; Coward, Trevor J

**Source:** The Journal of prosthetic dentistry; Feb 2018; vol. 119 (no. 2); p. 299-304

**Publication Type(s):** Journal Article

**Abstract:** **STATEMENT OF PROBLEM**Conventionally, maxillofacial prostheses are fabricated by hand carving the missing anatomic defect in wax and creating a mold into which pigmented silicone elastomer is placed. Digital technologies such as computer numerical control milling and 3-dimensional (3D) printing have been used to prepare molds, directly or indirectly, into which a biocompatible pigmented silicone elastomer can be placed. **PURPOSE**The purpose of this in vitro study was to develop a silicone elastomer that could be 3D printed directly without a mold to create facial or body prostheses by varying its composition. **MATERIAL AND METHODS**The room temperature vulcanizing silicone composition was divided into 2 components which were mixed 1:1 to initiate polymerization in the printer before printing began. Different types of moderators and thixotropic agents were used, and the base composition was varied to obtain 11 formulations. The specimens were printed and polymerized from these formulations and tested for tear and tensile strength and hardness. Ten readings of the specimens were recorded for tear and tensile strength and 6 for hardness. Results were analyzed using ANOVA ( $\alpha = .05$ ). Visual assessment of uncured printed specimens was undertaken for 5 formulations to assess any differences in their ability to hold their shape after printing. **RESULTS**The tear and tensile strength of the 11 formulations with varying moderators, thixotropic agents, and base compositions were statistically similar to each other ( $P > .05$ ). Five of 11 formulations were chosen for the visual assessment as they had sufficient thixotropic agent to avoid slumping while printing. The specimens showed varied slumping behavior until they polymerized. The filler content was increased in the selected formulation, and the tear and tensile strength of the formulation was increased to  $6.138 \text{ kNm}^{-1}$  and  $3.836 \text{ MPa}$ ; these increases were comparable to those of commercial silicones currently used for the fabrication of facial prostheses. **CONCLUSIONS**The optimum combination of mechanical properties implies the use of one of the formulations as a suitable material for the 3D printing of facial prostheses.

### **Dental considerations and the role of prosthodontics and maxillofacial prosthetics in facial transplantation.**

**Author(s):** Plana, Natalie M; Malta Barbosa, João; Diaz-Siso, J Rodrigo; Brecht, Lawrence E



**Source:** Journal of the American Dental Association (1939); Feb 2018; vol. 149 (no. 2); p. 90-99

**Publication Type(s):** Journal Article

**Abstract:**BACKGROUND Facial transplantation (FT) is a challenging reconstructive endeavor that requires the expertise of a multidisciplinary team. The specific role of maxillofacial prosthodontists has not yet been reported in detail. METHODSThis review considers the contributions of prosthodontists throughout the FT process, from patient selection and dental evaluation to long-term dental rehabilitation of the transplant patient postoperatively. Moreover, considerations of dental management are evaluated. RESULTSIn the almost 40 FT reported in the literature, the most consistently documented contribution by prosthodontists is the fabrication of a donor mask to maintain donor integrity. Though infrequently reported, prosthodontists have the potential to plan and perform a variety of dental procedures and follow-up plans. CONCLUSIONSWhen applicable, facial transplant teams are tasked with providing optimal stomatognathic function and dental occlusion to recipients with severe facial disfigurement. The maxillofacial prosthodontist's contribution is crucial to the long-term dental restoration of the edentulous facial transplant candidate, in addition to the fabrication of the donor mask which fulfills the team's ethical responsibilities. PRACTICAL IMPLICATIONSMaxillofacial prosthodontists play a pivotal role in facial transplantation, particularly when jaw segments are intended for transplantation.

#### **Maxillofacial Mazabraud's syndrome: A case report & review.**

**Author(s):** Domancic, S; Pezoa, N; Fernandez-Toro, M; Ortega-Pinto, A; Donoso-Hofer, F

**Source:** Journal of stomatology, oral and maxillofacial surgery; Feb 2018; vol. 119 (no. 1); p. 44-48

**Publication Type(s):** Journal Article

**Abstract:**Mazabraud's syndrome is characterized by myxomas of intramuscular type present in association with fibrous dysplasia. Up to this day, approximately 80 cases of Mazabraud's syndrome have been reported, although in the head and neck territory intramuscular myxoma reports in association with fibrous dysplasia of the bone are very scarce. An unusual case of Mazabraud's syndrome in a 63 years old female displaying fibrous dysplasia of the mandible and soft tissue myxoma in the edentulous alveolar ridge in the molar area is reported. After four years of follow-up, the clinical, imagenological and microscopical findings that led to the diagnosis and treatment are discussed. This report exemplifies the diagnostic and treatment challenge of this rare disease and enhances our clinical knowledge due to its long follow-up, highlighting the need of understanding better its behavior in order to establish proper guidelines for its treatment.

## **Cleft lip and palate**

#### **3D-Printed Models of Cleft Lip and Palate for Surgical Training and Patient Education.**

**Author(s):** Chou, Pang-Yun; Hallac, Rami R.; Shih, Ellen; Trieu, Jenny; Penumatcha, Anjani; Das, Priyanka; Meyer, Clark A.; Seaward, James R.; Kane, Alex A.

**Source:** Cleft Palate-Craniofacial Journal; Mar 2018; vol. 55 (no. 3); p. 323-327

**Publication Type(s):** Academic Journal

**Abstract:**Background: Sculpted physical models and castings of the anatomy of cleft lip and palate are used for parent, patient, and trainee education of cleft lip and palate conditions. In this study, we designed a suite of digital 3-dimensional (3D) models of cleft lip and palate anatomy with additive manufacturing techniques for patient education. **[ABSTRACT EDITED]**

