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Current Awareness 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 in 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

Oral Surgery

Title: Prognostic significance of histological tumor regression at primary site and nodal metastases in patients with oral squamous cell carcinoma, treated by neo-adjuvant chemotherapy followed by surgery

Citation: Laboratory Investigation, February 2016, vol./is. 96/(326A),

Author(s): Ashwini N., Prabhash K., Kane S., D-Cruz A., Bal M., Kaushal R., Patil A.

Abstract: Background: Neoadjuvant chemotherapy (NACT) may help in successful resection and prolonged overall survival (OS) in advanced oral squamous cell carcinoma (OSCC). Histological assessment of the tumor regression in post NACT specimens has not been studied in detail in OSCC. This study focuses on assessing types of response in primary tumor (PT) and lymph node metastasis (LNM) in OSCC after NACT and devising a tumor regression grading (TRG) system for prognostication. Design: 200 OSCC cases that underwent resection after NACT (2009-2012) were selected. Tumor regression was evaluated in PT and LNM on histopathology by evaluating percentage of viable tumor (PVT) and percentage of treatment response (including fibrosis, inflammation, foreign body giant cell reaction, dystrophic calcification, keratin flakes and necrosis). TRG was assigned to PT using PVT on basis of Mandard grading system (TRG 1-5: 1 = 0%, 2 = <5%, 3: 5 = 5-50%, 4 = 51-95%, 5 = >95%). A modified TRG (MTRG) was also assigned by combining TRG as: MTRG 1 = TRG 1+2, MTRG 2 = TRG 3, MTRG 3 = TRG 4+5. Additional parameters studied include: Tumor grade (TG), lymph node status (N stage), disease free survival (DFS) and OS. Statistical analysis was done using SPSS version 20.00. Results: The distribution of TRG and MTRG is as follow: The most common response at PT was fibrosis, followed by inflammation in contrast to that in LNM being keratin flakes and calcification TRG was significantly associated with TG in PT (p 0.000) and PVT in LNM (p 0.003). In addition, MTRG, but not
TRG, was seen significantly associated with N stage (p 0.043) and DFS (p 0.037). No significant association of OS was seen with TRG or MTRG. On multivariate analysis, OS was significantly associated with PVT in LNM (p 0.015), in addition to time tested parameters: TG in PT (p 0.000) and N stage (p 0.001). Conclusions: Modified TRG in PT and PVT in LNM prove to have prognostic significance and warrant inclusion of these parameters while reporting post NACT specimens. This will help us to identify and study biology subset of tumors not responding to therapy and individualize the NACT regimen. (Table Presented).

Title: Erratum: Efficacy of chlorexidine, dexpantethol, allantoin and chitosan gel in comparison with bicarbonate oral rinse in controlling post-interventional inflammation, pain and cicatrization in subjects undergoing dental surgery (Current Medical Research and Opinion (2015) 31:12 (2179-2183))

Citation: Current Medical Research and Opinion, February 2016, vol./is. 32/2(395)

Author(s): Lopez-Lopez J., Jan-Palli E., Gonzalez-Navarro B., Jane-Salas E., Estrugo-Devesa A.

Title: Oral surgery: Self-milking the sialolith.

Citation: British dental journal, Feb 2016, vol. 220, no. 4, p. 154.

Author(s): Bhansali, S, Sarrami, N

Title: Facial Aesthetic Surgery: The Safe Use of Oral Sedation in an Office-Based Facility.

Citation: Aesthetic surgery journal / the American Society for Aesthetic Plastic surgery, Feb 2016, vol. 36, no. 2, p. 127-131

Author(s): Butz, Daniel R, Gill, Kiranjeet K, Randle, Jasmine, Kampf, Natalie, Few, Julius W

Abstract: The desire for efficient and safe office-based facial plastic surgery procedures has continued to rise. Oral sedation is a safe and effective method to provide anesthesia for aesthetic surgery. This study reviewed private practice anesthesia-related outcomes using oral sedation combined with local anesthesia for office-based facial aesthetic surgery procedures. A retrospective chart review was performed on all patients who underwent office-based facial plastic surgery procedures from July 2008 to July 2014. Patient demographic data including age, gender, body mass index (BMI), past medical history, social history, surgical history, allergies, and medications were collected. Anesthesia-related data were also collected including: American Society of Anesthesia (ASA) class, type of procedure, medications administered, and major complications related to sedation were assessed. There were 199 patients (23 males and 176 females) who underwent 283 facial aesthetic surgical procedures. Mean age was 49.8 years (range, 29 to 80 years). There were 195 patients in ASA class I and 4 patients were in ASA class II. Patients underwent 44 upper blepharoplasty procedures, 35 lower blepharoplasty procedures, 5 browlifts, 43 upper blepharoplasty-browpexy, 46 facelifts, 38 neck lifts/lower facelifts, 54 fat grafting, 3 tip rhinoplasties, and 15 minor revision cases. During the study period, there were no major complications and no sedation issues. Facial aesthetic surgical procedures can be performed
safely and comfortably in the office-based setting under oral sedation in appropriately selected patients. LEVEL OF EVIDENCE 4: Therapeutic.

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**Title:** Risk Factors Associated with Disease Recurrence in Patients with Stage III/IV Squamous Cell Carcinoma of the Oral Cavity Treated with Surgery and Postoperative Radiotherapy.

**Citation:** Anticancer research, Feb 2016, vol. 36, no. 2, p. 785-792, 1791-7530

**Author(s):** Noble, Anisha R, Greskovich, John F, Han, Jaehong, Reddy, Chandana A,

**Abstract:** The purpose of the present study was to identify variables associated with high risk of failure in patients with locally advanced squamous cell carcinoma of the oral cavity (SCC-OC). This retrospective study included 191 patients with stage III-IVb SCC-OC treated with post-operative radiotherapy (RT) or chemoradiotherapy (CRT) between 1995 and 2013. Disease-free (DFS) and overall survival (OS) were analyzed; variables associated with inferior DFS were identified. Seventy-five patients (39%) recurred. DFS and five-year OS were 52% and 54%, respectively. Poorly differentiated tumors (p=0.03), recurrent tumors (p=0.02) and high nodal ratio (p=0.02) were associated with an increased risk of recurrence. CRT was associated with improved DFS in patients with positive margins and/or extracapsular extension (p=0.021). Tumors that are recurrent, high grade, or have high nodal ratio are at risk of recurrence. Presence of these disease features should be taken into consideration for better risk stratification.

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**Title:** A novel method for fusion of intra-oral scans and cone-beam computed tomography scans for orthognathic surgery planning.

**Citation:** Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Feb 2016, vol. 44, no. 2, p. 160-166

**Author(s):** de Waard, Olivier, Baan, Frank, Verhamme, Luc, Breuning, Hero,

**Abstract:** To assess the feasibility of a new method to augment the three-dimensional virtual skull model with a detailed surface model of the dentition produced by intra-oral scanning, compared to the conventional triple scan procedure. In four patients who were planned for bimaxillary orthognathic surgery, the conventional triple scan procedure was carried out to create an augmented model. During scanning the patient wears a modified wax bite containing radio-opaque markers. An additional CBCT and laser scan of the wax bite and an intra-oral scan of the dentition were acquired. Surface-based and marker-based matching procedures were performed to integrate the intra-oral scans into the CBCT scan of the patient. The accuracy of the proposed method was assessed by measuring the distance between the occlusal surfaces of the registered intra-oral scans and the augmented model. Mean distances between the ios-dental cast registration and the augmented model were 0.30 mm (SD 0.20) and 0.27 mm (SD 0.20) for the upper and lower jaw, respectively. Intra-oral scans provide an accurate representation of the dental arches compared to the AlgiNot-dental casts and can be fused with CBCT scans.
Title: Implementation of a Web-Based Patient Simulation Program to Teach Dental Students in Oral Surgery.

Citation: Journal of dental education, Feb 2016, vol. 80, no. 2, p. 133-140, 1930-7837

Author(s): Weiner, Carina Kruger, Skålén, Maya, Harju-Jeanty, Dick, Heymann, Robert,

Abstract: The aim of this study was to evaluate a web-based simulation of patients (Web-SP) program on learning skills in clinical reasoning and patient evaluation in the oral surgery education of third-year dental students. A secondary aim was to investigate the program's effect on students' learning, knowledge, and attitudes towards virtual patient simulations. Authentic virtual oral surgery patient cases were created at a dental school in Sweden using the Web-SP platform. The Web-SP program was introduced in a two-hour seminar. A 20-minute pre-seminar test (test A) was administered to assess the students' knowledge of oral surgery prior to experiencing the Web-SP program. Ten days after the seminar, another test (test B) was administered to evaluate the increase in oral surgery knowledge as a result of using the program, and an emailed survey of the students was conducted. Of 70 students in the course, 67 (95.7%) agreed to participate in the study and took test A; of these, 59 (88%) took test B. Of the 59 students who took both tests, 28 (42%) completed the survey. The results of the two tests showed a statistically significant increase in knowledge, which was in accordance with the learning goals (p<0.0001). The survey results showed that the students had a positive attitude towards the teaching method. In this study, Web-SP was found to be a valuable tool for teaching clinical reasoning and patient evaluation in an undergraduate oral surgery education setting by improving learning outcomes in comparison with traditional teaching alone.

Title: Oral and Maxillofacial Surgery Foundation Research and Fellowship Awards: A 26-Year Review at Massachusetts General Hospital and Harvard School of Dental Medicine.

Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 234-238

Author(s): Inverso, Gino, Chuang, Sung-Kiang, Kaban, Leonard B

Abstract: The purpose of this study was to review outcomes of the Oral and Maxillofacial Surgery (OMS) Foundation's funding awards to members of the OMS department at Massachusetts General Hospital (MGH) in terms of projects completed, abstracts presented, peer-reviewed publications, and career trajectories of recipients. Data were collected from MGH and OMS Foundation records and interviews with award recipients. Primary outcome variables included 1) number of awards and award types, 2) funding amount, 3) project completion, 4) number of presented abstracts, 5) conversion from abstracts to publications, 6) number of peer-reviewed publications, 7) career trajectories of awardees, and 8) additional extramural funding. Eleven Student Research Training Awards provided $135,000 for 39 projects conducted by 37 students. Of these, 34 (87.2%) were completed. There were 30 student abstracts presented, 21 peer-reviewed publications, and a publication conversion rate of 58.8%. Faculty research awards comprised $1,510,970 for 22 research projects by 12 faculty members and two research fellows. Of the 22 funded projects, 21
(95.5%) were completed. There were 110 faculty and research fellow abstracts presented and 113 peer-reviewed publications, for a publication conversion rate of 93.8%. In the student group, 17 of 37 (45.9%) are enrolled in or are applying for OMS residencies. Of the 10 students who have completed OMS training, 3 (30%) are in full-time academic positions. Of the 12 faculty recipients, 9 (75%) remain in OMS academic practice. During this time period, the department received $9.9 million of extramural foundation or National Institutes of Health funding directly or indirectly related to the OMS Foundation grants. The results of this study indicate that 90.2% of projects funded by the OMS Foundation have been completed. Most projects resulted in abstracts and publications in peer-reviewed journals. These grants encouraged students to pursue OMS careers and aided OMS faculty in developing their research programs.

Title: McGrath Video Laryngoscopy Facilitates Routine Nasotracheal Intubation in Patients Undergoing Oral and Maxillofacial Surgery: A Comparison With Macintosh Laryngoscopy.

Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 256-261

Author(s): Kwak, Hyun-Jeong, Lee, Seong-Yeon, Lee, Sook-Young, Cho, Sang-Hyun,

Abstract: The McGrath video laryngoscope (VL) offers excellent laryngoscopic views and increases the success rate of orotracheal intubation in patients with normal and difficult airways. The purpose of this randomized controlled trial was to compare the McGrath VL with the Macintosh laryngoscope to investigate the efficacy of the McGrath VL for routine nasotracheal intubation in patients with an expected normal airway. To address the research purpose, the efficacy of the McGrath VL for routine nasotracheal intubation was compared with that of the Macintosh laryngoscope. The predictor variable was the laryngoscopic technique (McGrath VL vs Macintosh laryngoscope). The outcome variables were the time to successful intubation, laryngoscopic views before and after optimal external laryngeal manipulation (OELM), use of Magill forceps, ease of intubation, and severity of oropharyngeal bleeding. Data from 35 patients undergoing oral and maxillofacial surgery were assessed. The time to intubation was 10.5 seconds shorter in the McGrath group than in the Macintosh group (34.4 ± 13.7 vs 44.9 ± 15.6 seconds; P = .004). The incidence of grade 1 glottic view before OELM was higher in the McGrath group than in the Macintosh group (83 vs 57%; P = .019). The frequency of Magill forceps use was lower in the McGrath group than in the Macintosh group (6 vs 34%; P = .003). McGrath VL facilitates routine nasotracheal intubation in expected normal airways by providing a shorter intubation time and better laryngoscopic views compared with the Macintosh laryngoscope.

