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New form The Dental Elf

Medication related osteonecrosis of the jaw

Nov 17 2015

Bisphosphonates are antiresorptive drugs prescribed for a wide range of bone diseases (Paget’s disease of bone, hypercalcaemia of malignancy, osteolytic bone metastases, and osteolytic lesions of multiple myeloma). Bisphosphonate- or Medication-Related OsteoNecrosis of the Jaws (MRONJ) is one of the adverse effects noted with these antiresorptive drugs (ARD).

New in the Cochrane Library of Systematic Reviews

Non-prescription (OTC) oral analgesics for acute pain - an overview of Cochrane reviews

R Andrew Moore; Philip J Wiffen; Sheena Derry; Terry Maguire; Yvonne M Roy; Editorial Group: Cochrane Pain, Palliative and Supportive Care Group

Published Online: 4 NOV 2015; Assessed as up-to-date: 21 MAY 2015

Abstract: Non-prescription (over-the-counter, or OTC) analgesics (painkillers) are used frequently. They are available in various brands, package sizes, formulations, and dose. They can be used for a range of different types of pain, but this overview reports on how well they work for acute pain (pain of short duration, usually with rapid onset). Thirty-nine Cochrane reviews of randomised trials have examined the analgesic efficacy of individual drug interventions in acute postoperative pain.
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: Development of professional identity during early training in oral and maxillofacial surgery: a qualitative study.

Citation: The British journal of oral & maxillofacial surgery, Nov 2015, vol. 53, no. 9, p. 864-869

Author(s): Tahim, Arpan S

Abstract: Development of professional identity is becoming increasingly important in medical education, and has been found to be beneficial in a surgeon's training. However, despite the complex, demanding nature of early training in oral and maxillofacial surgery (OMFS), we know of little research on how it develops during this time. We therefore used qualitative research methodology based on a grounded theory approach to investigate how trainees gain a sense of identity as they progress through their 2 undergraduate degrees. Data from in-depth, semi-structured interviews with OMFS specialist trainees were transcribed and coded to allow for thematic analysis and subsequent theory construction. We propose a model of how professional identity develops in early OMFS training. Of note, professional experience gained during the second degree was found to be of great importance in the development of a strong professional identity. We look at reasons for this in terms of "cognitive space" and use the concept to discuss potential improvements to the training pathway. Copyright © 2015 The British Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.
Title: The impact of oral anticoagulation on time to surgery in patients hospitalized with hip fracture.

Citation: Thrombosis research, Nov 2015, vol. 136, no. 5, p. 962-965 (November 2015)

Author(s): Tran, Thomas, Delluc, Aurélien, de Wit, Carine, Petrcich, William, Le Gal, Grégoire, Carrier, Marc

Abstract: Current clinical guidelines recommend expedited repair of hip fracture to reduce morbidity and mortality. A significant number of hip fracture patients have concomitant cardiovascular disease requiring anticoagulation. Vitamin K antagonists (VKAs), which have been traditionally used, might be associated with an increased time to surgery (TTS) and it remains unknown what effect direct oral anticoagulants (DOACs) have on this metric. Our objective is to determine how anticoagulation with a VKA or DOAC affects TTS. This is a case control study comparing TTS in consecutively admitted hip fracture patients receiving either a DOAC or VKA with age- and gender-matched controls between January 1, 2010 and March 24, 2014. The primary end point is TTS, which is defined as the time elapsed from admission to surgery. Secondary end points include the rate of stroke, death, bleeding and VTE during admission. Of 2258 patients, 233 were on a VKA while 27 were on a DOAC. Median TTS seems to be longer in patients receiving a DOAC or a VKA when compared to controls. (40h vs. 26.2h). The DOAC group tended to have longer median TTS when compared to the VKA groups (66.9h vs. 39.4h) There was no difference in the rate of stroke, death, bleeding and VTE during admission. Patients on anticoagulation prior to admission for hip fracture experienced longer delays in surgery when compared to patients not receiving anticoagulation. Patients on a DOAC experienced the longest surgical delay. Copyright © 2015 Elsevier Ltd. All rights reserved.

Title: Common-law principles in consent for patients in oral and maxillofacial surgery who lack mental capacity: do we know them all?

Citation: The British journal of oral & maxillofacial surgery, Nov 2015, vol. 53, no. 9, p. 805-808

Author(s): Shekar, V, Jabbar, J, Mitchell, D A, Brennan, P A

Abstract: Over the last 5 years, the medical profession has relied on the Bolam test for their defence in cases of clinical negligence. While still a matter of controversy between health professionals and legal experts, the Bolam test has been tried and criticised not only by the English courts but also in the United States, Canada, and Australia. In the medical profession the concept of the law of consent has moved away from a doctrine of professional paternalism towards patient-focused paternalism, and has increased the emphasis on human rights and the autonomy and choice of the patient. These changes present a challenge to health professionals, and a lack of effective recognition and interpretation can result in non-compliance. We review the developments in the law of consent since Bolam and discuss how they affect patients with incapacity, and highlight the importance of being
Title: Is There Uniformity and Satisfaction Among Clinical Practice Models and Faculty Compensation Plans in US Dental School-Based Oral and Maxillofacial Surgery Departments?

Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Nov 2015, vol. 73, no. 11, p. 2074-2081

Author(s): Abubaker, A Omar, DeLuke, Dean M, Laskin, Daniel M, Franklin, Alyssa

Abstract: There is a lack of information regarding clinical practice models and faculty compensation plans used by dental school-based departments of oral and maxillofacial surgery (OMS) and their effectiveness. The purpose of this study was to examine 1) the level of uniformity in clinical practice models and faculty compensation plans for US dental school-based OMS departments and 2) the level of satisfaction expressed by faculty with their current compensation plan. A survey was sent to the chairs of the 40 US dental school-based OMS departments asking them specific information regarding their current practice model, the faculty compensation plan, and their satisfaction with their current plan. Twenty-four of the 40 department chairs returned the survey, for a 60% response rate. The OMS practice was part of the dental school faculty practice in 50% of the departments and a separate entity in 33%. The most common faculty compensation plan consisted of an academic salary plus a faculty practice salary based on a collection-based incentive (38%), but in 25% it was based on production. Fifty-seven percent of the responding chairs stated they were not satisfied with their current practice and compensation plans. There is considerable variation in the practice models and compensation plans in US dental school-based OMS departments. More than half the department chairs expressed a general dissatisfaction with their current compensation plans. The survey data indicate a need for alternative models, and this report presents one such model. Copyright © 2015 American Association of Oral and Maxillofacial Surgeons. Published by Elsevier Inc. All rights reserved.

Title: The time interval between primary surgery and adjuvant therapy determines prognosis of oral squamous cell carcinomas.

Citation: Oral oncology, Nov 2015, vol. 51, no. 11, p. e82. (November 2015)

Author(s): Brockmeyer, Phillipp, Hemmerlein, Bernhard, Kruppa, Jochen, Kauffmann, Philipp, Tröltsch, Markus, Schliephake, Henning, Gruber, Rudolf M

Title: Individualized Risk Estimation for Postoperative Complications After Surgery for Oral Cavity Cancer.

Citation: JAMA otolaryngology-- head & neck surgery, Nov 2015, vol. 141, no. 11, p. 960-968

**Abstract:** Postoperative complications after head and neck surgery carry the potential for significant morbidity. Estimating the risk of complications in an individual patient is challenging. To develop a statistical tool capable of predicting an individual patient's risk of developing a major complication after surgery for oral cavity squamous cell carcinoma. Retrospective case series derived from an institutional clinical oncologic database, augmented by medical record abstraction, at an academic tertiary care cancer center. Participants were 506 previously untreated adult patients with biopsy-proven oral cavity squamous cell carcinoma who underwent surgery between January 1, 2007, and December 31, 2012. The primary end point was a major postoperative complication requiring invasive intervention (Clavien-Dindo classification grades III-V). Patients treated between January 1, 2007, and December 31, 2008 (354 of 506 [70.0%]) comprised the modeling cohort and were used to develop a nomogram to predict the risk of developing the primary end point. Univariable analysis and correlation analysis were used to prescreen 36 potential predictors for incorporation in the subsequent multivariable logistic regression analysis. The variables with the highest predictive value were identified with the step-down model reduction method and included in the nomogram. Patients treated between January 1, 2007, and December 31, 2008 (152 of 506 [30.0%]) were used to validate the nomogram. Clinical characteristics were similar between the 2 cohorts for most comparisons. Thirty-six patients in the modeling cohort (10.2%) and 16 patients in the validation cohort (10.5%) developed a major postoperative complication. The 6 preoperative variables with the highest individual predictive value were incorporated within the nomogram, including body mass index, comorbidity status, preoperative white blood cell count, preoperative hematocrit, planned neck dissection, and planned tracheotomy. The nomogram predicted a major complication with a validated concordance index of 0.79. Inclusion of surgical operative variables in the nomogram maintained predictive accuracy (concordance index, 0.77). A statistical tool was developed that accurately estimates an individual patient's risk of developing a major complication after surgery for oral cavity squamous cell carcinoma.

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**Title:** A Regional Experience With Vascular Surgery Mock Oral Examinations.

**Citation:** Journal of surgical education, Nov 2015, vol. 72, no. 6, p. 1085-1089

**Author(s):** Goldman, Matthew P, Huber, Thomas S, Eidt, John F, Hansen, Kimberly J,

**Abstract:** In 2006 the Southern Association for Vascular Surgery (SAVS) implemented a mock oral examination program to prepare trainees for the Vascular Surgery Certifying Examination (VCE). Participating examinees and examiners were identified from SAVS Recorder records and contacted via e-mail with a request to participate in an anonymous online survey. Examinees were asked about passage on American Board of Surgery examinations and perceptions of the mock oral program. Examiners were asked for their perceptions of the examination, applicant performance, and perceived areas for training improvement. Board passage rates for the group and national comparison data were provided in a de-identified fashion by American Board of Surgery. From 2006 to 2014, 158
examinees and 86 examiners participated in the SAVS mock orals program. In all, 33% of examinees and 35% of examiners completed the anonymous survey. Of the examinees, 27 (60%) reported passage of the mock oral examination on their first attempt and 7 of 9 (78%) reported passage on the second attempt. Second year in training was significantly associated with passage of the mock oral (p = 0.002). Of the examinees questioned, 100% "would recommend" the SAVS mock oral examinations to future trainees. Of the responding examiners, 90% felt that the SAVS mock oral examinations were "comparable" to the VCE and 87% "strongly agreed" that the exercise was a valuable preparatory tool. Examiners identified "ability to describe technical aspects of open vascular techniques" and "management of complications associated with vascular disease processes and operations" as commonly displayed deficits among examinees (80% and 77%, respectively). In all, 115 examinee participants from the SAVS mock orals had taken the VCE between 2006 and 2014. Of them, 90 (78%) passed the VCE on their first attempt. During the same time interval, the national first-time pass rate for the VCE was 86%. Although participation in the SAVS mock orals was overwhelmingly assessed as a positive preparatory experience by examinees and examiners, no incremental advantage in VCE passage was observed. Explanations for the worse-than-average performance on the VCE are not clear but likely involve numerous factors, including participation bias. Importantly, examiners in the SAVS mock oral process felt that the exercise closely simulated the VCE and uniformly reported pervasive deficits in the areas of demonstrated understanding of open surgical techniques and management of complications. This investigation guides further examination of VCE simulation exercises to assist in guiding the use of educational resources at both institutional and professional society levels. Copyright © 2015 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.