#### **Timing of Furlow Palatoplasty for Patients With Submucous Cleft Palate.**

**Author(s):** Ettinger, Russell E.; Kung, Theodore A.; Wombacher, Natalie; Berger, Mary

**Source:** Cleft Palate-Craniofacial Journal; Mar 2018; vol. 55 (no. 3); p. 430-436

**Publication Type(s):** Academic Journal

**Abstract:**Background: Submucous cleft palate (SMCP) is the most common form of cleft involving the posterior palate, resulting in variable degrees of velar dysfunction and speech disturbance. Although early surgical intervention is indicated for patients with true cleft palate, the indications for palatoplasty and timing of surgical intervention for patients with SMCP remain controversial. Methods: Twenty-nine patients with SMCP were retrospectively reviewed. Patients treated with Furlow palatoplasty were dichotomized based on patient age at the time of surgical correction into early speech development and late speech development. Primary outcome measures included standardized assessments of hypernasal resonance and quantitative pre- and postoperative nasometry scores. Patients managed nonoperatively were included for comparison of early and late speech outcomes. Results: Both early and late groups demonstrated improvement in qualitative assessment of hypernasal resonance following Furlow palatoplasty. Early and late groups also had significant improvement in pre- to postoperative nasometry scores from 7.4 to 2.3 SD from norm ( $P = .01$ ) and 6.0 to 3.6 SD from norm ( $P = .02$ ), respectively. There was no difference in postoperative nasometry scores between early and late groups, 2.3 and 3.6 SD ( $P = .12$ ). Conclusion: Furlow palatoplasty significantly improves the degree of hypernasality in patients with SMCP based on pre- and postoperative nasometry scores and on qualitative assessment of hypernasality. There were no differences in speech outcomes based on early compared with late operative intervention. Therefore, early palatal repair is not obligatory for optimal speech outcomes in children with SMCP and palatoplasty should be deferred until the emergence of overt velopharyngeal insufficiency.

#### **The electrical activity of the masticatory muscles in children with cleft lip and palate.**

**Author(s):** SZYSZKA-SOMMERFELD, LILIANA; WOŹNIAK, KRZYSZTOF; MATTHEWS-BRZOZOWSKA, TERESA; KAWALA, BEATA; MIKULEWICZ, MARCIN; MACHOY, MONIKA

**Source:** International Journal of Paediatric Dentistry; Mar 2018; vol. 28 (no. 2); p. 257-265

**Publication Type(s):** Academic Journal

**Abstract:**Background. Information regarding masticatory muscle function in children with cleft lip and palate (CLP) is limited. As a consequence, research on masticatory muscle activity in cleft subjects is needed. Aim. To assess masticatory muscle activity in children surgically treated for CLP as well as identify the possible factors associated with this activity. Design. The sample comprised 82 children with mixed dentition and Class I occlusions (25 children with unilateral CLP and 57 subjects with no cleft abnormalities). A DAB-Bluetooth Instrument (Zebris Medical GmbH, Germany) was used to take electromyographical (EMG) recordings of the temporal and masseter muscles both in the mandibular rest position and during maximum voluntary contraction (MVC). Results. Patients with clefts showed a significant increase in temporal muscle activity at rest compared with the controls. The presence of clefts and unilateral posterior crossbites are factors strongly associated with increased temporal muscle EMG potentials during rest position. Conclusions. Children with clefts have altered temporal muscle function. The presence of posterior crossbites affects the temporal muscle activity in cleft subjects. Early diagnosis and orthodontic treatment of malocclusions are necessary to achieve functional improvement in these patients.

#### **Changes in maxillofacial morphology and velopharyngeal function with two-stage maxillary distraction-mandibular setback surgery in patients with cleft lip and palate**

**Author(s):** Susami T.; Ohkubo K.; Takahashi M.; Hirano Y.; Saijo H.; Takato T.; Mori Y.

**Source:** International Journal of Oral and Maxillofacial Surgery; Mar 2018; vol. 47 (no. 3); p. 357-365

**Publication Type(s):** Article

**Abstract:**Maxillary distraction is increasingly used for the correction of severe maxillary retrusion in patients with cleft lip and palate. However, control of the maxillary movement is difficult, and the need to wear visible distractors for a long period of time causes psychosocial problems. A two-stage surgical approach consisting of maxillary distraction and mandibular setback was developed to overcome these problems. In this study, changes in maxillofacial morphology and velopharyngeal function were examined in 22 patients with cleft lip and palate who underwent this two-stage approach. Lateral cephalograms taken just before the first surgery, immediately after the second surgery, and at completion of the active post-surgical orthodontic treatment were used to examine maxillofacial morphology. Velopharyngeal function was evaluated by speech therapists using a 4-point scale for hypernasality. The average forward movement of the maxilla with surgery at point A was 7.5 mm, and the average mandibular setback at pogonion was 8.6 mm. The average relapse rate during post-surgical orthodontic treatment was 25.2% for the maxilla and 11.2% for the mandible. After treatment, all patients had positive overjet, and skeletal relapse was covered by tooth movement during postoperative orthodontics. Velopharyngeal function was not changed by surgery. This method can shorten the period during which the distractors have to be worn and reduce the patient burden. Copyright © 2017 International Association of Oral and Maxillofacial Surgeons

**Quantitative assessment of the learning curve for cleft lip repair using LC-CUSUM**

**Author(s):** Segna E.; Caruhel J.-B.; Corre P.; Picard A.; Khonsari R.H.; Biau D.

**Source:** International Journal of Oral and Maxillofacial Surgery; Mar 2018; vol. 47 (no. 3); p. 366-373

**Publication Type(s):** Article

**Abstract:**The first step in cleft lip repair is the precise positioning of anatomical landmarks and tracing of the incisions on the patient's lip at the beginning of the procedure. The aim of this study was to evaluate progress made in learning cleft lip repair tracing using a quantitative assessment of learning curves: LC-CUSUM (learning curve - cumulative sum). Eight surgical residents were enrolled and asked to trace lip repair incisions on five cases of unilateral left cleft lip over 5 consecutive weeks. Results were compared to a reference tracing based on the positioning of nine anatomical landmarks and assessed using LC-CUSUM. Competence was defined as the accurate positioning of the nine landmarks (less than 1.4 mm deviation from the reference positions, with an accepted 15% failure rate). After five tracing sessions, competence was not achieved evenly for all trainees, or for all landmarks, underlining differences in inter-individual learning ability even with similar training. However, despite an initial marked lack of theoretical and practical training in lip repair techniques, repeated drawings of cleft lip incisions allowed a satisfactory level of competence to be reached for most landmarks and most trainees. Nevertheless it was found that not all landmarks are understood by students with similar ease, and that landmark positioning reveals significant inter-individual differences. This approach allowed a global assessment of the teaching of cleft repair and will help to focus training on specific problematic points for which competence was not obtained according to the LC-CUSUM test. Copyright © 2017 International Association of Oral and Maxillofacial Surgeons