Title: Telemedicine Consultations in Oral and Maxillofacial Surgery: A Follow-Up Study.

Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 262-268,

Author(s): Wood, Eric W, Strauss, Robert A, Janus, Charles, Carrico, Caroline K
**Abstract:** The purpose of this study was to follow up on the previous study in evaluating the efficiency and reliability of telemedicine consultations for preoperative assessment of patients. A retrospective study of 335 patients over a 6-year period was performed to evaluate success rates of telemedicine consultations in adequately assessing patients for surgical treatment under anesthesia. Success or failure of the telemedicine consultation was measured by the ability to triage patients appropriately for the hospital operating room versus the clinic, to provide an accurate diagnosis and treatment plan, and to provide a sufficient medical and physical assessment for planned anesthesia. Data gathered from the average distance traveled and data from a previous telemedicine study performed by the National Institute of Justice were used to estimate the cost savings of using telemedicine consultations over the 6-year period. Practitioners performing the consultation were successful 92.2% of the time in using the data collected to make a diagnosis and treatment plan. Patients were triaged correctly 99.6% of the time for the clinic or hospital operating room. Most patients (98.0%) were given sufficient medical and physical assessment and were able to undergo surgery with anesthesia as planned at the clinic appointment immediately after telemedicine consultation. Most patients (95.9%) were given an accurate diagnosis and treatment plan. The estimated amount saved by providing consultation by telemedicine and eliminating in-office consultation was substantial at $134,640. This study confirms the findings from previous studies that telemedicine consultations are as reliable as those performed by traditional methods.

**Title:** Analysis of Risk Factors for Pneumonia in 482 Patients Undergoing Oral Cancer Surgery With Tracheotomy.

**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 415-419

**Author(s):** Li, Li, Yuan, Weijun, Zhang, Shilei, Wang, Kewei, Ruan, Hong

**Abstract:** Elective tracheostomy is a common procedure used in patients with oral cancer. However, secondary tracheotomy-associated pneumonia (TAP) is an important complication after surgery. This study investigated the risk factors related to postoperative TAP complications in patients with oral cancer. A retrospective study was performed from January 2012 to October 2013. Data on patients who had oral cancer and underwent neck dissection or reconstructive surgery with tracheotomy were collected from the Hospital Information System. The predictive variables were age, gender, alcohol history, smoking history, basic disease (including diabetes, hypertension, and cardiovascular disease), tumor location, and duration of tracheotomy, which were extracted from electronic medical records. The outcome variable was TAP. Descriptive single factors and bivariate statistics were computed and the P value was set at .05. Four hundred eighty-two patients who received tracheotomy after oral cancer surgery were included in this study and 95 (19.7%) developed TAP. Univariate analysis showed that male gender (odds ratio [OR] = 1.853; 95% confidence interval [CI], 1.083-3.17; P = .024 to <.05), long duration of tracheotomy (OR = 1.673; 95% CI, 1.343-2.083; P < .0001), and smoking (OR = 1.656; 95% CI, 1.053-2.604; P = .029 to <.05) were risk factors for TAP. Then, 2 variables independently related to an increased risk of postoperative TAP were found by multivariate regression analysis, which were male gender (OR = 1.945; P = .018) and long duration of tracheotomy (OR = 1.694; P =
Title: Effect of periodontal surgery on oral health-related quality of life in patients who have completed initial periodontal therapy.

Citation: Journal of Periodontal Research, 2016, vol./is. 51/2(212-220)

Author(s): Makino-Oi, A., Ishii, Y., Hoshino, T., Okubo, N., Sugito, H., Hosaka, Y., Fukaya, C.

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Bisphosphonate-related osteonecrosis of the jaw

Title: Revival of nitrogen-containing bisphosphonate-induced inhibition of osteoclastogenesis and osteoclast function by water-soluble microfibrous borate glass.

Citation: Acta biomaterialia, Feb 2016, vol. 31, p. 312-325

Author(s): Yuan, He, Niu, Li-Na, Jiao, Kai, Pei, Dan-Dan, Pramanik, Chandrani, Li, Ji-Yao,

Abstract: Bisphosphonate-related osteonecrosis of the jaw (BRONJ) is a serious skeletal complication associated with the long-term oral or intravenous use of nitrogen-containing bisphosphonates (N-BPs). Here, we investigated the effects of an ionic cocktail prepared from water-soluble microfibrous borate glass on neutralizing the inhibitory effects of two heterocyclic N-BPs, risedronate or zoledronic acid, on osteoclastogenesis, apoptosis of differentiated osteoclasts and osteoclast function. Cell growth and proliferation assays were first performed on RAW 264.7 cells to optimize the concentrations of the ionic cocktail and N-BPs to be used for static cell culture. The pre-osteoclasts were then stimulated with RANKL to differentiate into osteoclasts. The effects of the ionic cocktail and N-BPs on osteoclast differentiation, apoptosis and function were subsequently examined using 3 series of experiments conducted at the gene, protein, morphological and functional levels. After concentration optimization, the ionic cocktail was found to partially reverse N-BP-induced inhibition of osteoclastogenesis, stimulation of osteoclasts apoptosis and reduction of osteoclast resorptive activity. Ultrastructural examination of osteoclasts that had been exposed to either N-BP identified classical features of late apoptosis and secondary necrosis, while osteoclasts exposed simultaneously to the concentration-optimized ionic cocktail and N-BPs exhibited only signs of early apoptosis that were possibly reversible. Taken together, the results of the 4 series of experiments indicate that the ionic cocktail produced from dissolution of borate glass dressings has the potential to rescue the adverse effects of heterocyclic N-BPs on osteoclast differentiation and function. These results warrant further confirmation using dynamic cell culture and small animal BRONJ models. Long-term oral and intravenous use of nitrogen-containing bisphosphonates (N-BPs) may result in bisphosphonate-related osteonecrosis of the jaw (BRONJ) due to the suppression of normal bone turnover. There is no effective treatment for such a complication to date. This work
reported the use of an ionic cocktail derived from water-soluble microfibrous borate glass to revert heterocyclic N-BP-induced inhibition of osteoclastogenesis, stimulation of osteoclasts apoptosis and reduction of osteoclasts resorption in static cell culture condition. This ionic cocktail may have the potential to be further developed into a new adjunctive treatment for BRONJ.

Title: A mechanistic study of the interaction of water-soluble borate glass with apatite-bound heterocyclic nitrogen-containing bisphosphonates.

Citation: Acta biomaterialia, Feb 2016, vol. 31, p. 339-347

Author(s): Pramanik, Chandrani, Sood, Parveen, Niu, Li-Na, Yuan, He, Ghoshal, Sushanta,

Abstract: Long-term oral and intravenous use of nitrogen-containing bisphosphonates (N-BPs) is associated with osteonecrosis of the jaw. Although N-BPs bind strongly to bone surfaces via non-covalent bonds, it is possible for extrinsic ions to dissociate bound N-BPs from mineralized bone by competitive desorption. Here, we investigate the effects and mechanism of using an ionic cocktail derived from borate bioactive glass for sequestration of heterocyclic N-BPs bound to apatite. By employing solid-state and solution-state analytical techniques, we confirmed that sequestration of N-BPs from bisphosphonate-bound apatite occurs in the presence of the borate-containing ionic cocktail. Simulations by density functional theory computations indicate that magnesium cation and borate anion are well within the extent of the risedronate or zoledronate anion to form precipitate complexes. The sequestration mechanism is due to the borate anion competing with bisphosphonates for similar electron-deficient sites on the apatite surface for binding. Thus, application of the borate-containing ionic cocktail represents a new topical lavage approach for removing apatite-bound heterocyclic N-BPs from exposed necrotic bone in bisphosphonate-related osteonecrosis of the jaw. Long-term oral consumption and injections of nitrogen-containing bisphosphonates (N-BPs) may result in death of the jaw bone when there is traumatic injury to the bone tissues. To date, there is no effective treatment for such a condition. This work reported the use of an ionic cocktail derived from water-soluble borate glass microfibers to displace the most potent type of N-BPs that are bound strongly to the mineral component on bone surfaces. The mechanism responsible for such an effect has been identified to be cation-mediated complexation of borate anions with negatively-charged N-BPs, allowing them to be released from the mineral surface. This borate-containing cocktail may be developed into a novel topical rinse for removing mineral-bound N-BPs from exposed dead bone.

Title: A case of nasal septal abscess caused by medication related osteonecrosis in breast cancer patient.

Citation: Auris, nasus, larynx, Feb 2016, vol. 43, no. 1, p. 93-96

Author(s): Maeda, Mayuka, Matsunobu, Takeshi, Kurioka, Takaomi, Kurita, Akihiro,

Abstract: Antiresorptive drugs have been widely used to treat patients with hypercalcemia caused by malignancy, bone metastasis, multiple myeloma, and osteoporosis. However, it is
well known that antiresorptive drugs can cause osteonecrosis of the jaw (ONJ). Herein, we report a rare case of nasal septal abscess caused by medication related osteonecrosis of the jaw (MRONJ) in a breast cancer patient. A 69-year-old woman was referred to our clinic for evaluation of nasal obstruction. Physical examination revealed a cherry-like swelling of the nasal mucosa emanating from the septum that obstructed both nasal cavities and a fistulous tract showing pus discharge after extraction of the bilateral maxillary central incisors (MCI) and the right maxillary lateral incisor (MLI). Computed tomography and panoramic radiography revealed extensive osteonecrosis of the maxilla and swelling of the nasal mucosa. The clinical diagnosis was nasal septal abscess caused by osteonecrosis of the maxilla. Surgical procedure was undertaken for this case. An indwelling drain was placed in the oral cavity, and sequestrectomy was performed with incision and drainage of the anterior portion of left nasal septum. The patient was doing well at the 7-month follow-up. The patient had a medical history of breast cancer with bone, lung, liver metastases, and had received intravenous bisphosphonate, which is one of the antiresorptive medicines, over the past 4 years. We suspect that this history played an important role in MRONJ induced nasal septal abscess.

Title: Hematopoietic Cell Transplantation in Patients with Medication-Related Osteonecrosis of the Jaws.

Citation: Biology of blood and marrow transplantation : journal of the American Society for Blood and Marrow Transplantation, Feb 2016, vol. 22, no. 2, p. 344-348,

Author(s): Mawardi, Hani, Glotzbecker, Brett, Richardson, Paul, Woo, Sook-Bin

Abstract: Patients with medication-related osteonecrosis of the jaw (MRONJ) are at risk for developing infections and often require long-term antimicrobial therapy for management. It is unclear whether patients with multiple myeloma (MM) who develop MRONJ experience increased morbidity when they undergo hematopoietic cell transplantation (HCT). The aim of this study was to characterize the course of HCT in MM patients with MRONJ. A retrospective chart review was conducted for patients with MM and MRONJ who underwent HCT between December 2005 and December 2014. Data collected included bisphosphonate use, MRONJ stage, positive blood cultures, number of febrile days, and length of hospital stay. Eleven patients (median age, 61; range, 46 to 71) fulfilled the criteria. Patients received zoledronic acid (72.7%), pamidronate (18.1%), or a combination of both (9%). At the time of HCT, 10 patients were in stage 1 MRONJ with 1 in stage 0. All patients had only mandibular involvement. No patient developed pain/infection at the MRONJ site during hospitalization. Bacteremia with positive blood cultures for Staphylococcus aureus occurred in 3 patients (27.2%), and 4 patients (36.3%) developed fever lasting between 4 to 6 days (of who 1 had positive blood cultures). The median length of hospital stay was 17 days (range, 7 to 22 days). These data suggests that patients with MM and MRONJ who undergo HCT are not at increased risk of developing symptoms associated with the MRONJ site or HCT-related infectious complications, and their MRONJ is not worsened by HCT.

Title: Prevalence of bisphosphonate-related osteonecrosis of the jaw in Hong Kong.
Maxillofacial

**Title:** Preoperative and postoperative examination of occlusal and maxillofacial changes after osteochondroma extirpation.

**Citation:** American journal of orthodontics and dentofacial orthopedics : official publication of the American Association of Orthodontists, its constituent societies, and the American Board of Orthodontics, Feb 2016, vol. 149, no. 2, p. 259-268,

**Author(s):** Iwata, Toshio, Kawata, Toshitsugu

**Abstract:** A patient came with left-side temporomandibular arthralgia, limited mandibular opening, frontal facial asymmetry, and a significant anterolateral open bite. Severe alterations in the occlusal and maxillofacial anatomy resulted from an osteochondroma associated with the mandibular condyle. We describe the changes associated with extirpation of the mandibular condylar osteochondroma and subsequent orthodontic treatment. These clinical changes resulted in improved facial symmetry and a satisfactory functional occlusion.