Title: Incidence and types of complications after ablative oral cancer surgery with primary microvascular free flap reconstruction

Citation: Medicina Oral, Patologia Oral y Cirugia Bucal, November 2015, vol./is. 20/6(e744-e750), 1698-4447;1698-6946 (November 2015)

Author(s): Lodders J.N., Parmar S., Stienen N.L., Martin T.J., Karagozoglu K.H.

Abstract: Background: The aims of the study were 1) to evaluate the incidence and types of postoperative complications after ablative oral cancer surgery with primary free flap reconstruction and 2) identify prognostic variables for postoperative complications. Material and Methods: Desired data was retrieved from a computer database at the department of Oral and Maxillofacial Department, Queen Elisabeth hospital Birmingham, United Kingdom, between June 2007 and October 2012. Logistic regression was used to study relationships between preoperative variables and postoperative outcomes. Results: The study population consisted 184 patients, comprising 189 composite resections with reconstruction. Complications developed in 40.2% of the patients. Three patients (1.6%) died, 11.1% returned to the operating room, 5.3% developed donor site complications and 6.9% flap complications of which 3.2% total flap failure. In the multivariable analysis systemic complications were associated with anaesthesia time and hospital stay with red cell transfusion. Conclusions: A significant proportion of the patients with primary free flap
reconstructions after oral cancer surgery develops postoperative complications. Prolonged anaesthesia time and red cell transfusion are possible predictors for systemic complications and hospital stay respectively. Preoperative screening for risk factors is advocated for patient selection and to have realistic information and expectations.

**Title:** Evaluation of the Trephine Method in Harvesting Bone Graft From the Anterior Iliac Crest for Oral and Maxillofacial Reconstructive Surgery.

**Citation:** The Journal of craniofacial surgery, Nov 2015, vol. 26, no. 8, p. e744.

**Author(s):** Abdulrazaq, Saif Saadedeen, Issa, Sabah Abdulaziz, Abdulrazzak, Najwa Jamil

**Abstract:** Autogenous bone graft is the gold standard for maxillofacial reconstruction. Although there are many donor sites, the ilium is favored. Open iliac bone harvesting techniques can result in significant complications, which are to be reduced; a minimally invasive technique using trephine burs was used. The aim of the study was to evaluate the intra- and postoperative complications, the size of bone harvested, and the time of the procedure. Eighteen consecutive patients were conducted. The trephine bur makes holes of 10 mm diameter in the iliac crest from which a bone graft can be harvested. No major long-term morbidity was found; all patients were discharged on the first postoperative day. The trephine technique is generally a safe procedure, can provide enough corticocancellous bone for osseous defects in maxillofacial region up to 10 cc. In addition to that, the technique is easy to learn and allows early discharge of patients from the hospital.

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**Bisphosphonate-related osteonecrosis of the jaw**

**Title:** Surgical treatment of bisphosphonate-associated osteonecrosis: Prognostic score and long-term results

**Citation:** Journal of Cranio-Maxillofacial Surgery, November 2015, vol./is. 43/9(1809-1822), 1010-5182;1878-4119 (November 2015)

**Author(s):** Reich W., Bilkenroth U., Schubert J., Wickenhauser C., Eckert A.W.

**Abstract:** Over a century after the first synthesis of bisphosphonates (1897) and a decade (2003) since the initial report on bisphosphonate-related osteonecrosis of the jaw (ONJ), this osteopathy remains a serious clinical challenge. A single center longitudinal study (2005-2014) was carried out to prospectively characterize inpatients with manifest ONJ and to evaluate their outcomes. The data recorded were: medical history, bisphosphonate treatment, localization, imaging, treatment, histomorphological features, and complications. A prognostic score (modified UCONN-Score) was adopted to predict outcomes. Eighty patients were included (mean age 69.4 years; 40 male, 40 female). Breast cancer (n = 25),
multiple myeloma (n = 16), and prostate cancer (n = 15) were the three most common malignancies; and cardiovascular disease (n = 31), diabetes mellitus (16), and renal disorders (6) were the most important comorbidities. The severity of ONJ was stage I in three patients, stage II in 37, and stage III in 40, being predominantly localized in the posterior mandible and needing gradual resection. The average duration of bisphosphonate treatment was 38.3 months. The typical histological aspects of ONJ were predominantly osteonecrosis, bone marrow fibrosis, and bacterial colonization (Actinomyces) with suppurative inflammation. Within the resected jawbone a primary malignancy was diagnosed in two cases. The overall success rate was 83.6% (follow-up 23.5 months), with a UCONN-Score >15 predicting unfavorable treatment results (OR = 5.2). The past decade has enhanced experience with ONJ treatment and knowledge about its pathogenesis, which seems to be a multistep process. This study demonstrates the importance of bone and multilayer soft tissue management, preferably as an early intervention. The UCONN-Score might help to assess individual prognosis in ONJ surgery and the potential benefit of an antiresorptive drug holiday. To our knowledge it is the first use of a prognostic score in ONJ surgery.