**Assessment of facial asymmetry before and after the surgical repair of cleft lip in unilateral cleft lip and palate cases**

**Author(s):** Al-Rudainy D.; Ju X.; Mehendale F.; Ayoub A.

**Source:** International Journal of Oral and Maxillofacial Surgery; Mar 2018; vol. 47 (no. 3); p. 411-419

**Publication Type(s):** Article

**Abstract:**This study was performed to assess facial asymmetry in patients with unilateral cleft lip and palate (UCLP) before and after primary lip repair. Three-dimensional facial images of 30 UCLP cases (mean age 3.7 +/- 0.8 months) captured 1-2 days before surgery and 4 months after surgery using

stereophotogrammetry were analysed. A generic mesh - a mathematical facial mask consisting of thousands of points (vertices) - was conformed on the three-dimensional images. Average preoperative and postoperative conformed facial meshes were obtained and mirrored by reflecting on the lateral plane. Facial asymmetry was assessed by measuring the distances between the corresponding vertices of the superimposed facial meshes. Asymmetries were further examined in three directions: horizontal, vertical, and anteroposterior. Preoperatively, the philtrum and bridge of the nose were deviated towards the non-cleft side. The maximum vertical asymmetry was at the upper lip. The greatest anteroposterior asymmetry was at the alar base and in the paranasal area. The overall facial asymmetry improved markedly after surgery. Residual anteroposterior asymmetry was noted at the alar base, upper lip, and cheek on the cleft side. In conclusion, dense correspondence analysis provided an insight into the anatomical reasons for the residual dysmorphology following the surgical repair of cleft lip for future surgical consideration. Copyright © 2017 International Association of Oral and Maxillofacial Surgeons

### **The Significance of Uvula After Palatoplasty: A New Technique to Improve the Aesthetic Outcome.**

**Author(s):** Elsherbiny, Ahmed; Mazeed, Ahmed S; Saied, Samia; Grant, John H

**Source:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association; Mar 2018; vol. 55 (no. 3); p. 451-455

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVE This study aims to examine the importance of the uvula as a part of palatoplasty outcome and to assess the aesthetic results of the conventional versus a new technique for uvuloplasty. DESIGN/PARTICIPANTS The study included 2 groups of patients undergoing palatoplasty. Group I consisted of 20 cleft palate patients repaired with the conventional uvula repair, combining the 2 hemi-uvulae. Group II consisted of 20 patients repaired with our new technique, sacrificing one hemi-uvula and centralizing the remaining one. The aesthetic outcome was assessed in both groups. A questionnaire was distributed to the families of both groups to assess their concern about the uvula after palate repair. SETTING Cleft unit at a tertiary care center. RESULTS Sixty-five percent of parents considered the uvula as important functionally and aesthetically after palate repair whereas 35% either did not care or were not sure about its importance. Results of the aesthetic outcome of the 2 techniques for uvula reconstruction showed that uvula was absent in 4 cases in group I versus 1 in group II (  $P > .05$ ), small in 8 cases of group I versus 4 in group II (  $P > .05$ ), bifid in 5 cases of group I versus none in group II (  $P .05$ ), and was satisfactory in 3 cases of group I versus 11 in group II (  $P < .05$ ). CONCLUSIONS Among the respondents, the uvula was a significant concern to the parents of cleft patients and should be given more attention during repair. The described technique had better aesthetic outcome over the conventional one of combining the 2 hemi-uvulae.

### **Ideal Versus Late Secondary Alveolar Bone Graft Surgery: A Bone-Thickness Cone-Beam Computed Tomographic Assessment.**

**Author(s):** Garcia, Michele Alves; Yatabe, Marilia; Fuzer, Thais Ustulin; Calvo, Adriana Maria

**Source:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association; Mar 2018; vol. 55 (no. 3); p. 369-374

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVE To compare the bone morphology after secondary alveolar bone graft surgery (SABG) performed before and after permanent canine eruption. DESIGN Cross-sectional study. SETTING Hospital for Rehabilitation of Craniofacial Anomalies, University of São Paulo, Bauru, SP, Brazil. PATIENTS 25 cone-beam computed tomography (CBCT) scans of complete unilateral cleft lip and palate (CLP) individuals who underwent SABG before or after eruption of the permanent canine taken 2 and 6 months (T1 and T2) after SABG, resulting in 50 CBCT scans. Two groups were

assessed, Ideal Group (IG; n = 10) and Late Group (LG; n = 15), according to the time of the SABG. INTERVENTION SABG buccal-palatal thicknesses were measured in 3 different root levels: cement-enamel junction (cervical slice), middle point of the root (intermediate slice), and apex of the central incisor (apical slice). Thickness measurements were assessed in the mesial, distal, and intermediate aspects of the alveolar bone graft. Clinical long-term follow-up was also done. RESULT The IG showed significantly greater bone thickness, especially in the intermediate and apical slices, when compared to LG, in T1 and T2. Bone thickness was maintained over time. Clinically, all the IG individuals completed orthodontics, and no major complications were observed. In contrast, 27% of the LG individuals had failures, and rehabilitation was achieved through prosthesis. CONCLUSION Ideal SABG presents with better results compared with late ABG. When it is not possible to perform SABG at the ideal time, acceptable outcomes still can be expected for late bone grafting.

### **Cleft Skeletal Asymmetry: Asymmetry Index, Classification and Application.**

**Author(s):** Patel, Delnaz S; Jacobson, Rachel; Duan, Yao; Zhao, Linping; Morris, David;

**Source:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association; Mar 2018; vol. 55 (no. 3); p. 348-355

**Publication Type(s):** Journal Article

**Abstract:** OBJECTIVE To quantitatively measure the extent of 3D asymmetry of the facial skeleton in patients with unilateral cleft lip and palate (UCLP) using an asymmetry index (AI) approach, and to illustrate the applicability of the index in guiding and measuring treatment outcome. METHOD Two groups of subjects between the ages of 15 and 20 who had archived CBCT scan were included in this study. Twenty-five patients with complete UCLP were compared with 50 age-matched noncleft subjects. The CBCT scans were segmented and landmarked for 3D anthropometric analysis. An AI was calculated as a quantitative measure of the extent of facial skeletal asymmetry. RESULTS For the control group, the AI ranged from  $0.72 \pm 0.47$  at A point to  $4.77 \pm 1.59$  at Gonion. The degree of asymmetry increased with the increasing laterality of the landmark from the midsagittal plane. In the UCLP group, the values of AI significantly increased compared to the control group at nearly all measured landmarks. The extent of the asymmetry to involve the upper, middle, and lower facial skeleton varied widely with the individual patient with UCLP. CONCLUSION The asymmetry index is capable of capturing the 3D facial asymmetry of subjects with UCLP and as a basis for classification of the extent of the asymmetry. We found the index to be applicable in surgical planning and in measuring the outcome in improving the symmetry in patients who have undergone orthognathic surgery.