**Title:** Surgical exploration of 71 free flaps in crisis following head and neck reconstruction.

**Citation:** International journal of oral and maxillofacial surgery, Feb 2016, vol. 45, no. 2, p. 153-157,

**Author(s):** Yang, X, Li, S, Wu, K, Hu, L, Liu, W, Ji, T, Hu, Y, Xu, L, Sun, J, Zhang, Z,

**Abstract:** The medical records of patients who had undergone a free flap reconstruction after radical resection of oral cancer between January 2009 and December 2013 at the study hospital in China were reviewed retrospectively. Of the 1550 patients who underwent free flap reconstructions, 71 were explored for suspected flap compromise caused by postoperative thrombosis. Patient demographic data, clinicopathological data of the tumour, details of the free flaps, and operative findings were assessed, and the medical records were analyzed to identify the reasons for intervention and the outcomes. Of the 71 flaps in crisis, 47 (66.2%) were salvaged. Free flap failure was 6.2-times more likely to develop in patients undergoing surgical exploration after 72h (95% confidence interval 2.090-18.197, P=0.001). Of the 19 flaps identified as subject to delayed exploration, 14 failed and three had partial necrosis. Free flap failure was 3.4-times more likely to develop in patients with perforator flaps (95% confidence interval 1.222-9.719, P=0.019). The early
detection of free flap failure is critical to flap salvage. The salvage success rate decreases significantly at >72h after the initial operation. It appears to be more difficult to salvage a perforator flap.

Title: The use of free flaps in skull base reconstruction.

Citation: International journal of oral and maxillofacial surgery, Feb 2016, vol. 45, no. 2, p. 158-162

Author(s): Macía, G, Picón, M, Nuñez, J, Almeida, F, Alvarez, I, Acero, J

Abstract: Skull base tumours are rare, comprising less than 1% of all tumours of the head and neck. Surgical treatment of these tumours involves the approach, the resection, and the reconstruction of the defect, which present a challenge due to the technical difficulty and anatomical complexity. A retrospective study of 17 patients with tumours involving the skull base, treated by resection and immediate reconstruction using microsurgical free flaps, is presented; 11 were men and six were women. The following types of flap were used: osteocutaneous fibula flaps, fasciocutaneous anterolateral thigh flaps, and myocutaneous latissimus dorsi flaps. The most common histology of the tumours was squamous cell carcinoma. The most frequent point of origin was the paranasal sinuses (58.8%). All of the free flaps used for reconstruction were viable. A cerebrospinal fluid fistula occurred in two patients, and in one of these cases, meningoencephalitis led to death. In conclusion, the reconstruction of large defects of the skull base after ablation requires a viable tissue that in many cases can be obtained only through the use of microvascular free flaps. The type of flap to be selected depends on the anatomical structures and size of the defect to be restored.

Title: The relative survival of composite free flaps in head and neck reconstruction.

Citation: International journal of oral and maxillofacial surgery, Feb 2016, vol. 45, no. 2, p. 163-166

Author(s): Van Genechten, M L V, Batstone, M D

Abstract: Various composite free flaps are available for reconstruction of bony head and neck defects. The aim of this study was to compare the relative success of four different bony free flaps. One hundred and seventy-three microvascular composite free flap reconstructions for bony defects of the head and neck region, performed over the period April 2008 to April 2015, were reviewed retrospectively. The type of free flap, indication for free flap reconstruction, age at harvesting of the free flap, use of pre- or postoperative radiotherapy, and free flap failure were examined. For the 173 reconstructions performed, 84 fibula free flaps, 43 iliac crest free flaps, 32 scapula free flaps, and 14 osteocutaneous radial forearm free flaps were harvested. The mean age at time of harvesting was 40.7 years for the iliac crest, 57.3 years for the fibula, 64.3 years for the scapula, and 73.9 years for the osteocutaneous radial forearm free flap. No complete free flap failure was documented, nor was there any failure of bony segments. Three fibula flap skin paddles did not survive. No
returns to theatre for salvage were required. This study showed no difference in the survival rates of these four types of composite free flap.

**Title:** Maxillary single-jaw surgery combining Le Fort I and modified horseshoe osteotomies for the correction of maxillary excess.

**Citation:** International journal of oral and maxillofacial surgery, Feb 2016, vol. 45, no. 2, p. 194-199

**Author(s):** Tominaga, K, Habu, M, Iwanaga, K, Kodama, M, Tsurushima, H, Kokuryo, S,

**Abstract:** A modified technique of horseshoe osteotomy combined with Le Fort I osteotomy for superior and posterior repositioning of the maxilla is presented. Eight patients with maxillary excess associated with retrogenia or microgenia were treated with this technique in combination with genioplasty. The maxillary segment was repositioned a maximum of 5.0mm posteriorly and 7.0mm superiorly at point A. The mandible autorotated anterosuperiorly to achieve sound occlusion. Point B moved 2.0-10.0mm anteriorly and 5.0-10.0mm superiorly. The pogonion moved 7.0-17.0mm anteriorly in combination with genioplasty. All patients obtained sound occlusion and a good profile after the operation. Almost no skeletal relapse was observed during 1 year of postoperative follow-up. Patients with long faces with maxillary excess and retrogenia often have small, unstable condyles. In these cases, because surgical intervention to the ramus can result in postoperative progressive condylar resorption, maxillary single-jaw surgery with a horseshoe osteotomy, thereby avoiding ramus intervention, is a less invasive option.

**Title:** Anthropomorphic assessment of the retromolar foramen and retromolar nerve: anomaly or variation of normal anatomy?

**Citation:** International journal of oral and maxillofacial surgery, Feb 2016, vol. 45, no. 2, p. 241-244,

**Author(s):** Motamedi, M H K, Gharedaghi, J, Mehralizadeh, S, Navi, F, Badkoobeh, A,

**Abstract:** The retromolar foramen, retromolar canal, and retromolar nerve constitute a variation of the inferior alveolar nerve (IAN) with a prevalence of 12-75%; this represents type 1 bifidity of the IAN. The aim of this study was to assess the prevalence of the retromolar nerve in our population and to obtain related data. One hundred and thirty-six mandibles of fresh cadavers aged 20-75 years were dissected. The buccolingual location, diameter, and distance from the third molar, and their associations with sex, were measured. The area of innervation and demographic data were also documented and analysed statistically. The retromolar foramen and retromolar nerve were observed in 55 cases (40.4%). The mean diameter of the retromolar foramen was 1.7mm (range 1.1-2.1mm); the mean diameter was 1.8mm in males and 1.5mm in females. Histological findings showed that the retromolar nerve extended from the anterior border of the ramus, innervating the retromolar pad and continuing to the buccal gingiva of up to two teeth anteriorly (first molar region). This high percentage of IAN type 1 bifidity (40.4%) suggests it to be a normal anatomical variation of the IAN rather than an anomaly.
Title: Using Twitter for Teaching and Learning in an Oral and Maxillofacial Radiology Course.

Citation: Journal of dental education, Feb 2016, vol. 80, no. 2, p. 149-155

Author(s): Gonzalez, Shawneen M, Gadbury-Amyot, Cynthia C

Abstract: The aim of this study was to describe the implementation of one form of social media (Twitter) in an oral radiology course and evaluate dental students’ use and perceptions of this technology for teaching and learning. An author-developed questionnaire was used to solicit second-year students' knowledge, use, and perceptions of Twitter for teaching and learning in an oral radiology course at one U.S. dental school. A combination of Likert scales, multiple allowable answers, and an open-ended comment question was employed. The questionnaire was piloted in spring 2010 followed by data collection in spring 2011. Out of 45 students, 40 (88.9%) completed the questionnaire. Of the respondents, 95% reported having not used Twitter prior to their second year of dental school; 55% of them created an account for the course. The top two reasons they gave for creating an account were viewing radiographic examples and staying informed about questions and answers that were posted. The top two reasons they gave for not creating an account were that the content was viewable online without an account and not wanting another online account. The students perceived the Twitter sessions as helpful and reported it improved accessibility to the instructor. The results of this study challenged the assumption that dental students are well versed in all forms of social media, but overall, these students agreed that the use of Twitter had enhanced the learning environment in the radiology course.

Title: Fibrous Dysplasia Characterization Using Lacunarity Analysis.

Citation: Journal of digital imaging, Feb 2016, vol. 29, no. 1, p. 134-140

Author(s): Cordeiro, Mirna S, Backes, André R, Júnior, Antônio F Durighetto, Gonçalves,

Abstract: Fibrous dysplasia (FD) is a developmental anomaly in which the normal medullary space of the affected bone is replaced by fibro-osseous tissue. This condition is typically encountered in adolescents and young adults. It affects the maxillofacial region and it can often cause severe deformity and asymmetry. Therefore, accurate diagnosis is critical to determine the appropriate treatment of each case. In this sense, computed tomography (CT) is a relevant resource among the imaging techniques for correct diagnosis of this condition. Thus, in this paper, we propose to analyze fibrous dysplasia through its texture pattern. To accomplish this task, we propose to use lacunarity analysis, a multiscale method for describing patterns of spatial dispersion. Results indicated lower lacunarity values for fibrous dysplasia in comparison to normal bone samples, an indication that their texture images are more homogeneous, and a high separability between the classes when using principal component analysis (PCA) and decision trees for statistical analysis.

Title: The Effect of Regeneration Techniques on Periapical Surgery With Different Protocols for Different Lesion Types: A Meta-Analysis.
**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 239-246

**Author(s):** Deng, Yang, Zhu, Xiaodan, Yang, Jun, Jiang, Han, Yan, Ping

**Abstract:** To evaluate the effect of regeneration techniques (RTs) on the outcome of periapical surgery with different protocols for different lesion types. PubMed, the Cochrane Library, and Embase were searched from the beginning of time until December 30, 2014. Studies that met the inclusion criteria were systematically evaluated, and a meta-analysis was performed. Eight randomized controlled trials met the inclusion criteria. A significantly better outcome was found in the combination group (membranes plus bone replacement analogues) (risk ratio [RR], 0.41; 95% confidence interval [CI], 0.22 to 0.77; P = .005) and bone replacement analogue-only group (RR, 0.48; 95% CI, 0.23 to 0.98; P = .04), whereas no significant beneficial effect was found in the membrane-only group (RR, 0.59; 95% CI, 0.29 to 1.17; P = .13). The use of RTs favorably affected the outcome of periapical through-and-through lesions (RR, 0.38; 95% CI, 0.18 to 0.84; P = .02) and large lesions (≥10 mm) (RR, 0.52; 95% CI, 0.28 to 0.97; P = .04), whereas there was no significant benefit of using RTs for 4-wall lesions (RR, 0.54; 95% CI, 0.27 to 1.07; P = .08). Both the isolated use of bone replacement analogues and the combination of membranes and bone replacement analogues can improve the outcome of periapical surgery, whereas using membranes alone does not have significantly favorable effects. The use of RTs for through-and-through and large lesions should be recommended.

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**Title:** Effects of Antiseptic Solutions Commonly Used in Dentistry on Bone Viability, Bone Morphology, and Release of Growth Factors.

**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 247-254, 1531-5053 (February 2016)

**Author(s):** Sawada, Kosaku, Fujioka-Kobayashi, Masako, Kobayashi, Eizaburo, Schaller, Benoit, Miron, Richard J

**Abstract:** Antiseptic solutions are commonly used in dentistry for a number of sterilization procedures, including harvesting of bone chips, irrigation of extraction sockets, and sterilization of osteonecrotic bone. Despite its widespread use, little information is available regarding the effects of various antiseptic solutions on bone cell viability, morphology, and the release of growth factors. The antiseptic solutions included 1) 0.5% povidone iodine (PI), 2) 0.2% chlorhexidine digluconate (CHX), 3) 1% hydrogen peroxide (H2O2), and 4) 0.25% sodium hypochlorite (HYP). Bone samples collected from porcine mandibular cortical bone were rinsed in the antiseptic solutions for 10 minutes and assessed for cell viability using an MTS assay and protein release of transforming growth factor (TGF-β1), bone morphogenetic protein 2 (BMP2), vascular endothelial growth factor (VEGF), interleukin (IL)-1β, and receptor activator of nuclear factor κB ligand (RANKL) using an enzyme-linked immunosorbent assay at 15 minutes and 4 hours after rinsing. After antiseptic rinsing, changes to the surface protein content showed marked alterations, with an abundant
protein layer remaining on CHX-rinsed bone samples. The amount of surface protein content gradually decreased in the following order: CHX, H2O2, PI, and HYP. A similar trend was also observed for the relative cell viability from within bone samples after rinsing, with up to 6 times more viable cells found in the CHX-rinsed bone samples than in the HYP- and PI-rinsed samples. An analysis of the growth factors found that both HYP and PI had significantly lower VEGF and TGF-β1 protein release from bone samples at 15 minutes and 4 hours after rinsing compared with CHX and H2O2. A similar trend was observed for RANKL and IL-1β protein release, although no change was observed for BMP2. The results from the present study have demonstrated that antiseptic solutions present with very different effects on bone samples after 10 minutes of rinsing. Rinsing with CHX maintained significantly higher cell viability and protein release of growth factors potent to the bone remodeling cycle.