Title: Effects of alendronate and pamidronate on apoptosis and cell proliferation in cultured primary human gingival fibroblasts.

Citation: Human & experimental toxicology, Nov 2015, vol. 34, no. 11, p. 1073-1082

Author(s): Soydan, S S, Araz, K, Senel, F V, Yurtcu, E, Helvacioglu, F, Dagdeviren, A,

Abstract: Data arising from the recent literature directed the researchers to study on the degree and extent of bisphosphonate toxicity on oral mucosa in further detail. The aim of this study is to determine the half maximal inhibitory concentration of pamidronate (PAM) and alendronate (ALN) on human gingival fibroblasts in vitro using 3-[4.5-thiazol-2-yl]-2.5-diphenyltetrazolium bromide (MTT) assay and to evaluate the effects of both agents on the proliferation and apoptotic indices. Cells used in the study were generated from human gingival specimens and divided into alendronate (n = 240), PAM (n = 240), and control groups (n = 60). Based on the MTT assay results, $10^{-4}$, $10^{-5}$, $10^{-6}$, and $10^{-7}$ M concentrations of both drugs were administered and the effects were evaluated for 6, 12, 24, 48, or 72 h periods. An indirect immunofluorescence technique was used to evaluate apoptotic (anti-caspase 3) and proliferation (anti-Ki67) indices. Toxicity of both PAM and ALN was found to be the most potent at $10^{-4}$-$10^{-5}$ M range. The apoptotic index of PAM group was found to be significantly higher than ALN group for all concentrations especially at 24 h incubation time ($p < 0.05$). The decrease in the proliferation index was found similar in first 48 h for both drugs; however, after 72 h of incubation decrease in proliferation index in PAM group was found to be significantly higher ($p < 0.05$). Micromolar concentrations of not only PAM but also ALN rapidly affect cells generated from human oral gingival tissue by inducing apoptosis together with inhibition of proliferation. Cytotoxic effects of both ALN and PAM on primary human gingival fibroblasts, which cause significant changes in apoptotic and proliferative indices as shown in this in vitro study, suggests that the defective epithelialization of oral mucosa is possibly a major factor on the onset of bisphosphonate-related osteonecrosis of the jaw cases. © The Author(s) 2015.
**Title:** Ibandronate treatment of diffuse sclerosing osteomyelitis of the mandible: Pain relief and insight into pathogenesis.

**Citation:** Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Nov 2015, vol. 43, no. 9, p. 1837-1842 (November 2015)

**Author(s):** Otto, Sven, Troeltzsch, Matthias, Burian, Egon, Mahaini, Salah, Probst, Florian,

**Abstract:** Diffuse sclerosing osteomyelitis of the mandible (DSO) is a rare and poorly understood disease. Current treatment protocols, including steroid or analgesic medication and corticotomies, show poor or frustrating outcome results and are accompanied by potentially severe side effects. The aim of this study was to determine whether there is a beneficial role of infusions with nitrogen-containing bisphosphonates (ibandronate) in acute conditions of DSO. Eleven patients were enrolled in the study. In acute conditions of treatment-resistant DSO, single-shot infusions of ibandronate (6 mg) were administered. Pain levels were documented 10 days before and after the infusion on a visual analogue scale (VAS). Patients were monitored regularly. Of the 11 patients, 10 showed a distinct improvement in pain (based on VAS scores) within 48-72 h after infusion. The pain levels of the patients were significantly lower after ibandronate infusions ($p < 0.01$). The majority of patients were free or almost free of complaints over the following months. Four of the 11 patients returned for repeated infusions. At the time of writing, no severe side effects have been observed, and in particular there has been no case of medication-related jaw osteonecrosis. We conclude that single-shot bisphosphonate infusions on demand are promising treatment alternatives in acute DSO. Single-shot bisphosphonate infusions of ibandronate were well tolerated and resulted in distinct, long-lasting improvement in subjective pain levels based on VAS scores. Copyright © 2015 European Association for Cranio-Maxillo-Facial Surgery. Published by Elsevier Ltd. All rights reserved.

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**Title:** Diagnosis and Staging of Medication-Related Osteonecrosis of the Jaw.

**Citation:** Oral and maxillofacial surgery clinics of North America, Nov 2015, vol. 27, no. 4, p. 479-487 (November 2015)

**Author(s):** Ruggiero, Salvatore L

**Abstract:** The relationship between osteonecrosis of the jaw and bisphosphonate therapy was initially established more than 10 years ago. Since that time our understanding of this disease process has evolved as the direct result of clinical, basic science, and animal research initiatives. Medication-related osteonecrosis of the jaw (MRONJ) is a well-known entity now known to be associated with various antiresorptive therapies and recently with antiangiogenic medications. This article reviews the recently modified diagnostic criteria for MRONJ with a focus on the clinical, histopathologic, and imaging characteristics of this disease process. Copyright © 2015 Elsevier Inc. All rights reserved.
Title: Pharmacogenetics of Bisphosphonate-associated Osteonecrosis of the Jaw.