### **Cleft Lip and Palate in CHARGE Syndrome: Phenotypic Features That Influence Management.**

**Author(s):** Isaac, Kathryn V; Ganske, Ingrid M; Rottgers, Stephen A; Lim, So Young; Mulliken, John B

**Source:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association; Mar 2018; vol. 55 (no. 3); p. 342-347

**Publication Type(s):** Journal Article

**Abstract:** OBJECTIVE Infants with syndromic cleft lip and/or cleft palate (CL/P) often require more complex care than their nonsyndromic counterparts. Our purpose was to (1) determine the prevalence of CL/P in patients with CHARGE syndrome and (2) highlight factors that affect management in this subset of children. DESIGN This is a retrospective review from 1998 to 2016. PATIENTS Patients with CHARGE syndrome were diagnosed clinically and genetically. MAIN OUTCOMES MEASURES Prevalence of CL/P was determined and clinical details tabulated: phenotypic anomalies, cleft types, operative treatment, and results of repair. RESULTS CHARGE syndrome was confirmed in 44 patients: 11 (25%) had cleft lip and palate and 1 had cleft palate only. Surgical

treatment followed our usual protocols. Two patients with cardiac anomalies had prolonged recovery following surgical correction, necessitating palatal closure prior to nasolabial repair. One of these patients was too old for dentofacial orthopedics and underwent combined premaxillary setback and palatoplasty, prior to labial closure. Velopharyngeal insufficiency was frequent (n = 3/7). All patients had feeding difficulty and required a gastrostomy tube. All patients had neurosensory hearing loss; anomalies of the semicircular canals were frequent (n = 3/4). External auricular anomalies, colobomas, and cardiovascular anomalies were also common (n = 8/11). Other associated anomalies were choanal atresia (n = 4/11) and tracheoesophageal fistula (n = 2/11). CONCLUSION CHARGE syndrome is an under-recognized genetic cause of cleft lip and palate. Hearing loss and speech and feeding difficulties often occur in these infants. Diagnosis can be delayed if the child presents with covert phenotypic features, such as chorioretinal colobomas, semicircular canal hypoplasia, and unilateral choanal atresia.

**Occlusal, chewing, and tasting characteristics associated with orofacial dysfunctions in children with unilateral cleft lip and palate: a case-control study.**

**Author(s):** Montes, Ana Bheatriz Marangoni; de Oliveira, Thais Marchini;

**Source:** Clinical oral investigations; Mar 2018; vol. 22 (no. 2); p. 941-950

**Publication Type(s):** Journal Article

**Abstract:** OBJECTIVE The objective of this study is to assess the associations between orofacial dysfunctions with malocclusion, masticatory performance, and taste in children with and without unilateral cleft lip and palate (UCLP). **[ABSTRACT EDITED]**

**Bone-anchored maxillary protraction in a patient with complete cleft lip and palate: A case report.**

**Author(s):** Garib, Daniela; Yatabe, Marília; de Souza Faco, Renato André; Gregório, Leonardo

**Source:** American Journal of Orthodontics & Dentofacial Orthopedics; Feb 2018; vol. 153 (no. 2); p. 290-297

**Publication Type(s):** Academic Journal

**Abstract:** Sagittal maxillary deficiency is frequently observed in patients with operated unilateral complete cleft of the lip and palate. Treatment for moderate to severe Class III malocclusion usually relies on LeFort I surgery for maxillary advancement after the end of growth. This case report describes bone-anchored maxillary protraction in a 10-year-old white boy with unilateral complete cleft of the lip and palate. His interarch relationship was diagnosed as GOSLON index 5 before treatment with a negative overjet of 3.2 mm. The orthopedic traction was started 4 months after secondary alveolar bone graft surgery and before comprehensive orthodontic treatment. Class III elastics were used full time for 18 months. After treatment, the interarch relationship was GOSLON index 1 with a positive overjet. The SNA angle increased by 6.50° and A-Na Perp increased by 3.8 mm, leading to marked improvement in facial convexity (+14.6°). No posterior rotation of the mandible occurred with a slight closure of the gonial angle. Visualization of 3-dimensional color-coded maps showed an overall forward maxillary displacement. The bone-anchored maxillary protraction results for this patient are a promising orthopedic therapy for patients with unilateral complete cleft of the lip and palate, with the advantage of achieving much earlier improvement of facial esthetics and functional occlusion, compared with LeFort I surgery at skeletal maturity.

**Otologic Disease Following Palatoplasty In International Cleft Palate Cohort.**

**Author(s):** Markey, Jeff; Maine, Rebecca; Daniels, Kimberly; Yu, Emily Yang; Gregory, George

**Source:** Cleft Palate-Craniofacial Journal; Feb 2018; vol. 55 (no. 2); p. 162-167

**Publication Type(s):** Academic Journal

**Abstract:**Objective: Study the prevalence of otologic disease in a pediatric post-palatoplasty population with no prior ear tube placement in resource-deprived countries and assess patient characteristics associated with these abnormal results. **[ABSTRACT EDITED]**

### **A New Technique in Alveolar Cleft Bone Grafting for Dental Implant Placement in Patients With Cleft Lip and Palate.**