**Title:** Oral Surgical Procedures Performed Safely in Patients With Head and Neck Arteriovenous Malformations: A Retrospective Case Series of 12 Patients.

**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 255.e1,

**Author(s):** Karim, Abdul Basit, Lindsey, Sean, Bovino, Brian, Berenstein, Alejandro

**Abstract:** This case series describes patients with head and neck arteriovenous malformations who underwent oral and maxillofacial surgical procedures combined with interventional radiology techniques to minimize blood loss. Twelve patients underwent femoral cerebral angiography to visualize the extent of vascular malformation. Before the surgical procedures, surgical sites were devascularized by direct injection of hemostatic or embolic agents. Direct puncture sclerotherapy at the base of surgical sites was performed using Surgiflo or n-butylcyanoacrylate glue. Surgical procedures were carried out in routine fashion. A hemostatic packing of FloSeal, Gelfoam, and Avitene was adapted to the surgical sites. Direct puncture sclerotherapy with Surgiflo or n-butylcyanoacrylate glue resulted in minimal blood loss intraoperatively. Local application of the FloSeal, Gelfoam, and Avitene packing sustained hemostasis and produced excellent healing postoperatively. Patients with arteriovenous malformations can safely undergo routine oral and maxillofacial surgical procedures with minimal blood loss when appropriate endovascular techniques and local hemostatic measures are used by the interventional radiologist and oral and maxillofacial surgeon.

**Title:** Current Role of Carnoy’s Solution in Treating Keratocystic Odontogenic Tumors.

**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 278-282,

**Author(s):** Ecker, Jordan, Horst, Rutger Ter, Koslovsky, David

**Abstract:** To understand the frequency of use of Carnoy’s solution, as a means of chemical curettage, for treating the keratocystic odontogenic tumor (KCOT). A Web-based survey was distributed by e-mail to 6,880 members listed in the 2013 American Association of Oral and Maxillofacial Surgeons directory. Eight hundred nine participants across the United States
responded to the survey (12% response rate). The most common procedures performed to definitively treat a KCOT were enucleation plus mechanical curettage (curette with or without peripheral ostectomy; 66%). Of the survey participants, 198 (25%) currently use Carnoy's solution, 111 (56%) of whom are using the solution with chloroform and 83 (42%) are using it without chloroform. Carnoy's solution remains a common method of chemical curettage for the definitive treatment of the KCOT. Carnoy's solution with and without chloroform is being used for chemical cautery.

**Title:** Width-Controlling Fixation of Symphyseal/Parasymphyseal Fractures Associated With Bilateral Condylar Fractures With 2 2.0-mm Miniplates: A Retrospective Investigation of 45 Cases.

**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 315-327

**Author(s):** Chen, Shuo, Zhang, Yi, An, Jin-Gang, He, Yang

**Abstract:** Symphyseal and parasymphyseal fractures and bilateral condylar fractures represent a pattern that is quite challenging to manage. This study evaluated the treatment outcomes of a group of patients who underwent surgery using miniplate fixation for anterior mandibular fractures. This retrospective case series study reviewed patients with bilateral condylar fractures and noncomminuted symphyseal and parasymphyseal fractures. The patients were surgically treated from 2008 to 2014 in the department of oral surgery. Evaluation of facial width control was considered the primary outcome variable, which consisted of clinical assessment and measurement of the lingual gap using computed tomography. Medical information was collected before surgery. Temporomandibular joint function and postoperative complications also were evaluated during follow-up. A paired sample t test was used for statistical analysis. Forty-five patients (37 male, 8 female; mean age, 34.8 ± 14.5 yr; range, 16 to 74 yr) were included in this study. Lingual gaps measured before surgery (3.38 ± 0.61 mm) and after surgery (0.64 ± 0.14 mm) were significantly different (P < .001). No patient was rated as "unsatisfactory" after esthetic evaluation of facial width. For noncomminuted symphyseal and parasymphyseal fractures associated with bilateral condylar fractures, 2 2.0-mm miniplates with monocortical screws are stable and efficacious in controlling mandibular width when bilateral condylar fractures are anatomically reduced and stably fixated.

**Title:** A Review of Hard Palate Fracture Repair Techniques.

**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 328-336

**Author(s):** Moss, William J, Kedarisetty, Suraj, Jafari, Aria, Schaeerer, Daniel E, Husseman, Jacob W

**Abstract:** Hard palate trauma is a relatively infrequent occurrence compared with other craniofacial injuries. Several techniques of hard palate fracture repair have been described. To date, there is no consensus on the optimal management of this type of fracture. The
The purpose of this study was to compile and analyze studies describing hard palate fracture repair techniques with outcomes data. A systematic review of the Medline, Scopus, and Web of Science databases was performed for articles describing hard palate fracture repair techniques. Eight articles were ultimately included in the review. Of the collective 310 fractures reported, postoperative malocclusion occurred in 21 of 235 cases (8.9%) and other complications occurred in 13 of 299 cases (4.3%). The most important variability in technique was the method of palatal vault stabilization. Three studies described wiring techniques, 3 described internal fixation techniques, and 2 described external fixation techniques. Studies describing internal fixation techniques reported higher rates of wound complications. Proponents of rigid internal fixation believe that this technique provides better fracture reduction. External fixation techniques appear to impart low rates of wound complications, but their overall effectiveness remains in question. Hard palate fractures are associated with high rates of malocclusion and wound complications. The most established methods of palatal vault stabilization are closed reduction with wiring and internal plate fixation. Depending on the fracture type, patient comorbidities, and associated injuries, either technique might be preferable in a given circumstance.

Title: Titanium Mesh Shaping and Fixation for the Treatment of Comminuted Mandibular Fractures.

Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 337.e1, 1531-5053 (February 2016)

Author(s): Dai, Jiewen, Shen, Guofang, Yuan, Hao, Zhang, Wenbin, Shen, Shunyao,

Abstract: Treating comminuted mandibular fractures remains a challenge. In this study, we used titanium mesh to treat comminuted mandibular fractures. Nine patients with traumatically comminuted mandibular fractures who received open reduction and internal stable fixation with titanium mesh were retrospectively reviewed. Open reduction-internal stable fixation was performed 7 to 10 days after primary debridement of the facial trauma. After the fractured mandible and the displaced fragments were reduced, the titanium mesh was reshaped according to the morphology of the mandible, and the reduced bone fragments were fixed with the reshaped titanium mesh and screws. Then, the surgical effects were evaluated during routine follow-up. Most of the displaced fragments were preserved and exhibited a favorable shaping ability in restoring the morphology of the mandible during surgery. No intraoperative complications were encountered. In addition, all patients were infection free, with no obvious resorption in the fixed fragments after surgery. The mandible also exhibited favorable morphology and offered sufficient bone mass for dental implantation or a denture prosthesis. We conclude that titanium mesh shaping and fixation can effectively treat comminuted mandibular fractures with little bone fragment loss, little soft tissue exposure, a low infection rate, and favorable mandibular morphology.

Title: Surgically Assisted Rapid Palatomaxillary Expansion With or Without Pterygomaxillary Disjunction: A Systematic Review and Meta-Analysis.
**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 338-348

**Author(s):** Hamedi Sangsari, Adrien, Sadr-Eshkevari, Pooyan, Al-Dam, Ahmed, Friedrich,

**Abstract:** The purpose of this review was to evaluate the outcome measurements of anterior expansion, posterior expansion, and complications after surgically assisted rapid palatal expansion (SARPE) with or without pterygomaxillary disjunction (PMD). A computerized database search was performed using PubMed, CINAHL, Cochrane, Scopus, and Web of Science. Then, a computerized search was conducted in Google Scholar and ProQuest to overcome publication bias. From the original 125 combined results, 3 met the inclusion criteria. The Quality Assessment Tool for Quantitative Studies of the Effective Public Health Practice Project assessed 2 articles as weak and 1 as moderate. The systematic review included a total of 48 patients (11 male and 37 female). For 25 patients, SARPE was performed with PMD and for 23 patients SARPE was performed without PMD. A tooth-borne fixed hyrax-type palatal expansion screw appliance was used for all cases, activated 1 to 2 mm intraoperatively, and, after a latency period of 3 to 7 days, activated 0.5 to 0.6 mm per day for 38 patients and 0.25 mm for the other 10 until adequate expansion. Postexpansion retention was performed using ligature wired hyrax in 18 patients for 4 months. Comparisons were based on cone-beam computed tomographic projections, study models only, or a combination of study models, anteroposterior cephalometric radiographs, and occlusal radiographs. The time to measure the changes ranged from before fixed orthodontic retention to 6 months after the completion of active expansion. A meta-analysis was possible only for anterior (intercanine) and posterior (inter-molar) dental expansions. The literature is inconclusive regarding the effect of PMD on the outcomes of SARPE. Further controlled trials are needed.

**Title:** Treatment of Dentofacial Deformities Secondary to Osteochondroma of the Mandibular Condyle Using Virtual Surgical Planning and 3-Dimensional Printed Surgical Templates.

**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 349-368

**Author(s):** Li, Yunfeng, Jiang, Yangmei, Ye, Bin, Hu, Jing, Chen, Qianming, Zhu, Songsong

**Abstract:** One-stage treatment for condylar osteochondroma and secondary facial deformities by resection and reconstruction of the mandibular condyle, orthognathic surgery, and mandibular contouring has been reported recently. This study investigated the clinical feasibility of treating osteochondroma of the mandibular condyle and secondary dento-maxillofacial deformities by virtual surgical planning and 3-dimensional (3D) printed surgical templates. A composite skull model with accurate dentition was obtained with data from spiral computed tomography (CT) and surface scanning of the dental arch. Virtual surgical simulation was performed using Dolphin Imaging 11.7 Premium and Mimics software after a comprehensive 3D diagnosis and surgery planning. Surgical templates were fabricated by 3D printing using data from virtual surgical simulation for guidance of excision of the mandibular condyle with osteochondroma, reconstruction of the mandibular condyle,
mandibular contouring, and reconstruction of a normal occlusion. Le Fort I osteotomy of the upper jaw and genioplasty were performed when indicated. The linear difference between virtually simulated and postoperative skull models was evaluated. All surgeries were successfully simulated using virtual surgical planning, and the guiding templates were successfully applied for all patients. Successful reconstruction of condylar function, normal occlusion, and symmetry of the facial profile was achieved. Postoperative CT scans and quantitative analysis showed that virtual surgical plans provided acceptable accuracy in the operating room. The linear difference of the incisors and first molars was no more than 1.4 mm, and the greatest difference was found for the menton landmark, which was up to 2.4 mm. Results from this study suggested that virtual surgical planning and guiding templates facilitated accurate diagnosis, treatment planning, accurate osteotomy, repositioning of bony segments, and contouring of the mandibular border in the treatment of condylar osteochondroma and secondary facial asymmetry.

**Title:** Enlargement of the Pharynx Resulting From Surgically Assisted Rapid Maxillary Expansion.

**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 369-379

**Author(s):** Vinha, Pedro Pileggi, Faria, Ana Célia, Xavier, Samuel Porfirio, Christino,

**Abstract:** Given that transverse maxillary deficiency is an etiologic factor of obstructive sleep apnea and is intimately connected to pharyngeal size, the objective of this study was to determine whether surgically assisted rapid maxillary expansion (SARME) would promote pharyngeal enlargement in adults. This prospective study was conducted in patients with uni- or bilateral posterior crossbite who underwent SARME. Participants were recruited from the Integrated Center for the Study of Face Defects, School of Medicine of Ribeirão Preto, University of São Paulo (São Paulo, Brazil). All patients underwent computed tomography of the pharynx before and after surgery (171.5 days on average), and the sagittal and transverse planes and the total area across 3 levels of the pharynx, including the upper (posterior nasal spine), middle (first cervical vertebra), and lower (second cervical vertebra) levels, were measured on the images. A paired-samples t test was used to evaluate changes in the pharynx before and after surgery. The studied sample consisted of 18 adult patients (10 women and 8 men) with an average age of 37.11 years (standard deviation, 11.73 yr); all patients resided in the region of Ribeirão Preto, São Paulo, Brazil. No statistical changes were observed in the upper level. An enlargement of 17.82% (P = .0107) was observed in the sagittal plane of the middle level. The cross-sectional and area values of this same portion were enlarged (16.96 and 37.38%, respectively), with a trend toward statistical significance (P = .067 and .051, respectively). The airway enlargements in the lower level were 26.41, 24.87, and 53.87% in the sagittal and transverse planes and total area, respectively; these differences were statistically significant (P = .0003, .0033, and .0016, respectively) for all 3 measurements. SARME promotes pharyngeal enlargement, especially in the lower levels of the pharynx.