Citation: Oral and maxillofacial surgery clinics of North America, Nov 2015, vol. 27, no. 4, p. 537-546 (November 2015)

Author(s): Fung, P L, Nicoletti, P, Shen, Y, Porter, S, Fedele, S

Abstract: Osteonecrosis of the jaws (ONJ) is a potentially severe disorder that develops in a subgroup of individuals who have used bisphosphonate (BP) medications. Several clinical risk factors have been associated with the risk of ONJ development, but evidence is limited and in most instances ONJ remains an unpredictable adverse drug reaction. Interindividual genetic variability can contribute to explaining ONJ development in a subset of BP users and the discovery of relevant associated gene variants could lead to the identification of individuals at higher risk. No genetic variant has been found to be robustly associated with susceptibility to ONJ. Copyright © 2015 Elsevier Inc. All rights reserved.

Title: Antiresorptive Therapies for Osteoporosis.

Citation: Oral and maxillofacial surgery clinics of North America, Nov 2015, vol. 27, no. 4, p. 555-560 (November 2015)

Author(s): Weinerman, Stuart, Usera, Gianina L

Abstract: Osteoporosis is a disease of low bone density, translating to increased fragility and risk for fracture. It is a significant public health problem that is widely undertreated, despite the many options of treatment available. Among these, the most effective are the antiresorptive medications, such as bisphosphonates. There is an abundance of evidence about the efficacy and safety profile of these medications. However, there is mounting evidence that, after 10 years on treatment with a bisphosphonate, patients are at a higher risk of developing some of the serious side effects of atypical femur fractures and osteonecrosis of the jaw. Copyright © 2015 Elsevier Inc. All rights reserved.

Title: Management of bisphosphonate-related osteonecrosis of the jaw: a literature review.

Citation: Oral diseases, Nov 2015, vol. 21, no. 8, p. 927-936 (November 2015)

Author(s): Spanou, A, Lyritis, G P, Chronopoulos, E, Tournis, S

Abstract: Osteonecrosis of the jaw (ONJ) is a serious side effect of bisphosphonate use in patients with osteoporosis, Paget's disease, hypercalcemia of malignancy, metastatic bone disease and multiple myeloma, although recently this complication has also been reported in patients under non-bisphosphonate medication, such as denosumab and bevacizumab. The occurrence of ONJ is higher in oncology patients treated with high-dose iv bisphosphonates than in osteoporosis patients treated with oral bisphosphonates. Although multiple hypotheses have been proposed, the exact pathogenic mechanism of ONJ still
remains unclear. As treatment protocols based on randomized controlled trials (RCTs) do not exist, we critically reviewed the existing data concerning the management of bisphosphonate-related osteonecrosis of the jaw, including the most recent data for the use of teriparatide and hyperbaric oxygen. © 2015 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd.

Title: Denosumab-related osteonecrosis of the jaw: a case report and management based on pharmacokinetics.

Citation: Oral surgery, oral medicine, oral pathology and oral radiology, Nov 2015, vol. 120, no. 5, p. 548-553 (November 2015)

Author(s): You, Tae Min, Lee, Kang-Hee, Lee, Soo-Hyeon, Park, Wonse

Abstract: Denosumab, a monoclonal antibody against the receptor activator for nuclear factor-kappa B ligand (RANKL), is a recently approved antiresorptive drug that suppresses osteoclast formation by targeting pre-osteoclasts, in contrast to the traditional antiresorptive bisphosphonates that target mature osteoclasts. Osteonecrosis of the jaw (ONJ) is a well-known, if rare, side effect of bisphosphonate therapy; however, cases of ONJ have also been reported since 2010 in patients taking denosumab. We describe here a patient who developed ONJ while receiving denosumab; the pharmacokinetics of denosumab and bisphosphonates are discussed in the context of ONJ management. Copyright © 2015 Elsevier Inc. All rights reserved.

Title: Successful long-term mandibular reconstruction and rehabilitation using non-vascularised autologous bone graft and recombinant human BMP-7 with subsequent endosseous implant in a patient with bisphosphonate-related osteonecrosis of the jaw.

Citation: The British journal of oral & maxillofacial surgery, Nov 2015, vol. 53, no. 9, p. 870-874 (November 2015)

Author(s): Rahim, Ishrat, Salt, Stephen, Heliotis, Manolis

Abstract: We describe a case of extensive osteonecrosis of the mandible after a dental extraction in a 71-year-old woman who was taking alendronic acid (Fosamax®), Merck for osteoporosis. Bone damaged by bisphosphonate-related osteonecrosis of the jaw (BRONJ), also now known as medication-related osteonecrosis of the jaw (MRONJ), can be regenerated and filled with endosseous implants using non-vascularised autologous grafts. Copyright © 2015. Published by Elsevier Ltd.

Title: Knowledge and attitudes of Brazilian dental students and dentists regarding bisphosphonate-related osteonecrosis of the jaw.