**Author(s):** Van Nhan, Vo; Van Son, Le; Tuan, Ta Anh; Son, Nguyen Tai; Hai, Trinh Dinh; Lanh, Le Duc

**Source:** Cleft Palate-Craniofacial Journal; Feb 2018; vol. 55 (no. 2); p. 180-188

**Publication Type(s):** Academic Journal

**Abstract:**Objective: To evaluate 2 iliac corticocancellous-block grafting techniques for dental implant placement in residual alveolar clefts. Design: Nonrandomized prospective clinical trial between March 2010 and December 2014. Setting: National Hospital of Odonto-Stomatology, Hanoi, Vietnam. Participants: Thirty-two patients (23 female, 9 male; mean age, 21.28 years; range, 16-31 years) with unilateral complete alveolar cleft after reconstructive surgery for cleft lip and palate (CLP). Interventions: Harvested iliac crest bone was cut into 2 corticocancellous blocks. The smaller block was adapted against the sutured nasal mucoperiosteum and overlaid with cancellous bone; the larger one overlapped the labial cleft margin and was fixed with screws. Endosteal dental implants were placed after 4 to 6 months, and final restorations were delivered 6 months later. Main Outcome Measures: Flap statuses were assessed clinically. Bone formation was assessed using the Enemark scale. Cone-beam computed tomography was used for graft height and width measurements. Implant health was assessed by the Misch criteria. Results: The mean postgrafting follow-up period was  $36.7 \pm 10.4$  (range, 18-53) months. Three patients (9.4%) showed flap dehiscence but no infection 7 days after bone grafting. Twenty-nine patients (90.6%) had 75% to 100% bone fill (Enemark score of 1). The mean graft height and width were  $11.4 \pm 2.4$  and  $6.1 \pm 1.0$  mm, respectively. Sufficient bone for implant placement was noted in 29 patients (90.6%); the others required partially fixed prostheses. All implants functioned for at least 18 months. Conclusion: The proposed technique is reliable to reconstruct the alveolar cleft for implant placement in CLP patients.

### **3D Assessment of Nasolabial Appearance in Patients With Complete Unilateral Cleft Lip and Palate.**

**Author(s):** Bagante, Ieva; Zepa, Inta; Akota, Ilze

**Source:** Cleft Palate-Craniofacial Journal; Feb 2018; vol. 55 (no. 2); p. 220-225

**Publication Type(s):** Academic Journal

**Abstract:**Objective: Rhinoplasty in patients with complete unilateral cleft lip and palate (UCLP) is challenging, and the surgical outcome of the nose is complicated to evaluate. The aim of this study was to assess the nasolabial appearance of patients with UCLP compared with a control group. Design: Cross-sectional study. Setting: Riga Cleft Lip and Palate Centre, Latvia. Participants: All consecutive 35 patients born between 1994 and 2004 with nonsyndromic complete UCLP were included. Of 35 patients, 29 came for checkup; the mean age was 14.7 years (range 10-18). In the control group, 35 noncleft participants at 10 years of age were included. Interventions: Nasolabial appearance was evaluated from 3-dimensional images using a 3-dimensional stereo-photogrammetric camera setup (3dMDface System), the results being analysed statistically. Results: In UCLP group, a statistically significant difference between cleft and noncleft side was found only in alar wing length ( $P < .05$ ). The difference of nasolabial anthropometric distances in the control group between the left and right side was not significant. The difference between the UCLP group and the control group was significant in all anthropometric distances except the lateral lip length to cupid's

bow. Conclusions: The nasolabial appearance with acceptable symmetry after cleft lip and reconstructive surgery of the nose was achieved. Symmetry of the nasolabial appearance in patients with UCLP differed from those in the control group. The 3D photographs with a proposed set of anthropometric landmarks for evaluation of nasolabial appearance seems to be a convenient, accurate, and noninvasive way to follow and evaluate patients after surgery.

#### **Resorbable Plates in Secondary Cleft Nasal Reconstruction.**

**Author(s):** Lin, Pey-Yi; Gibson, Anthony P.; Teichgraeber, John F.; Greives, Matthew R.

**Source:** Cleft Palate-Craniofacial Journal; Feb 2018; vol. 55 (no. 2); p. 226-230

**Publication Type(s):** Academic Journal

**Abstract:**Objective: The authors report on the use and complications of alloplastic resorbable plates and compare their use to autologous cartilage grafts in secondary cleft nasal reconstruction. Design: Institutional review board (IRB)–approved retrospective chart review. Setting: Texas Cleft-Craniofacial Center at the McGovern Medical School at the University of Texas Health Sciences Center at Houston. Patients: Patients with unilateral or bilateral cleft lip nasal deformity who have undergone secondary correction of their nasal deformity with at least 1-year follow-up. Interventions: During their reconstruction, some patients had cartilage grafts used for support, whereas others were reconstructed using resorbable plates. Main Outcome Measure(s): Complications (exposure, infection, malposition, hematoma/seroma) and rates of tertiary revisions. Results: 197 patients underwent secondary cleft nasal reconstruction, with 30 patients in the resorbable plate group and 32 in the cartilage graft group. Age at surgery was  $8.5 \pm 4.1$  years with resorbable plates and  $11.0 \pm 4.8$  years with cartilage graft ( $P = .03$ ). Infection rate in the resorbable plate group and cartilage graft group were 0% and 3.25% ( $P = 1$ ). Extrusion occurred in 3 of the absorbable plate group and 2 patients with cartilage graft ( $P = .67$ ). Additional surgery was recorded in 43.3% of the resorbable plate group versus 53.1% of the cartilage graft group ( $P = .459$ ). Conclusion: The data provide evidence that the use of alloplastic resorbable plate in the pediatric population is a safe alternative to autologous septal cartilage in secondary cleft nasal reconstruction. There is no statistical difference in short-term complications or the incidence of additional nasal surgery.

#### **Respiratory Polysomnographic Findings in Patients Treated Primarily for Unilateral Cleft Lip and Palate.**

**Author(s):** Sobral, Davi Sandes; Faller, Gustavo Juliane; Collares, Marcus Vinícius Martins

**Source:** Cleft Palate-Craniofacial Journal; Feb 2018; vol. 55 (no. 2); p. 287-291

**Publication Type(s):** Academic Journal

**Abstract:**Cleft lip and palate (CLP) is the most common congenital craniofacial abnormality. Obstructive sleep apnea syndrome (OSAS) is a highly prevalent but underdiagnosed disease and is frequently associated with craniofacial anomalies. There are few studies describing the sleep breathing pattern of children with CLP. This study sought to characterize the respiratory profile of 23 children with unilateral cleft lip and palate, aged 7-12 years, who had undergone cleft lip and nasal repair at age 3-4 months and palatoplasty at 12-15 months, with a particular focus on evaluating the presence of OSAS in children with CLP. [ABSTRACT EDITED]