**Title:** Effects of Le Fort I Osteotomy on the Nasopharyngeal Airway-6-Month Follow-Up.
Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 380-391,

Author(s): Almuzian, Mohammed, Almukhtar, Anas, Ju, Xiangyang, Al-Hiyali, Ali,

Abstract: The literature discussing the impact of a single Le Fort I osteotomy on nasopharyngeal airways is limited. This study assessed the volumetric changes in the nasopharyngeal airway after a single Le Fort I osteotomy and explored the correlation between these changes and 3-dimensional surgical movements of the upper jaw. This retrospective study was conducted in 40 patients who had undergone a single Le Fort I (maxillary advancement with or without impaction) to correct Class III malocclusion with maxillary hypoplasia. Preoperative (T1) and 6-month postoperative (T2) cone-beam computed tomographic (CBCT) scans of these patients were used for analysis. Maxillary surgical movements and volumetric changes in the nasopharyngeal airway were measured. The reproducibility of the measurements was evaluated using paired t tests and intraclass correlation coefficients. The Wilcoxon test and Pearson correlation coefficient were applied to evaluate the volumetric changes in the nasopharyngeal airway space and assess the correlations of these changes to the maxillary surgical movements. Six patients were excluded from the study owing to major differences (>5°) in their head and neck posture between the T1 and T2 CBCT scans. The errors of the repeated measurements were insignificant (P > .05), with a high level of agreement (r = 0.99; P < .05) between the repeated digitization of the landmarks. There was a statistically significant impact of a Le Fort I osteotomy on the right maxillary sinus (decreased by 17.8%) and the lower retropalatal space (expanded by 17.3%; P < .05). The correlation between the change in airway volume and the magnitude of surgical maxillary movements was moderate (r = .4). Similarly, there was a moderate correlation between changes in the upper nasopharynx and those in the hypopharynx. The single Le Fort I osteotomy was found to increase the retroglossal airway volume. This could be important for the treatment of obstructive sleep apnea in patients with maxillary deficiency. A long-term follow-up assessment of a larger sample with a functional assessment of airway would be beneficial to confirm these findings.

Title: Natural Head Postures of Patients With Facial Asymmetry in Frontal View Are Corrected After Orthognathic Surgeries.

Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 392-398

Author(s): Kim, Ji-Youn, Kang, Moon-Ho, You, Jun-Young, Jee, Hyeon-Gun, Yi, Jin Wook, Kim, Byoung-Ho

Abstract: Although orthognathic surgeries focus on adjustment of facial asymmetry (FA), many clinicians know by experience that the natural head posture (NHP) also is corrected after the surgery. The authors examined whether this was indeed the case by the measuring the NHP during the course of orthognathic treatment. Factors associated with NHP correction also were evaluated. In this retrospective study, clinical features, including the NHP, of patients with FA and those with facial symmetry (FS) were compared. They were
outpatients of a private orthodontic dental clinic from December 2008 to March 2012. The degree of NHP tilt was evaluated using an interpupillary (IP) horizontal angle. The NHP of patients with FA were analyzed further before presurgical orthodontic treatment, after presurgical orthodontic treatment, after orthognathic surgery and postsurgical orthodontic treatment, and 1 year after completion of postsurgical orthodontic treatment. The NHP difference at each time point was analyzed using 1-way analysis of variance. An analysis of factors that influence NHP tilt correction was performed by linear regression. Thirty-one patients with FA and 27 with FS were evaluated. The NHP tilt was more profound in the FA group compared with the FS group. There were more patients with skeletal Class III in the FA group. The degree of NHP tilt in the FA group was decreased after orthognathic surgery and postsurgical orthodontic treatment and remained when measured 1 year later. Women were less prone than men to NHP tilt correction by orthognathic surgery. Patients with FA have a tilted NHP compared with those with FS. Orthognathic surgery for FA might correct a tilted NHP to a lesser degree in women.

Title: External Reference Nasal Pin for Orthognathic Maxillary Positioning: What Is the Proper Method of Placement?

Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 399.e1,

Author(s): Ruckman, Phil, Schlieve, Thomas, Borba, Alexandre Meireles, Miloro, Michael

Abstract: Intracranial perforation with an external reference nasal pin is a possible complication during maxillary orthognathic surgery. This study attempts to quantify the maximum allowable depth of pin penetration from the soft tissue nasion (STN) and hard tissue nasion (HTN) to the anterior cranial fossa (ACF) and to evaluate the depth and direction of the nasal pin track using postsurgical cone-beam computed tomography (CBCT). Two groups of patients were evaluated. A retrospective cross-sectional chart review evaluated the distance from the STN and HTN to the ACF from random patients on CBCT scans. In addition, a different group of postsurgical orthognathic cases treated between March 2013 and August 2015 were analyzed for the depth and direction of the nasal pin track toward the next anatomic cavity, which included the ACF, frontal sinus, or nasal cavity. We identified 103 random patients, aged 14 to 90 years. The mean distance from the STN to the ACF was 21.85 mm (range, 14.06 to 29.12 mm), and the mean distance from the HTN to the ACF was 14.16 mm (range, 7.35 to 20.53 mm). Forty postsurgical CBCT scans showed an overall nasal pin track depth of 12.91 mm (range, 8.53 to 22.60 mm), with the direction of the pin track toward the nasal cavity in most cases. The depth of penetration of an external reference nasal pin should be limited to a maximum of 10 to 12 mm from the STN. Initial skin penetration should begin immediately caudal to the STN, and the pin should be directed in a caudal direction to avoid inadvertent entrance into the ACF, as well as to facilitate a relatively safe penetration into the nasal cavity, if the maximum depth is excessive.

Title: Is Le Fort I Osteotomy Associated With Maxillary Sinusitis?
Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 400.e1,

Author(s): Nocini, Pier Francesco, D'Agostino, Antonio, Trevisiol, Lorenzo,

Abstract: The purpose of the present study was to investigate the association between Le Fort I osteotomy and the anatomic, radiologic, and symptomatic modifications of the maxillary sinus. Subjects who had undergone Le Fort I osteotomy from January 2008 to December 2013 were enrolled in a retrospective cohort study. The eligibility criteria were the availability of a cone beam computed tomography (CBCT) scan taken before and 12 to 24 months after the procedure. The exclusion criteria were the unavailability of CBCT scans, the use of tobacco, and previous orthognathic procedures. The primary predictor variable was time (pre-vs postoperative). The primary outcome variables were the sinus volume, mucosal thickening, iatrogenic alterations in the sinus anatomy, and rhinosinusitis symptoms, evaluated using the Sino-Nasal Outcome 20-item Test (SNOT-20). Descriptive statistics were computed for each variable, and paired analyses were used to compare the pre- and postoperative values. The data from 64 subjects (mean age 27; 59.4% were female; median follow-up 32.4 months, range 13 to 66 months) were studied. Postoperatively, 1.6% of the sample (0% preoperatively) had moderate-to-severe and 15.6% (3.1% preoperatively) had mild-to-moderate sinusitis symptoms. The rest of the sample presented with mild to no symptoms. The increase in the SNOT scores after surgery was statistically significant (P = .016). Radiologic evidence of postoperative inflammatory processes affecting the paranasal sinuses was found in 27.3% of the sinuses (9.4% preoperatively). The postoperative Lund-Mackay scores were significantly greater (P = .0005). A 19% decrease was found in the mean postoperative sinus volume, with a 37% incidence of iatrogenic injury. The study results indicate that Le Fort I osteotomies can have an important impact on sinus health. The postoperative radiologic evidence of maxillary sinus inflammatory processes and the incidence of rhinosinusitis symptoms and iatrogenic damage in these patients have led us to conclude that CBCT scans and the SNOT-20 questionnaire should be used routinely during postoperative monitoring. Larger long-term studies are warranted to clarify the postoperative outcomes and complications.

Title: Role of Negative-Pressure Wound Therapy in the Management of Submandibular Fistula After Reconstruction for Osteoradionecrosis.

Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 74, no. 2, p. 401-405,

Author(s): Zhang, Da-Ming, Yang, Zhao-Hui, Zhuang, Pei-Lin, Wang, You-Yuan,

Abstract: Although negative-pressure wound therapy (NPWT) for complicated wounds has been extensively studied, it is rarely used in cases involving a submandibular fistula due to radiation-induced osteoradionecrosis of the mandible. This study aimed to investigate the efficacy of NPWT for submandibular fistulas after reconstruction for osteoradionecrosis. Nine patients with submandibular fistulas after reconstruction for osteoradionecrosis treated with NPWT between 2011 and 2014 were included in the study. The wound healing was documented. The NPWT device was removed postoperatively between days 7 and 12.
(mean duration, 9.6 days). The wound bed was filled with healthy granulation tissue, and successful healing by second intention was observed in all patients within 2 weeks. No complications were observed. The follow-up ranged from 4 to 27 months (mean, 18 months); the fistulas exhibited excellent healing, and no recurrence or infection was observed. NPWT is a safe, effective technique for managing submandibular fistulas after reconstruction for osteoradionecrosis.

Title: The Value of the "Papillon" Anterolateral Thigh Flap for Total Pharyngolaryngectomy Reconstruction: A Retrospective Case Series.


Author(s): Ghazali, Naseem, Hanna, Todd C, Dyalram, Donita, Lubek, Joshua E

Abstract: The tubed, buried anterolateral thigh (ALT) flap is a popular reconstruction method for total pharyngolaryngectomy defects. The "papillon"-designed ALT flap, described by Hayden et al, offers an alternative method of using the ALT flap in this situation. We report our early experience with the papillon ALT flap in a patient cohort. On retrospective review, all patients who underwent reconstruction of circumferential total pharyngolaryngectomy defects with the papillon ALT flap from February 2012 to February 2015 were identified from our departmental database. Demographic and clinical data, operative details, and complications were analyzed from the records. Seven patients were included in this study. The mean length of hospital stay was 15 days (range, 10 to 32 days). Acute complications occurred in 5 of 7 patients, namely, partial flap loss managed by a pectoralis flap (1 of 7 [14%]); an early pharyngocutaneous fistula (4 of 7 [57%]) managed by simple repair, wound packing, or delayed repair; and a donor-site hematoma (1 of 7 [14%]). At follow-up (range, 2 to 24 months), there was 1 stricture formation, but no chronic fistula. All patients were able to swallow orally. Early results using the papillon ALT flap suggest that this technique is a viable alternative to the standard tubed ALT flap design. The advantages of this design include the following: 1) it offers simultaneous vascularized skin to resurface anterior neck skin deficiency without resorting to additional tissue elsewhere; 2) direct monitoring of the ALT flap is possible; and 3) any pharyngocutaneous fistula is exteriorized to the surface without compromising the internal neck structures and can be easily identified and repaired directly in the office.

Title: Green laser light irradiation enhances differentiation and matrix mineralization of osteogenic cells.


Author(s): Merigo, Elisabetta, Bouvet-Gerbettaz, Sebastien, Boukhechba, Florian,

Abstract: Low level laser therapy (LLLT) in both infrared and visible light is a therapeutic tool ever more proposed in clinical practice in different fields. The effect of near infrared LLLT has been described in a growing number of scientific publications related to bone tissue
healing, both in vitro and in vivo. More recently, green visible light using potassium-titanyl-phosphate KTiOPO4 (KTP, 532nm) laser has been proposed in dermatology, urology, oral and maxillofacial surgery but has never been tested on bone tissue. The aim of the present work was to perform a preliminary in vitro study to analyze the effects of KTP laser, on the osteogenic differentiation of bone marrow stromal cells (BMSCs). Using a power meter the first step of this study aimed to evaluate the real power emitted by the KTP laser device and the amount of energy absorbed by culture medium and plastic in order to calculate the appropriate irradiation parameters for cultured cells. Primary bone marrow stromal cells prepared from C57BL/6 mice were cultured and induced to differentiate in the osteogenic lineage in the presence or in the absence of KTP LLLT at a fluence of 4J/cm(2) three times a week. Specific staining of the cells and the extracellular matrix, microscopic analysis as well as quantitative RT-PCR were used to assess cell proliferation and differentiation. We show here that KTP LLLT enhances the osteogenic differentiation of bone marrow stromal cells and the mineralization of their extracellular matrix. Our results highlight that this LLLT experimental protocol with green light (KTP, 532nm) at 4J/cm(2) has a positive effect on the osteogenic differentiation of murine bone marrow stromal cells. These preliminary results could be used as a basis to further investigate the effect of this KTP laser protocol on bone tissue engineering models in vivo and in vitro.

Title: Utilization of Three-Dimensional Computer-Aided Preoperative Virtual Planning and Manufacturing in Maxillary and Mandibular Reconstruction with a Microvascular Fibula Flap.