Citation: Supportive Care in Cancer, 2015, vol./is. 23/12(3421-3426),
Abstract: Purpose: The aim of this study was to evaluate the knowledge of Brazilian dentists (DEN) and dental students (DS) about bisphosphonates (BP) and bisphosphonate-related osteonecrosis of the jaw (BRONJ). Methods: A convenience sample of 104 DEN and 100 DS was randomly selected and invited to answer a questionnaire. The questionnaire was structured on the basis of the main information about BP and the risk factors associated with the development of BRONJ. The data obtained were analyzed by the chi-square and Fisher’s exact tests, considering significance of 5%. Results: Seventy-five (72.1%) DEN and 75 (75%) DS did not know the BP cited in the questionnaire (p < 0.0001), and their commercial brand names were not recognized by 88 (84.6%) DEN and 86 (86%) DS (p < 0.0001). In the same way, 62 (59.6%) DEN (p = 0.04) and 58 (58%) DS (p < 0.0001) did not recognize BRONJ as an oral side effect of BP or point out oral conditions that were not associated with the use of BP. Conclusions: Practical initiatives, such as free lectures and workshops, must be taken to broaden the knowledge of DEN and DS about BP and thus contribute to the prevention of BRONJ.

Title: Oral Squamous Cell Carcinoma Presenting in a Patient Receiving Adalimumab for Rheumatoid Arthritis.

Citation: Journal of Oral & Maxillofacial Surgery (02782391), 2015, vol./is. 73/11(2136-2141),

Abstract: The efficacy of biologic agents in the treatment of inflammatory immune-mediated conditions has been clearly shown, but there also are numerous reports of adverse effects. Most reported adverse effects have been associated with tumor necrosis factor-α (TNF-α) inhibitors and include a possible increased risk of malignancy. There have been some reported cases of oral cancer developing in patients treated with TNF-α inhibitors. This case report describes a patient who was taking adalimumab for rheumatoid arthritis and who presented with a squamous cell carcinoma (SCC) in the mandible. Diagnosis was complicated because the clinical appearance was of a nonhealing extraction socket and the patient had a history of bisphosphonate therapy. An initial diagnosis of bisphosphonate-related osteonecrosis of the jaws was made, which delayed the commencement of appropriate treatment. This case highlights the importance of ruling out SCC in patients taking biological agents with unusual symptoms.

Maxillofacial


Citation: British dental journal, Nov 2015, vol. 219, no. 10, p. 474. (November 27, 2015)

Author(s): Brown, Emma
Title: Publication rates in peer-reviewed journals of abstracts presented at the Oral and Maxillofacial Surgery Society of Turkey meetings 2007-2012.

Citation: The British journal of oral & maxillofacial surgery, Nov 2015, vol. 53, no. 9, p. 849-853 (November 2015)

Author(s): Yolcu, Umit, Ozcan, Ayse

Abstract: The purpose of this study was to find out the rate of peer-reviewed publication of full papers of abstracts presented at the annual meeting of the Oral and Maxillofacial Surgery Society of Turkey, and to identify the time taken for publication, subspecialty, and study design. All abstracts accepted for presentation at the meetings in 2007-12 were identified from the books of abstracts, and evidence of publication was sought from PubMed and Google Scholar. The following variables were evaluated: publication rate, type of presentation (oral or poster), time to publication, subspecialty, study design, name of the journal in which the paper was published, impact factor of the journal, author affiliation, change in number of authors and origin of the study. A total of 1322 abstracts were presented between 2007 and 2012. Of these, 246 (19%) were subsequently published in peer-reviewed journals, including 110/390 oral presentations (28%) and 136/932 poster presentations (15%). Oral presentations were more likely to be published than poster presentations (p=0.000). The mean (SD) time from presentation to publication was 17 (15) months. Anatomical presentations had the highest publication rate (8/11), whereas orthognathic surgery had the lowest (5/67, 7%). Technical notes (5/9) and animal studies (32/70, 46%) were the most common types of publication. Only 246 of the 1322 abstracts (19%) were subsequently published as full papers, which is lower than previously reported in oral and maxillofacial surgery. Copyright © 2015 The British Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.

Title: Cotimparave evaluation of oral alprazolam, as premedication, on controlling blood pressure in hypertensive patients during surgery

Citation: Journal of Isfahan Medical School, November 2015, vol./is. 33/349, 1027-7595;1735-854X (01 Nov 2015)

Author(s): Sajedi P., Rezaie M.

Language: Persian

Abstract: Background: One of the major challenges in adult surgery is hypertension. Hypertensive patient are in danger of myocardial ischemia, increasing blood pressure in recovery room, kidney injury and cerebral artery damage. Regarding the previously reported positive effect of alprazolam in decreasing this complication, we decided to evaluate its efficacy in hypertensive patients undergoing surgery under general anesthesia. Methods: The present randomized controlled trial was conducted in 2014 in Alzahra Hospital, Isfahan, Iran. Study subjects (age range between 54 and 76 years) were candidates for elective
surgery under general anesthesia. Patients were randomly divided into 2 groups, intervention and control. Control group received no drug and intervention group received alprazolam tablet (0.5 mg) before the surgery. Systolic and diastolic blood pressure, heart rate, respiratory rate, pulse oximeter, and O$_2$ saturation during the surgery and pain severity, extubation time, recovery time and the dose of analgesic drugs after the surgery were evaluated and compared between the groups. Findings: Increasing blood pressure in the first 40 minutes of surgery (P = 0.001), pain severity (P = 0.012) and the dose of analgesic drugs (P = 0.001) were significantly less in intervention group compared to the control group. Conclusion: According to our results, alprazolam has an optimal efficacy in controlling blood pressure in hypertensive patients undergoing surgery and reducing pain severity in recovery room. In the absence of contraindications, it could be used as a prophylactic treatment in this group of patients.