#### **Effectiveness of presurgical nasoalveolar molding therapy on unilateral cleft lip nasal deformity**

**Author(s):** Kinouchi N.; Horiuchi S.; Yasue A.; Watanabe K.; Izawa T.; Kawai N.; Tanaka E.

**Source:** Saudi Medical Journal; Feb 2018; vol. 39 (no. 2); p. 169-178



**Publication Type(s):** Article

Available at [Saudi Medical Journal](#) - from EBSCO (MEDLINE Complete)

**Abstract:** Objectives: To evaluate the effectiveness of pre-surgical nasoalveolar molding (PNAM) in patients with unilateral cleft lip nasal deformities. Methods: This was a retrospective study involving 29 patients with unilateral cleft lip and palate defects, of whom 13 were treated with palatal devices with nasal stents (PNAM group) and 16 were treated with palatal devices without nasal stents or surgical tapes (control group). Submental oblique photographs and orthodontic models were longitudinally obtained at the initial visit (T1) and immediately before (T2) and after cheiloplasty (T3). Asymmetry of the external nose, degree of columellar shifting, nasal tip/ala nose ratio, nasal base angle, interalveolar gap, and the sagittal difference in the alveolar gap were measured. The study was conducted in the Orthodontic Clinic at Tokushima University Hospital, Tokushima, Japan between 1997 and 2012. Results: At T1, there were no significant intergroup differences in the first 4 asymmetry parameters. At T2, the PNAM group showed a significant improvement in all values compared to the control group. At T3, the PNAM group showed significant improvement in nasal asymmetry and columellar shifting. Model analysis showed significantly greater changes in the interalveolar gap and the sagittal difference of the alveolar cleft gap from T1 to T2 in the PNAM group. Conclusion: The use of P NAM is indispensable for pre-surgical orthodontic treatment at the early postnatal age. Copyright © 2018, Saudi Arabian Armed Forces Hospital. All rights reserved.

**Innovate Global Plastic and Reconstructive Surgery: Cleft Lip and Palate Charity Database.**

**Author(s):** Patel, Pinkal S; Chung, Karen Y; Kasrai, Leila

**Source:** The Journal of craniofacial surgery; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:** BACKGROUND There is an emerging interest in global surgery. The Lancet Commission on Global Surgery recognizes the important role that nongovernmental organizations (NGOs) play in the delivery of cleft lip and/or palate (CLP) surgical care. To better address the unmet burden of surgical disease, the commissioners propose the use of a centralized registry to maximize coordination of global surgical volunteerism efforts. This study aims to create a comprehensive database of CLP organizations. [ABSTRACT EDITED]

**Perforation in Submucous Cleft Palate Due to Methotrexate-Induced Mucositis in a Patient With Rheumatoid Arthritis.**

**Author(s):** Nam, Jung Woo

**Source:** The Journal of craniofacial surgery; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:** Spontaneous palatal perforation can be rarely developed by several causes, such as tumor, trauma, and infection. This article reports a patient with large mid-palatal perforation after suffering from severe oral mucositis, which occurred about a month after taking methotrexate (MTX) for rheumatoid arthritis. Through computed tomography and clinical examination, this patient was diagnosed with perforation in unrecognized submucous cleft palate (SMCP) due to drug-induced mucositis. After MTX discontinuation, the oral mucositis was almost healed completely in a month, and the hole was successfully closed by palatoplasty. The author can see that the palatal perforation can occur by oral complication of MTX in SMCP patient. It is an important awareness to dentists as the use of MTX continues to increase for antirheumatic therapy.

**The use of throat packs in pediatric cleft lip/palate surgery: a retrospective study.**

**Author(s):** Smarius, B J A; Guillaume, C H A L; Jonker, G; van der Molen, A B Mink; Breugem, C C

**Source:** Clinical oral investigations; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVE Throat packs are commonly used to prevent ingestion or aspiration of blood and other debris during cleft lip/palate surgery. However, dislodgement or (partial) retainment after extubation could have serious consequences. The aim of the present study was to investigate the effect of omitting pharyngeal packing during cleft lip/palate surgery on the incidence of early postoperative complications in children. MATERIALS AND METHODS A retrospective study was performed on all children who underwent cleft lip/palate surgery at the Wilhelmina Children's Hospital. This study compared the period January 2010 through December 2012 when pharyngeal packing was applied according to local protocol (group A) with the period January 2013 till December 2015 when pharyngeal packing was no longer applied after removal from the protocol (group B). Data were collected for sex, age at operation, cleft lip/palate type, type of repair, lateral incisions, length of hospital stay, and complications in the first 6 weeks after surgery. Early complications included wound dehiscence, postoperative bleeding, infection, fever, upper respiratory tract infection (URTI), and lower respiratory tract infection (LRTI). RESULT This study included 489 cleft lip/palate operations (group A n = 246, group B n = 243). A total of 39 (15.9%) early complications were recorded in group A and a total of 40 (16.5%) in group B. There were no significant differences (P = 0.902) in complications between the two groups; however, there was a significant difference (P < 0.001) in length of hospital stay between the two groups (group A 3.6 days vs group B 3.2 days). CONCLUSION Omitting routine placement of throat packs in cleft lip/palate surgery was not associated with an increased early postoperative complication rate. Therefore, the traditional, routine placement of a throat pack during cleft lip/palate surgery can be questioned. CLINICAL RELEVANCE The traditional, routine placement of a throat pack during cleft lip/palate surgery can be questioned.