Citation: Journal of reconstructive microsurgery, Feb 2016, vol. 32, no. 2, p. 137-141

Author(s): Kääriäinen, Minna, Kuuskeri, Marika, Gremoutis, Georgios, Kuokkanen, Hannu,

Abstract: Background The aim of this study was to analyze the effects of computer-aided three-dimensional virtual planning and the use of customized cutting guides in maxillary and mandibular reconstruction with a microvascular fibula flap. Methods Patients (n = 17) undergoing free fibula flap (n = 18) reconstruction of the maxilla (n = 2) or mandible (n = 15) from January 2012 through March 2014 were enrolled in the study. Preoperatively, patients underwent high-resolution computed tomography of the maxillofacial and lower leg regions. Three-dimensional virtual planning of the resection and reconstruction was performed. Customized cutting guides for maxillary/mandibular resections and fibular osteotomies, and prebend plates were manufactured. Demographic data, surgical factors, and perioperative and postoperative results were evaluated. Results Sixteen patients had malignant disease and one had benign disease. Sixteen of the flaps were osteomuscular and two were osteomusculocutaneous. Mean ischemia time was 99 minutes and mean operative time was 542 minutes. The flaps fitted into the defects precisely and no bone grafts were needed. Mean length of the fibula flap was 74 mm and the mean number of segments in the flap was 2.1. Conclusion Three-dimensional computer-aided preoperative virtual planning allowed for precise planning of the tumor resection and size of the fibula flap, the number and placement of the osteotomies needed, and the manufacture of customized cutting guides. Fibular shaping is easier and faster, which may decrease the ischemia time and total operative time. Exact placement of the flap in the defect may facilitate restoration of the anatomic shape and ossification. Thieme Medical Publishers 333 Seventh Avenue, New York, NY 10001, USA.
Title: Management of maxillofacial injuries in bear mauling cases: a review of 20 cases.

Citation: Journal of the Korean Association of Oral and Maxillofacial Surgeons, Feb 2016, vol. 42, no. 1, p. 13-19

Author(s): Kar, Indu Bhusan, Chopda, Prashant Dilip, Mishra, Niranjan, Sethi,

Abstract: As the craniofacial and neck regions are prime areas of injury in bear attacks, the careful management of soft and hard tissue injuries and selection of reconstructive options is of the utmost importance. This study will review the incidence and patterns of bear mauling in eastern India reported to our department and the various modalities used for their treatment over a period of 7 years. It also documents the risks of infection in bear mauling cases and the complications that have occurred. Twenty cases were treated over the study period. Cases were evaluated for soft and hard tissue injuries including tissue loss and corresponding management in the craniofacial region. Cases were also evaluated for other associated injuries, organ damage and related complications. Various modalities of treatment were used for the management of victims, ranging from simple primary repairs to free tissue transfers. Simple primary repairs were done in 75% of cases, while the management of the injured victims required reconstruction by local, regional or distant flaps in 25%. Free tissue transfers were performed in 15% of cases, and no cases of wound infection were detected in the course of treatment. Knowledge of various reconstructive techniques is essential for managing maxillofacial injuries in bear mauling cases. Modern reconstructive procedures like free tissue transfer are reliable options for reconstruction with minimal co-morbidity and dramatic improvement in treatment outcomes.

Title: Fibromatosis of infratemporal space.

Citation: JPMA. The Journal of the Pakistan Medical Association, Feb 2016, vol. 66, no. 2, p. 217-219

Author(s): Warraich, Riaz Ahmed, Saeed, Tooba, Riaz, Nabila, Aftab, Asma

Abstract: Fibromatosis is a rare benign mesenchymal neoplasm which primarily originates in the muscle, connective tissue, fascial sheaths, and musculoaponeurotic structures. It is commonly seen as abdominal tumour but in maxillofacial region, the occurrence of these tumours is very rare and exceedingly rare in infratemporal space. Often misdiagnosed due to its varied clinical behaviour, fibromatosis is benign, slow-growing, infiltrative tumour without any metastatic potential, but is locally aggressive causing organ dysfunction along with high recurrence rate. We report a case of fibromatosis involving the left infratemporal space in a 35-year-old female who presented with chief complaint of limited mouth opening for the preceding 4 years.

Title: Retrospective review of 78 rehabilitated head and neck postoncological patients: a new classification method.

Citation: Minerva stomatologica, Feb 2016, vol. 65, no. 1, p. 17-38,
Author(s): Brauner, Edoardo, Valentini, Valentino, Jamshir, Sara, Guarino, Giorgio, Battisti, Andrea, Fadda, Maria Teresa, Pompa, Giorgio

Abstract: Numerous studies have been published about the prosthetic rehabilitation of the postoncological maxillo-facial patient, but the guidelines that emerge lack a correlation between the anatomical classification of the treated site, which generally is preparatory upon surgery, and the type of prosthetic rehabilitation appropriate to the new anatomical and functional condition. With this correlation, it would be possible to obtain a multidisciplinary and predictable therapeutic process, able to identify from the beginning the best type of prosthetic rehabilitation. The authors analyzed a sample of 78 patients treated in the Maxillofacial Surgery Unit of "Sapienza" University of Rome for a tumor of the head and neck area, and at a later stage prosthetically rehabilitated in the years from 2010 to 2013 in the Prosthetic Rehabilitation Unit of the same University because of the consequences of the ablative surgery. After having analyzed data concerning the treatment of the maxillofacial tumor, Authors classified the kind of prosthetic rehabilitation. Removable prosthesis was chosen in 18 cases, while implant (or teeth)-supported rehabilitation was performed in 60 cases. Authors correlated the kind of surgical reconstruction to the prosthetic rehabilitation performed. In the maxilla removable prosthesis was chosen in 8 cases, while implant supported rehabilitation was performed in 18 cases. In the mandible 10 cases were rehabilitated through a removable prosthesis and 42 through a teeth or implant supported prosthesis. It is evident the need to perform a careful evaluation of the patient, in order to identify the best possible prosthetic rehabilitation.

Title: Pediatric Vascular Tumors of the Head and Neck.

Citation: Oral and maxillofacial surgery clinics of North America, Feb 2016, vol. 28, no. 1, p. 105-113,

Author(s): Bouchard, Carl, Peacock, Zachary S, Troulis, Maria J

Abstract: Oral and maxillofacial surgeons are often involved in the diagnosis and treatment of vascular neoplasms of the head and neck. An incorrect diagnosis may lead to improper or unnecessary treatment. This article reviews the diagnosis and management of vascular tumors.

Title: Two-week rule in head and neck cancer 2000-14: a systematic review.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 120-131,

Author(s): Langton, Steve, Siau, Derrick, Bankhead, Clare

Abstract: The fast-track system in the UK for patients with suspected cancer - the two-week rule - states that if cancer is suspected there should be a maximum of 14 days between referral from primary care and consultation with a specialist. This approach is valued by
patients, ensures a universal standard of diagnosis, and speeds up the overall management of cancer. However, some say that the rule has had little or no effect on survival, results in a diagnosis of cancer in only a small proportion of patients referred, and is expensive. We have made a systematic review of the effectiveness of the two-week rule in patients with head and neck cancer with the aid of electronic searches of databases, including MEDLINE, EMBASE, the Cochrane Database of Systematic Reviews CINAHL, and CANCERLIT up to the end of 2014. This was supplemented by searching conference proceedings and contacting experts. Retrospective and prospective studies that included either conversion rate (proportion of two-week referrals who were diagnosed with cancer - positive predictive value), or detection rate (proportion of diagnosed cancers referred under the two-week rule - sensitivity), or both, were included. Two reviewers assessed studies for inclusion, and extracted data independently. Heterogeneity was assessed by inspection of the overlap of 95% CI in the forest plot and calculation of I(2). We made a random-effects meta-analysis of 17 studies. All reported the conversion rate, and 10 also reported the detection rate. Meta-analysis indicated an overall pooled conversion rate of 8.8% (95% CI 7.0% to 10.7%) and a pooled detection rate of 40.8% (95% CI 25.7% to 55.8%) Subgroups in which maxillofacial (OFMS) and otolaryngology (ENT) were assessed showed no significant difference in conversion rate (8.3% and 8.8%; p=0.73). Subgroup analyses of early studies (before the end of 2008) and later studies (2009-14), showed a significant reduction in conversion rates from 10.6% to 6.6%, p=<0.0001. These early and late subgroups showed a significant increase in detection rate (35.0% to 49.7%, p=0.0008). The conversion and detection rates were similar to those for a number of other cancer sites that relied on a list of signs and symptoms for referral and were similar in both ENT and OMFS units. There is evidence that two-week referral conversion rates are falling, while detection rates are rising because of an increased number of referrals. The influence of the two-week referral on outcomes, particularly survival, is not well known.

Title: Refining the head and neck cancer referral guidelines: a two centre analysis of 4715 referrals.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 141-150

Author(s): Tikka, Theofano, Pracy, Paul, Paleri, Vinidh

Abstract: Our aim was to identify the set of referral criteria that will offer optimal diagnostic efficacy in patients suspected to have head and neck cancer (HNC) in the primary care setting. We analysed the referral criteria and outcomes from two tertiary care cancer centres in the United Kingdom. Between 2007 and 2010, 4715 patients were referred via the fast track system with a suspected HNC. The main outcome measures were the parameters of diagnostic efficacy, a multivariate regression model to calculate estimated probability of HNC and the area under the receiver operating characteristic curve (AUROC). We found that the majority of referring symptoms had a positive predictive value higher than the 3% cut-off point stated to be significant for HNC detection in the 2015 NICE recommendations. Nevertheless, our multivariate analysis identified 9 symptoms to be linked with HNC. Of these, only 4 are included in the latest NICE guidelines. The best fit predictive model for this dataset included the following symptoms: hoarseness>3 weeks,
dysphagia > 3 weeks, odynophagia, unexplained neck mass, oral swelling > 3 weeks, oral ulcer > 3 weeks, prolonged otalgia with normal otoscopy, presence of blood in mouth with concurrent sensation of lump in throat, and presence of otalgia with concurrent lump in throat sensation. Intermittent hoarseness and sensation of lump in throat were negatively associated with HNC. The AUROC demonstrated that our model had a higher predictive value (0.77) compared to those generated using the NICE 2005 (0.69) and 2015 (0.68) referral criteria (p < 0.0001). An online risk calculator based on this study is available at http://www.orlhealth.com/risk-calculator.html. This paper presents a significantly refined version of referral guidelines which demonstrate greater diagnostic efficacy than the current NICE guidelines. We recommend that further iterative refinements of referral criteria be considered when referring patients with suspected HNC.

Title: Anterograde excision of a sublingual gland: new surgical technique for the treatment of ranulas.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 151-154

Author(s): Liu, Zhigang, Wang, Bin

Abstract: Wharton's duct is dissected in a retrograde direction from the orifice of the duct to the hilum of the submandibular gland when the gland is being excised conventionally. Here we describe an anterograde technique, in which Wharton’s duct is dissected in an anterograde direction from the hilum of the submandibular gland to the orifice of the duct. This prospective clinical study included 50 consecutive patients with ranulas who had anterograde excision of the sublingual gland between May 2012 and January 2015. The intraoral incision was similar to that for conventional excision. Wharton's duct and other important anatomical structures located in the space behind the sublingual gland were all identified at the beginning of the procedure, followed by anterograde dissection of Wharton’s duct. After the glandular tissue lateral to the duct had been incised completely, the duct was exposed and the gland cut into two parts. Finally, the two parts were removed, and the ranula ruptured. The patients were followed up from 6 months-2 years. There were no complications. Anterograde excision of the sublingual gland is based on the anatomy, and this reduces the risk of complications after removal of a ranula.

Title: Coronectomy of lower third molars with and without guided bony regeneration: a pilot study.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 155-159

Author(s): Leung, Yiu Yan

Abstract: This pilot study for a split-mouth, randomised, clinical trial compared the incidence of postoperative complications, root migration, and adjacent second molar periodontal attachment after coronectomy of the lower third molars with or without guided bony regeneration. Six patients (three men and three women, mean (range) age 27 (21-44)
years), each with bilateral lower third molars in close proximity to the inferior alveolar nerve, were recruited. One third molar of each patient was randomised to be treated by coronectomy with guided bony regeneration, and the other side coronectomy alone. All subjects were reviewed for 12 months. No neurosensory deficit was noted in either group. We found no significant differences between the two groups in postoperative morbidity. Mean (SD) root migration after coronectomy with guided bony regeneration at postoperative 2 weeks, 3 months, 6 months, and 12 months were 0.14 (0.34), 0.56 (0.68), 0.63 (0.83), and 0.63 (0.83) mm, respectively. These were significantly less than the results in the control group from postoperative 3 months onwards (3 months p=0.01, 6 months p=0.004, and 12 months p=0.003). There was a trend towards reduced periodontal depth at the adjacent second molar in the study group compared with that in the control group, but not significantly so. These results show that coronectomy of lower third molars with guided bony regeneration has low morbidity and seems to reduce root migration. A full-scale randomised clinical trial will show the effect on root migration and periodontal attachment of the adjacent second molar.