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Cleft lip and palate

**Title:** Fibrosis impairs the formation of new myofibers in the soft palate after injury.

**Citation:** Wound repair and regeneration : official publication of the Wound Healing Society [and] the European Tissue Repair Society, Nov 2015, vol. 23, no. 6, p. 866-873 (November 12, 2015)

**Author(s):** Carvajal Monroy, Paola L, Grefte, Sander, Kuijpers-Jagtman, Anne Marie, Helmich, Maria P A C, Wagener, Frank A D T G, Von den Hoff, Johannes W

**Abstract:** Muscle repair is a crucial component of palatoplasty but little is known about muscle regeneration after cleft palate repair. We hypothesized that the formation of new myofibers is hampered by collagen accumulation after experimental injury of the soft palate of rats. One-millimeter excisional defects were made in the soft palates of 32 rats. The wound area was evaluated after 3, 7, 28, and 56 days using azocarmine G and aniline blue to stain for collagen and immunohistochemistry to identify myofibroblasts and to monitor skeletal muscle differentiation. To evaluate age effects, 16 unwounded animals were evaluated at 3 and 56 days. Staining was quantified by image analysis, and one-way ANOVA was used for the statistical analysis. At day 56, the area percentage of collagen-rich tissue was higher in the injured palatal muscles (46.7 ± 6.9%) than in nonwounded controls (15.9 ± 1.0%, p < 0.05). Myofibroblasts were present in the injured muscles at days 3 and 7 only. The numbers of proliferating and differentiating myoblasts within the wound area were greater at day 7 (p < 0.05), but only a few new myofibers had formed by 56 days. No age effects were found. The results indicate that surgical wounding of the soft palate results in muscle fibrosis. Although activated satellite cells migrated into the wound area, no new myofibers formed. Thus, regeneration and function of the soft palate muscles after injury may be improved by regenerative medicine approaches. © 2015 by the Wound Healing Society.
Title: Otolaryngologic surgery in children with trisomy 18 and 13.

Citation: International journal of pediatric otorhinolaryngology, Nov 2015, vol. 79, no. 11, p. 1831-1833 (November 2015)

Author(s): Karimnejad, Kaveh, Costa, Dary J

Abstract: Trisomy 18 and 13 are the most common autosomal trisomy disorders after Down syndrome. Given the high mortality rate (5-10% one-year survival), trisomy 18 and 13 were historically characterized as uniformly lethal and palliation was the predominant management approach. Management strategy has shifted with recognition that through medical and surgical intervention, children with trisomy 18 and 13 can achieve developmental milestones, live meaningful lives, and exhibit long-term survival.

Otolaryngologic surgery in children with trisomy 18 and 13 has not been described. The objective of this article is to describe the role of the otolaryngologist in the management of children with trisomy 18 and 13. Retrospective cohort analysis of the surgery registry for the Support Organization for Trisomy 18, 13 and Related Disorders for otolaryngologic surgeries reported from 1988 through June 1, 2014. In the database of approximately 1349 children, 1380 procedures were reported, 231 (17%) of which were otolaryngologic. The most common otolaryngologic procedures were tympanostomy tube placement (57/231, 25%), cleft lip repair (40/231, 17%), tracheostomy (38/231, 16.5%), tonsillectomy and/or adenoidectomy (37/231, 16%), and cleft palate repair (30/231, 13%). Of the ten most common procedures reported, four were otolaryngologic. Seventeen percent of procedures performed in children with trisomy 18 and 13 were otolaryngologic, highlighting the significant role of the otolaryngologist in the treatment of these patients. Surgical intervention may be considered as part of a balanced approach to patient care. Copyright © 2015 Elsevier Ireland Ltd. All rights reserved.

Title: Three-dimensional quantitative evaluation of midfacial skeletal changes after trans-sutural distraction osteogenesis for midfacial hypoplasia in growing patients with cleft lip and palate.

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Nov 2015, vol. 43, no. 9, p. 1749-1757

Author(s): Tong, Haizhou, Gao, Feng, Yin, Jiapeng, Shi, Zehong, Song, Tao, Li, Haidong

Abstract: Trans-sutural distraction osteogenesis (TSDO) is an alternative method for the early treatment of midfacial hypoplasia in growing patients with cleft lip and palate (CLP). The purpose of this study was to analyze three-dimensional (3D) midfacial skeletal changes after TSDO and to explore the mechanism in this process. All patients with nonsyndromic CLP who underwent bone-borne TSDO for midfacial hypoplasia from 2005 to 2014 were reviewed in this retrospective study. 3D morphological and quantitative measurement analyses were performed to evaluate midfacial skeletal changes by superimposition of preoperative and postoperative computed tomographic images. Twenty-six patients with mean age of 11.5 years met the inclusion criteria. The 3D morphological findings exhibited
the most significant suture stress changes at the pterygomaxillary suture area, with obvious bone generation in all patients. The whole midfacial skeleton had progressively increased advancement in a craniocaudal direction along the midface segment, associated with morphological changes in skeleton itself. The 3D quantitative measurement findings showed differential advancement of each landmark at the maxillary alveolar, zygomatic bone, orbital rim, and nasal bone, which was consistent with morphological findings. TSDO allows rotation advancement of the midfacial skeleton to achieve occlusal correction and facial harmony through the mechanism of both suture remodeling and bone remodeling.