### **Comparison of the bone regeneration ability between stem cells from human exfoliated deciduous teeth, human dental pulp stem cells and human bone marrow mesenchymal stem cells.**

**Author(s):** Nakajima, Kengo; Kunimatsu, Ryo; Ando, Kazuyo; Ando, Toshinori; Hayashi, Yoko;

**Source:** Biochemical and biophysical research communications; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:** Cleft lip and palate is the most common congenital anomaly in the orofacial region. Autogenous iliac bone graft, in general, has been employed for closing the bone defect at the alveolar cleft. However, such iliac bone graft provides patients with substantial surgical and psychological invasions. Consequently, development of a less invasive method has been highly anticipated. Stem cells from human exfoliated deciduous teeth (SHED) are a major candidate for playing a significant role in tissue engineering and regenerative medicine. The aim of this study was to elucidate the nature of bone regeneration by SHED as compared to that of human dental pulp stem cells (hDPSCs) and bone marrow mesenchymal stem cells (hBMSCs). The stem cells derived from pulp tissues and bone marrow were transplanted with a polylactic-coglycolic acid barrier membrane as a scaffold, for use in bone regeneration in an artificial bone defect of 4 mm in diameter in the calvaria of immunodeficient mice. Three-dimensional analysis using micro CT and histological evaluation were performed. Degree of bone regeneration with SHED relative to the bone defect was almost equivalent to that with hDPSCs and hBMSCs 12 weeks after transplantation. The ratio of new bone formation relative to the pre-created bone defect was not significantly different among groups with SHED, hDPSCs and hBMSCs. In addition, as a result of histological evaluation, SHED produced the largest osteoid and widely distributed collagen fibers compared to hDPSCs and hBMSCs groups. Thus, SHED transplantation exerted bone regeneration ability sufficient for the repair of bone defect. The present study has demonstrated that SHED is one of the best candidates

as a cell source for the reconstruction of alveolar cleft due to the bone regeneration ability with less surgical invasion.

### **Autologous Fat Grafting in the Treatment of Cleft Lip Volume Asymmetry.**

**Author(s):** Koonce, Stephanie L; Grant, David G; Cook, Jonathan; Stelnicki, Eric J

**Source:** Annals of plastic surgery; Feb 2018

**Publication Type(s):** Journal Article

**Abstract:**BACKGROUND The goal of cleft lip repair is a symmetrical balanced lip with minimal scar. Fat grafting is an established procedure in cosmetic and reconstructive surgery for restoration or correction of contour deformity, volume loss, and improved tissue characteristics. In this study, we evaluated the use of fat grafting in correction of cleft lip volume asymmetry. METHODS We performed a retrospective analysis of our series of patients who underwent fat grafting using the Coleman technique for cleft lip volume asymmetry. Sex, age at primary repair, age at fat grafting, perioperative data, and preoperative and postoperative photographs were reviewed. RESULTS A total of 52 children underwent fat grafting as secondary revision for both unilateral and bilateral cleft lip repair. Fat was hand suctioned from the abdominal or buttock region with a mean yield of 3.0 mL (range, 2.0-5.0 mL). An average total volume of 3.0 mL (range, 2.0-4.5 mL) of fat was injected via an intraoral incision into the philtrum, vermillion, and volume deficiencies in the vertical component of the lip for volume restoration. No complications were noted with fat harvest or with fat grafting. Mean follow-up was 48 months. Postoperative assessment revealed improved volume symmetry in all patients, and all patients or families were pleased with the results. CONCLUSIONS Fat grafting via an intraoral incision is a minimally invasive, safe, and reliable secondary procedure to improve volume asymmetries after cleft lip repairs.

### **Lingual Pressure During Dingman-Assisted Cleft Palate Repair: An Investigatory Case Series.**

**Author(s):** Sherif, Rami D; Sanati-Mehrziy, Paymon; Taub, Peter J

**Source:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association; Feb 2018; vol. 55 (no. 2); p. 312-315

**Publication Type(s):** Journal Article

**Abstract:**BACKGROUND A variety of palatoplasty techniques are used for cleft palate repair, almost all involving a device called the Dingman-Grabb mouth gag ("Dingman") to push the tongue and cheeks out of the way of the operating field. There have been numerous case reports of complications hypothesized to be due to the gag, such as lingual edema and airway obstruction. The purpose of this study is to introduce a technique for monitoring lingual pressure during Dingman-assisted palatoplasty and present preliminary data from a small series. METHODS Patients with a cleft palate who underwent palatoplasty with the assistance of a Dingman-Grabb retractor at the Mount Sinai Hospital were eligible. Patients underwent a palatoplasty while having their lingual pressure monitored using a 23-gauge needle inserted into the tongue and connected to a pressure monitor. RESULTS Three patients were included. Patients 1 and 2 experienced a rapid rise in lingual pressure over the course of the first 45 minutes of the palatoplasty before plateauing until the conclusion of the operation when the Dingman was released. Patient 3 plateaued almost immediately by minute 1 and then had a rise in lingual pressure during the latter half of the operation, reaching a peak pressure immediately before the end of the operation. CONCLUSION The present study describes an easy method to monitor lingual pressure that succeeded in measuring such changes throughout 3 palatoplasties and confirming the acute rise in lingual pressure and the potential danger posed to the tongue and the airway through the use of the Dingman.

### **Custom-Made Palatal Shield Use in Cleft Palate and Fistula Repair: A Potential Benefit for Fast Postoperative Recovery.**

**Author(s):** Tan, Anouk; Heijdenrijk, Kees; Moues, Chantal M

**Source:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association; Feb 2018; vol. 55 (no. 2); p. 307-311

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVE To review our experience with a polymethylmethacrylate (PMMA) protective shield used as an adjunct to protect the newly restored palate in wide bilateral cleft and complex fistula closure without diet restrictions. DESIGN Clinical cohort study. SETTING Division of Plastic Surgery and Maxillary Surgery. PATIENTS A selection of 22 cleft palate children undergoing (tertiary) palatal fistula repair (n = 16) or closure of a complex wide primary palatal defect (n = 6). INTERVENTIONS One month prior to surgery, a plaster model of the palate was made adding a 5- to 8-mm-thick layer of dental putty to the level of the dental arch. On top of the putty, a 1.5-mm-thick PMMA shield was created to cover the postoperative elevated and restored palate. MAIN OUTCOME MEASURES Fistula recurrence rate, postoperative complications, days of hospitalization. RESULTS All patients maintained durable and safe palatal closure without fistula recurrence within the follow-up period, varying from 1 until 4 years. Recovery was fast, with a mean duration of hospitalization of 1.5 days. All patients could directly resume their normal diet. CONCLUSIONS A PMMA shield has been shown to be a safe and helpful adjunct in complex fistula repair and late anterior palate repair.