Title: Training in TMJ surgery: experience of a one-year fellowship.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 160-162

Author(s): Speculand, Bernard, Attard, Alan, Green, Jason

Abstract: In the United Kingdom, most training programmes in oral and maxillofacial surgery (OMFS) do not sufficiently cover management of the temporomandibular joint (TMJ) to enable newly appointed consultants to practise independently as TMJ surgeons. We describe a one-year fellowship programme for a senior OMFS trainee who had just completed training, which included various international courses in the USA and Europe on specific aspects of TMJ surgery. Under the direct supervision of a consultant, the trainee completed 70 arthroscopic procedures, 13 TMJ cryotherapies, 16 TMJ arthrocenteses, 9 TMJ arthroplasties, and 20 total prosthetic TMJ replacements. Our experience indicates that specific training is required for those who wish to practise in the field of TMJ management and surgery.

Title: Detecting internet search activity for mouth cancer in Ireland.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 163-165

Author(s): Murray, G, O'Rourke, C, Hogan, J, Fenton, J E

Abstract: Mouth Cancer Awareness Day in Ireland was launched in September 2010 by survivors of the disease to promote public awareness of suspicious signs of oral cancer and to provide free dental examinations. To find out whether its introduction had increased public interest in the disease, we used Google Trends to find out how often users in Ireland had searched for "oral cancer" and "mouth cancer" across all Google domains between January 2005 and December 2013. The number of internet searches for these cancers has
increased significantly (p <0.001) and has peaked each September since the awareness day was launched in 2010. More people searched for "mouth cancer" than for "oral cancer". These findings may have valuable clinical implications, as an increase in public awareness of mouth cancer could result in earlier presentation and

Title: Use of a virtual learning environment for training in maxillofacial emergencies: impact on the knowledge and attitudes of staff in accident and emergency departments.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 166-169

Author(s): Elledge, Ross, McAleer, Sean, Thakar, Meera, Begum, Fathema,

Abstract: Many graduates will take up junior roles in accident and emergency (A&E) departments to which a large proportion of patients present with facial injuries caused by interpersonal violence. However, it is widely recognised that undergraduates and postgraduates have few opportunities for training in oral and maxillofacial surgery. We aimed to assess the impact of a specifically designed maxillofacial emergencies virtual learning environment (VLE) on the knowledge and confidence of junior doctors in two A&E departments. They were given free access to the VLE for one month, and were asked to complete multiple choice questions and to rate their confidence to deal with 10 common situations on visual analogue scales (VAS) at baseline and one month after training. A total of 29 doctors agreed to pilot the website, 21 (72%) completed both sets of questions, and 18 (62%) completed both VAS assessments. The mean (SD) multiple choice score improved from 10 (2.52) to 13 (3.56) out of a maximum of 20 (p=0.004) and the mean (SD) VAS improved from 29.2 (19.2) mm to 45.7 (16.6) mm out of a maximum of 100mm (p=0.007). This was a small pilot study with limited numbers, but it showed improvements in the knowledge of maxillofacial emergencies and in confidence, although the latter remained low. Further work is needed to examine how these brief educational interventions affect the attitudes of frontline staff to maxillofacial emergencies.

Title: Potential new method of design for reconstruction of complicated mandibular defects: a virtual deformable mandibular model.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 170-175

Author(s): Chen, Quan, Zhigang, Cai, Xin, Peng, Yang, Wang, Chuanbin, Guo

Abstract: The treatment of complicated mandibular defects, including misshaped and missing bones, is challenging, and the success of reconstruction depends to a large extent on the formulation of a precise surgical plan. There is still no ideal preoperative method of design for reconstruction to deal with large, cross-midline, mandibular, segmental defects. We have built a virtual deformable mandibular model (VDMM) with 3-dimensional animation software. Sixteen handles were set on the model, and these could be easily controlled with a computer mouse to change the morphology of the deformable mandibular model. The computed tomographic (CT) data from 10 normal skulls was used to validate the
adjustability of the VDMM. According to the positions of the mandibular fossa of the temporomandibular joint, the maxillary dental arch, and the craniomaxillofacial profile, the model could be adjusted to an ideal contour, which was coordinated with the skull. The VDMM was then adjusted further according to the morphology of the original mandible. A 3-dimensional comparison was made between the model of the deformed mandible and the original mandible. Using 16 control handles, the VDMM could be adjusted to a new outline, which was similar in shape to the original mandible. Within 3mm deviation either way, the absolute mean distribution of deviation between the contour of the deformed model and the original mandible was 92.5%. The VDMM might be useful for preoperative design of reconstruction of complicated mandibular defects.

Title: Prospective biomechanical evaluation of donor site morbidity after radial forearm free flap.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 181-186,

Author(s): Riecke, Björn, Kohlmeier, Carsten, Assaf, Alexandre T, Wikner, Johannes,

Abstract: Although the radial forearm free flap (RFF) is a commonly-used microvascular flap for orofacial reconstruction, we are aware of few prospective biomechanical studies of the donor site. We have therefore evaluated the donor site morbidity biomechanically of 30 consecutive RFF for orofacial reconstruction preoperatively and three months postoperatively. This included the Mayo wrist score, the Disabilities of the Arm, Shoulder and Hand (DASH) score, grip strength, followed by tip pinch, key pinch, palmar pinch, and range of movement of the wrist. Primary defects were all closed with local full-thickness skin grafts from the donor site forearm, thereby circumventing the need for a second defect. Postoperative functional results showed that there was a reduction in hand strength measured by (grip strength: -24.1%, in tip pinch: -23.3%, in key pinch: -16.5, and in palmar pinch: -19.3%); and wrist movement measured by extension (active=14.3% / passive= -11.5%) and flexion = -14.8% / -8.9%), and radial (-9.8% / -9.8%) and ulnar (-11.0% / -9.3%) abduction. The Mayo wrist score was reduced by 9.4 points (-12.9%) and the DASH score increased by 16.1 points (+35.5%) compared with the same forearm preoperatively. The local skin graft resulted in a robust wound cover with a good functional result. Our results show that the reduction in hand strength and wrist movement after harvest of a RFF is objectively evaluable, and did not reflect the subjectively noticed extent and restrictions in activities of daily living. Use of a local skin graft avoids a second donor site and the disadvantages of a split-thickness skin graft.

Title: Percutaneous sclerotherapy of arteriovenous malformations of the face using fibrin glue combined with OK-432 and bleomycin after embolisation.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 187-191,

Author(s): Zhao, Xiao-Peng, Huang, Zhi-Quan, Chen, Wei-Liang, Wang, You-Yuan,
Abstract: Congenital arteriovenous malformations (AVM) in the maxillofacial region are rare, but potentially life-threatening, vascular lesions. Here we review our experience of 13 patients with AVM of the facial soft tissues who were treated using percutaneous sclerotherapy with fibrin glue combined with OK-432 and bleomycin after embolisation. The mean (range) follow-up was 27 (14-58) months. Three of the lesions were completely controlled, eight were nearly completely controlled, and the other two were partly controlled. Our experience is that percutaneous sclerotherapy of arteriovenous malformations of the face using fibrin glue combined with OK-432 and bleomycin after embolisation is safe and effective.

Title: Age-related and sex-related changes in the normal soft tissue profile of native Northern Sudanese subjects: a cross-sectional study.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 192-197,

Author(s): Sforza, Chiarella, Dolci, Claudia, Gibelli, Daniele M, Codari, Marina,

Abstract: Information about age-related and sex-related normative measurements of the nasolabial region in native Northern Sudanese subjects is scanty. We have therefore used a hand-held laser scanner to measure nasolabial angles and distances, and collected the 3-dimensional coordinates of seven landmarks on the facial soft tissues from 654 healthy native Northern Sudanese subjects (327 male and 327 female, aged 4-30 years). From these we calculated five angles and two linear distances and took the mean (SD) for age and sex, and compared them using factorial analysis of variance. All measurements analysed were significantly modified by age in both sexes (p < 0.01) except for the distance from the lower lip to Ricketts' E-line. Sex had a significant effect on the mentolabial and maxillary prominence angles and both distances (p < 0.005). Nasal convexity and the interlabial angle became more obtuse with growth, while the nasolabial and mentolabial angles reduced progressively with female subjects having significantly more obtuse mentolabial angles (p < 0.001). The maxillary prominence angle progressively decreased during childhood, and increased after adolescence, with larger values in male subjects. The upper and lower lip distances from Ricketts' E-line were also significantly larger in male subjects (p < 0.003), but the difference reduced with age. Overall, there were several differences when we compared our data with published data for African and white subjects, which points to the need for ethnic-specific data. Measurements collected in the current study could be used for the quantitative description of facial morphology in native Northern Sudanese children, adolescents, and young adults.

Title: Association between p53 status, human papillomavirus infection, and overall survival in advanced oral cancer after resection and combination systemic treatment.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 198-202,

Author(s): Cutilli, Tommaso, Leocata, Pietro, Dolo, Vincenza, Altobelli, Emma
Abstract: Our previous study on 75 cases of advanced oral squamous cell carcinomas (SCC) treated by neoadjuvant chemotherapy, radical surgery, and radiotherapy showed that overexpression of p53 of more than 50% indicated a strong probability of genetic mutation, and tumours that are characterised by this p53 pattern respond poorly to treatment and have a poor prognosis (p=0.0001). We have studied the same cohort of patients retrospectively to investigate the incidence of human papillomavirus-16 (HPV16) infection, the relation to the overexpression or mutation of the p53 gene, and the association with overall survival. There were 57 men and 18 women, mean age 67 (range 57-72) years. HPV16 infectivity was found in 66 patients (88%) - 49/57 men (86%) and 17/18 women (94%). There was no significant difference between the sexes (p=0.32). The cumulative survival of the entire group after a follow-up of 38 months was 26% (SE 6.4). The log rank test indicated that the combination of HPV-16 infectivity and p53 mutation was significantly related to prognosis (p=0.000). On the other hand HPV16 infectivity alone was not significantly related to prognosis (p=0.78). The incidence of HPV-16 infection decreased with increasing immune p53 expression (p=0.005), whereas that of the HPV16+p53 mutation combination increased with increasing immune p53 expression (p=0.000). The results show the importance of the investigation of HPV and p53 expression to define prognosis in oral SCC.

Title: Results of radiological follow-up of untreated anterior disc displacement without reduction in adolescents.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 203-207

Author(s): Zhuo, Ziang, Cai, XieYi

Abstract: Our aim was to assess the progression of disease without treatment in adolescents with non-reducible anterior disc displacement (ADD) using serial magnetic resonance images (MRI). We retrospectively reviewed all patients under the age of 20 years who had unilateral non-reducible ADD and had had two MRI during a period of 6 months with no intervention. A total of 124 patients (101 female and 23 male) with a mean (range) age of 16 (10-20) years had 2 MRI at least 6 months apart (mean (range) 14 (6-47) months). At the initial visit there was a significant difference between the involved and the non-involved sides in the incidence of condylar degeneration and effusion (p=0.0001). The effusion significantly decreased despite the lack of intervention, the amount of disc deformation significantly increased (p=0.003), and the degree of condylar degeneration increased from 61%-69%, but this did not differ significantly. We conclude that during the period of observation there was a significant reduction in the incidence of effusion and significant increase in disc deformation. Whilst there was an increase in the changes on the condylar surface, this was not significant.

Title: Role of general practice in the diagnosis of oral cancer.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 208-212
Author(s): Crossman, Timothy, Warburton, Fiona, Richards, Michael A, Smith, Helen,

Abstract: The incidence of oral cancer is increasing in the United Kingdom. There is evidence that early diagnosis and effective treatment improve survival, but the poor 5-year survival rate (50%), which has not improved for several decades, has been attributed to advanced stage at presentation. To investigate the symptoms associated with cancer of the oral cavity and to explore the role of general practitioners (GP) in the identification and referral of patients, we sent 200 patients questionnaires on the route to diagnosis, symptoms, delay in presentation, and outcomes of consultations with their GP. Of 161 respondents, over half (56%) had been referred to secondary care by their GP and a third (32%) by their dentist. The most commonly reported symptoms were a mouth ulcer (32%), a lump in the face or neck (28%), and pain or soreness in the mouth or throat (27%). Fifteen per cent delayed presentation for more than 3 months. After consultation with a GP (n=109), 53% were referred to a specialist, 22% were referred for tests, 12% were told that their symptom was not serious, and 12% were treated for another condition. GPs have an important role in the identification and referral of people with oral cancer, and the clearly recognised symptoms identified in this study can be used to aid assessment and decision-making. Interventions to promote the prompt identification of oral cancer in general practice such as the opportunistic screening of high-risk patients may help to improve the poor survival rates.

Title: Lymph node density predicts lung metastases in oral squamous cell carcinoma.