### **Postoperative Complications Following LeFort 1 Maxillary Advancement Surgery in Cleft Palate Patients: A 5-Year Retrospective Study.**

**Author(s):** Moran, Isabelle; Virdee, Satnam; Sharp, Ian; Sulh, Jagdeep

**Source:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association; Feb 2018; vol. 55 (no. 2); p. 231-237

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVE To investigate the postoperative complication rates of LeFort 1 maxillary advancement surgery in cleft patients when performed by a single surgeon over a 5-year period. DESIGN A retrospective case note review of 79 cleft palate patients. SETTING All surgery was performed by a single oral and maxillofacial surgeon in a tertiary care center. PARTICIPANTS All cleft palate patients over 17 years of age who opted for surgical correction of maxillary hypoplasia with a LeFort 1 between 2010 and 2015. Patients required full surgical and clinical records. INTERVENTIONS Complete surgical advancement of the maxilla ranging from 2.0 to 18.0 mm performed by conventional osteotomies (87%) or distraction osteogenesis (13%). MAIN OUTCOME MEASURE(S) Postoperative patient- and clinician-reported complications at set-interval follow-up appointments. RESULT Twenty-one patients (26.58%) reported no complications; 11 postoperative complications were identified in the remaining cohort. Temporary paresthesia of the infraorbital nerve was the most common complication (53.16%) followed by infection (13.92%). Other complications included relapse (11.39%), maxillary instability (6.33%), velopharyngeal impairment (6.33%), nasal obstruction (5.06%), chronic sinusitis (3.80%), bony dehiscence (1.27%), gingival necrosis (1.27%), partial necrosis of the maxilla (1.27%), and loss of tooth vitality (1.27%). CONCLUSIONS LeFort 1 maxillary advancement surgery in cleft palate patients is associated with a wide range of postoperative complications, most commonly temporary paresthesia of the infraorbital nerve. Detailed, informed consent is essential prior to surgery.

### **Oral health-related quality of life of children with oral clefts and their families.**

**Author(s):** Rando, Gabriela Mendonça; Jorge, Paula Karine; Vitor, Luciana Lourenço Ribeiro;

**Source:** Journal of applied oral science : revista FOB; Feb 2018; vol. 26 ; p. e20170106

**Publication Type(s):** Journal Article

Available at [Journal of Applied Oral Science](#) - from PubMed Central

**Abstract:**Oral health problems can influence people's Quality of Life (QoL) because of pain, discomfort, limitations, and other esthetics problems, affecting their social life, feeding, daily activities, and the individual's well-being. To compare oral health-related quality of life (OHRQoL) of children with and without oral clefts and their families. 121 children aged from 2 to 6 years, from both sexes, enrolled in the treatment routine of the Pediatric Dentistry Clinics of a Dental School and a Hospital for Cleft Treatment were divided into two groups: **[ABSTRACT EDITED]**

### **Primary Repair in Patients With Unilateral Complete Cleft of Lip and Primary Palate: Assessment of Outcomes.**

**Author(s):** Chang, Shiaw-Yu; Lonic, Daniel; Pai, Betty Chien-Jung; Lo, Lun-Jou

**Source:** Annals of plastic surgery; Feb 2018; vol. 80 (no. 2S)

**Publication Type(s):** Journal Article

**Abstract:**OBJECTIVEAsymmetry of median facial structures is a major concern for patients with unilateral cleft lip and palate, and the principal goal of its treatment is to restore symmetry. Unilateral complete cleft of lip and primary palate (UCCLPP) is an uncommon subgroup and rarely reported. Patients with UCCLPP have protruding and deviating premaxilla, rendering a primary repair difficult. This study evaluated consecutive patients with UCCLPP and presented their treatment outcome.METHODSWe assessed 36 patients with UCCLPP and collected clinical information. Surgical repair was performed at 3 months of age by using a modified rotation-advancement method and primary nasal reconstruction. A single surgeon performed all surgical procedures. A postoperative nasal stent was used for 6 months. Follow-up standardized photographs were collected. Landmarks were identified, and nose and lip dimensions measured. The ratios of the corresponding parameters (cleft vs noncleft side) were obtained for evaluating nose and lip symmetry.RESULTSNo surgical complication was noted in any patient. The overall lip and nose outcome after the primary repair were adequate, and all ratios were close to 1. The nostril width was slightly wider on the cleft side, but the alar width and height were acceptable. The lip heights were balanced between the 2 sides. Patients who received presurgical nasoalveolar molding did not show more favorable lip and nose dimensions, except for the medial philtral height.CONCLUSIONEven in the presence of protruding and deviating premaxilla, our patients with UCCLPP obtained adequate lip and nose outcome after undergoing primary lip repair and nasal reconstruction.

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## **[British Journal of Oral and Maxillofacial Surgery](#)**

February 2018; Volume 56, Issue 2

## **[Head and Neck](#)**

March 2018; Volume 40, Issue 3

## **[Oral Surgery](#)**

February 2018; Volume 11, Issue 1 (Quarterly)

## **[Oral Surgery Oral Medicine Oral Pathology Oral Radiology](#)**

March 2018; Volume 125, Issue 3

## **[The Cleft Palate-Craniofacial Journal](#)**

March 2018; Volume 55, Issue 3



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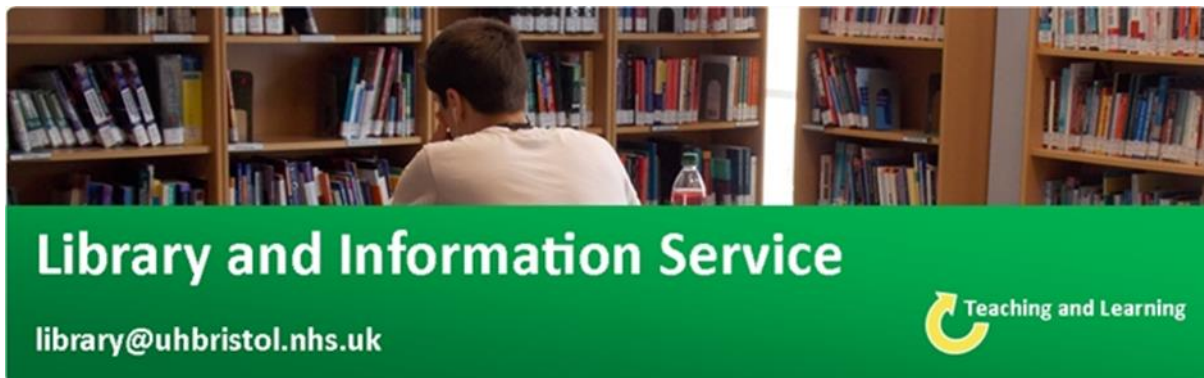
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