Citation: The British journal of oral & maxillofacial surgery, Feb 2016, vol. 54, no. 2, p. 213-218,

Author(s): Suzuki, H, Beppu, S, Hanai, N, Hirakawa, H, Hasegawa, Y

Abstract: The association between lymph node density and survival free of lung metastases in oral squamous cell carcinoma (SCC), has not been investigated so far to our knowledge. Lymph node density $\geq 0.07$ has been reported by a multicentre international study to be a significant predictor of shorter survival in patients with oral SCC who have invaded nodes. We investigated whether a lymph node density of $\geq 0.07$ correlates with shorter overall survival, survival free of distant metastases, and survival free of lung metastases, in patients with oral SCC and invaded lymph nodes. Thirty-five patients with histologically-confirmed invaded lymph nodes were studied. Their density was calculated as the ratio of the number of invaded lymph nodes:total number of nodes. A density of $\geq 0.07$ correlated significantly with shorter overall survival ($p<0.02$), survival free of distant metastases ($p<0.01$), and survival free of lung metastases ($p<0.01$) on log rank testing. On testing by Cox's proportional hazards model of multivariate survival analysis with adjustment for the pathological stage (pstage IV/pstage III), and invaded surgical margins or extracapsular spread, or both, we found that lymph node density $\geq 0.07$ was associated with significantly shorter survival ($p<0.02$). We conclude that lymph node density predicts lung metastases in patients with oral SCC.

Title: Unilateral sagittal split mandibular ramus osteotomy: indications and geometry.
Abstract: Small mandibular asymmetries may be corrected by unilateral sagittal split ramus osteotomy (USSO). This study had two objectives: first to define the geometric changes in the mandibular condyle and the lower incisor teeth that result from the rotation of the major segment (n=26), and secondly to examine in a clinical study the temporomandibular joints (TMJ) of 23 patients after correction of mandibular asymmetry by USSO to find out if there were any long-term adverse effects. Small mandibular asymmetries (<5mm) can be corrected by USSO. Secondary anteroposterior changes as a result of setback or advancement on the operated side should be taken into account during the planning of treatment. The small rotational changes of the condyle did not adversely affect the TMJ.

Title: Micromorts - what is the risk?

Abstract: The effective communication of risk, which is central to the process of consent, can be difficult, and can be hard for patients to understand. We introduce the potential utility of the micromort, a unit of risk defined as a one-in-a-million chance of sudden death, which allows clinicians to compare the risks of an intervention with those of different activities, making them easier to understand.

Title: Interrelationship of Structure and Function in Maxillofacial Fractures.

Abstract: Surgical fixation of maxillofacial fractures can be associated with a myriad of surgical complications. Specific complications correlate with the type of fracture. The authors present a case of multiple maxillofacial fractures, briefly review various types of fractures, and discuss the operative decision-making process. This case report serves as an important reminder that the operative decision-making process should take into account a patient's entire clinical condition.

Title: Orbit fractures: Identifying patient factors indicating high risk for ocular and periocular injury.

Abstract: Small mandibular asymmetries may be corrected by unilateral sagittal split ramus osteotomy (USSO). This study had two objectives: first to define the geometric changes in the mandibular condyle and the lower incisor teeth that result from the rotation of the major segment (n=26), and secondly to examine in a clinical study the temporomandibular joints (TMJ) of 23 patients after correction of mandibular asymmetry by USSO to find out if there were any long-term adverse effects. Small mandibular asymmetries (<5mm) can be corrected by USSO. Secondary anteroposterior changes as a result of setback or advancement on the operated side should be taken into account during the planning of treatment. The small rotational changes of the condyle did not adversely affect the TMJ.
Author(s): Andrews, Brian T, Jackson, Anee Sophia, Nazir, Niaman, Hromas, Alan,

Abstract: Maxillofacial trauma frequently involves the bony orbit that surrounds the ocular globe. Concomitant globe injury is a concern whenever orbit trauma occurs and in severe cases can occasionally result in vision loss. The mechanism of injury, physical exam findings, and radiographic imaging can provide useful information concerning the severity of the injury and concerns for vision loss. Using these three tools, it is hypothesized that the patient's history, physical exam, and radiographic findings can identify high-risk maxillofacial trauma patients with concomitant ocular injury. Identification of high risk patients who require comprehensive ophthalmologic evaluation may alter management and possibly preserve or restore vision. A retrospective clinical chart review was performed at a tertiary academic medical center. Subjects were identified using the institutional trauma registry. Data collected included subject demographics, patient medical records and notes, ophthalmologic testing, and radiographic imaging. The incidence of orbit fracture and concomitant ocular injury associated with the mechanism of injury, physical exam findings, and radiographic imaging was determined. Statistical analysis was performed using a chi-square and Fisher exact test. In this study, 279 subjects with orbit fractures were identified and the incidence of concomitant ocular injury was 27.6% (77 of 279). Mechanism of injury was statistically associated with an increased risk of ocular injury (P = 0.0340), with penetrating trauma being the most likely etiology. The physical exam findings of visual acuity and an afferent pupillary defect were statistically associated with ocular injury (P = 0.0029 and 0.0001, respectively). Depth of orbit fracture on radiographic imaging was statistically associated with ocular injury (P = 0.0024), with fractures extending to the posterior third of the orbit being most likely to have associated ocular injury. Maxillofacial trauma patients with orbit fractures and concomitant ocular injury occur in more than one in four patients. Comprehensive ophthalmologic evaluation is recommended for all patients who sustain an orbit fracture. Subjects with a penetrating trauma mechanism of injury, physical exam findings of visual acuity deficits and an afferent pupillary defect, and radiographic imaging demonstrating fracture depth involvement of the posterior orbit are at highest risk for vision loss and warrant specific concern for ocular injury assessment. IV. Laryngoscope, 126:S5-S11, 2016.

Cleft lip and palate

Title: Critical choices in cleft surgery: 18-year single-surgeon retrospective review of 900 cases

Citation: European Journal of Plastic Surgery, February 2016, vol./is. 39/1(11-22)

Author(s): Farouk A.

Abstract: Background: Multidisciplinary management of orofacial clefts may lead to a successful treatment outcome. However, it is quite usual that lack of long-term treatment planning and collaboration among various specialists and lack of standardized surgical protocols result in poor esthetic and functional treatment outcomes. This article aims to
hypothesize some critical determinants of outcome in cleft surgery. Methods: Throughout a period of 18 years, 900 patients with different clinical types of congenital cleft anomaly were subject to primary repair of cleft lip, nose, and palate by single surgeon using various procedures, including preoperative nasoalveolar molding, two-stage and one-stage repair of complete cleft lip and palate, two-flap and one-flap palatoplasty, open tip rhinoplasty, and postoperative nasal molding. Results: Clinical results of preoperative nasoalveolar molding and surgical repair of lip, nose, and palate were satisfactory for most patients, parents, and surgeon panel. Conclusions: Treatment based on the individual patient's facial assets and deficits must be the controlling factor in designing therapy. The essential key to successful management of clefts is to figure out the three-dimensional dynamics that govern the deformity and to recognize a fourth dimension for time along these dynamics in order to envision how a small difference in the position of a single suture during the first surgery can bring about a giant deformity upon completion of facial growth, hence the crucial role of the first surgery and its related concepts, techniques, and tactics in dictating the final outcome of the case. Level of Evidence: Level IV, therapeutic study.

Title: Evaluation of 5-year-old children with complete cleft lip and palate: Multicenter study. Part 2: Functional results

Citation: Journal of Cranio-Maxillofacial Surgery, February 2016, vol./is. 44/2(94-103)

Author(s): Dissaux C., Grollemund B., Bodin F., Picard A., Vazquez M.-P., Morand B.,

Abstract: Background and purpose Cleft surgery is marked by all the controversies and the multiplication of protocols, as it has been shown by the Eurocleft study. The objective of this pilot study is to start a comparison and analyzing procedure between primary surgical protocols in French centers. Methods Four French centers with different primary surgical protocols for cleft lip and palate repair, have accepted to be involved in this retrospective study. In each center, 20 consecutive patients with complete cleft lip and palate (10 UCLP, 10 BCLP per center), non syndromic, have been evaluated at a mean age of 5 [range, 4-6]. In this second part, maxillary growth and palatine morphology were assessed on clinical examination and on dental casts (Goslon score). Speech was also evaluated clinically (Borel-maisonny classification) and by Aerophonescope. Results Veau-Wardill-Killner palatoplasty involves a higher rate of transversal maxillary deficiency and retromaxillary. The fistula rate is statistically lower with tibial periosteum graft hard palate closure but this technique seems to give retromaxillary. Malek and Talmant two-stage-palatoplasty techniques reach Goslon scores of 1 or 2. Considering speech, Sommerlad intravelar veloplasty got higher outcomes. Conclusions Primary results. Extension to other centers required. The two-stage palatoplasty, including a Sommerlad intravelar veloplasty seems to have the less negative impact on maxillary growth, and to give good speech outcomes. Level of evidence Therapeutic study. Level III/retrospective multicenter comparative study.

Title: Use of a modified Furlow Z-plasty as a secondary cleft palate repair procedure to reduce velopharyngeal insufficiency.

Citation: International journal of oral and maxillofacial surgery, Feb 2016, vol. 45, no. 2, p. 170-176,
**Author(s):** Reddy, R R, Reddy, S G, Banala, B, Bronkhorst, E, Kummer, A W, Kuijpers-Jagtman, A M, Bergé, S J

**Abstract:** Cleft palate repair is done to allow for normal speech by separating the oral and nasal cavities and creating a functioning velopharyngeal valve. However, despite cleft palate repair, some patients demonstrate velopharyngeal insufficiency (VPI). An attempt was made to determine the effectiveness of a modified secondary Furlow Z-plasty in improving VPI. Fifty-five children aged between 12 and 15 years, with postoperative VPI following primary palatoplasty, were included in the study. These children underwent a modified Furlow Z-plasty. Nasometry was done to determine the change in velopharyngeal function due to the secondary Furlow Z-plasty by comparing the preoperative with the 1-year postoperative nasalance scores. A test-retest study was performed to determine the reliability of the nasometric measures. Reliability measurements of the nasometer passages revealed good reliability for 18 out of the 25 speech passages. There was a statistically significant reduction in VPI at 1 year postoperative in patients who were treated with the modified Furlow Z-plasty, with a P-value of <0.001 in all passages, except velar plosives, which had a P-value of 0.002. Patients with VPI after primary palatoplasty and treated using a modified Furlow Z-plasty had significantly lower nasalance scores at 1 year postoperative, indicating significantly improved velopharyngeal function.

**Title:** Surgical repair of the isolated incomplete median cleft lip.

**Citation:** International journal of oral and maxillofacial surgery, Feb 2016, vol. 45, no. 2, p. 177-179,

**Author(s):** Topkara, A, Özkan, A, Özcan, R H, Öksüz, M

**Abstract:** Median cleft lip refers to a vertical cleft on the midline of the upper lip. It is a rare congenital craniofacial anomaly brought about by a fusion failure in the medial nasal prominence. A novel surgical approach to median cleft lips and their repair is reported herein, with reference to a clinical case. The patient had a cleft in the lower half of the upper lip. There were no other craniofacial anomalies in this patient other than the cleft. Within the framework of the patient's surgical treatment, a functional and cosmetically satisfactory result was achieved by performing a V-Y advancement flap on the columella base, Z-plasty in the vermillion zone, and Z pattern muscular tissue repair, without having to resort to any tissue excisions.

**Title:** Sex distribution is a factor in teratogenically induced clefts and in the anti-teratogenic effect of thiamine in mice, but not in genetically determined cleft appearance.

**Citation:** Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Feb 2016, vol. 44, no. 2, p. 104-109

**Author(s):** Scheller, Konstanze, Kalmring, Florian, Schubert, Johannes
Abstract: Cleft lip and/or palate (CL/P) shows a gender-related distribution in human beings. The reason is unknown. This study analyzed the gender-related cleft appearance with respect to teratogenically and genetically determined cleft appearance and the response to thiamine (vitamin B1) supplementation. Cyclophosphamide (CPA; 0.6 mg) and dexamethasone (0.25 mg) were injected intraperitoneally to A/B-Jena mice on different days of pregnancy. The abortion and malformation rate in the A/B-Jena and A/WySn mice with genetically determined clefting was documented to be gender-specific. Vitamin B1 was given to A/B-Jena dams at different times during pregnancy before, simultaneously and after the teratogenic agent was given to the pregnant mothers. A/WySn mice received oral supplementation at different times during embryonic/fetal development. There were significantly more living female fetuses when mothers were treated with teratogens, and the embryo lethality and malformation affected more male individuals. However, the survival and malformation rate in A/WySn mice was not gender-specific. Especially in male fetuses, vitamin B1 decreased the teratogenic cleft rate (CPA: p < 0.001, dexamethasone: p = 0.6), whereas there was no effect in the A/WySn mice. There was a strong anti-teratogenic effect of vitamin B1, especially in the male fetuses. Genetically determined cleft appearance was not positively influenced. These findings confirm observations about cleft appearance in human beings.
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