Title: Secondary cleft nose rhinoplasty: Subjective and objective outcome evaluation.

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Nov 2015, vol. 43, no. 9, p. 1855-1862 (November 2015)

Author(s): Gassling, Volker, Koos, Bernd, Birkenfeld, Falk, Wiltfang, Jörg, Zimmermann,

Abstract: Secondary rhinoplasty in cleft lip and palate (CLP) is commonly the last step in a set of surgical procedures that result in a variable but typically intensive change in facial appearance. However, there is evidence that the sentiment about the aesthetic and functional outcomes between patients and surgeons is different. The present study aimed to evaluate the subjective and objective outcomes of secondary rhinoplasty in patients with CLP. Secondary rhinoplasty was performed in 10 patients with repaired unilateral CLP via a standardized open approach. For the subjective evaluation, the patients completed the rhinoplasty outcome evaluation (ROE) questionnaire. Pre- and postoperative photographic documentation served as the basis for the objective evaluation, which included the following: (1) assessment by five specialists at craniofacial malformation consultation appointments and by three doctors in continuing education using the Asher-McDade aesthetic index (AMAI) rating, and (2) metric facial analysis to determine the nasofrontal angle and the nasolabial angle. Patient satisfaction was high, based on the evaluation of the ROE questionnaire. The analysis of the AMAI rating questionnaire showed no significant differences between the positive ratings of the 'experienced' and 'inexperienced' doctors. In contrast, there was an obvious and significant difference between the 'preoperative' and 'postoperative' time points for questions 1-3. The metric analysis showed statistically significant improvements of the nasolabial angle and the nasofrontal angle. The subjective and objective outcome evaluations were descriptively congruent. The data suggest that standardized secondary rhinoplasty in CLP leads to both a subjective and a statistically significant objective improvement of facial appearance and thus may support the psychosocial rehabilitation of affected patients. Furthermore, our results showed that the subjective and objective outcome evaluations of secondary rhinoplasty were largely compatible. Copyright © 2015 European Association for Cranio-Maxillo-Facial Surgery. Published by Elsevier Ltd. All rights reserved.
Title: The association of cleft severity and cleft palate repair technique on hearing outcomes in children in northern Finland.

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Nov 2015, vol. 43, no. 9, p. 1863-1867 (November 2015)

Author(s): Lithovius, Riitta H, Lehtonen, Ville, Autio, Timo J, Harila, Virpi, Anttonen, Vuokko, Sándor, George K, Ylikontiola, Leena P

Abstract: The consequences of cleft lip and palate include scaring, dental malformations, tooth misalignment, speech problems, and hearing loss. Otitis media with effusion causing hearing loss is a problem for many cleft palate patients. This study examines the association among cleft severity, palate repair technique, and hearing outcomes in children from northern Finland with clefts, aged 3-9 years. The study included 90 cleft patients who were treated at the Oulu University Hospital Cleft Lip and Palate Center between 1998 and 2011. The severity of the cleft, the surgical technique used to repair the palate, audiogram configuration data, and the need for ventilation tube placement were determined retrospectively from patient records. Only 3.3% of cleft patients had an abnormal pure tone average hearing threshold representing abnormal hearing. Neither the surgical technique used to repair the cleft palate nor the severity of the cleft was a significant factor related to hearing loss or to the number of ventilation tubes required. Hearing improved significantly with increasing age over a span of 6 years. Continuous follow-up with proactive placement of ventilation tubes before or at the time of palatoplasty results in hearing outcomes in cleft children that are similar to those reported in non-cleft children. Copyright © 2015 European Association for Cranio-Maxillo-Facial Surgery. Published by Elsevier Ltd. All rights reserved.

Title: Surgical learning curve in performing palatoplasty: A retrospective study in 200 patients.

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Nov 2015, vol. 43, no. 9, p. 1868-1874 (November 2015)

Author(s): Smarius, Bram, Breugem, Corstiaan

Abstract: The aim of the study was to assess the influence of the experience of the surgeon on the occurrence of fistulas following palatoplasty. A retrospective review was performed of consecutive children treated between 2006 and 2013 for cleft palate by a single surgeon. Cleft palate repair was performed using the von Langenbeck technique, Furlow palatoplasty, buccal flap or Vomer flap. Data was collected for age, sex, date of birth, syndrome, adoption, cleft palate type, type of repair, cleft width, fistula occurrence and location of fistula. A total of 276 operations were performed in 200 children (Veu1 I, II, III, IV). Mean age at surgery was 21.9 months (range: 6.2 months to 26 years 8.3 months). Postoperatively, palatal fistulas occurred in eight patients (4.0%), however, the incidence was 3.0% in the non-adoption group and 9.7% in the adoption population. In this study
there was no statistically significant evidence of a surgical learning curve, and no significant associations between fistula rate and sex, adoption, syndrome, cleft type, cleft width, or type of repair. This study demonstrates a fistula formation rate of 3.0% for the non-adoption population and 9.7% for the adoption population. There was no statistically significant evidence of a learning curve during the first few years of performing cleft palate repair. No other independent risk factors for postoperative fistula formation were identified; however, the benefit of a vomer flap and subsequent reduction in fistula incidence was demonstrated. Copyright © 2015 European Association for Cranio-Maxillo-Facial Surgery. Published by Elsevier Ltd. All rights reserved.

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**Title:** Effect of Hospital Volume on Outcomes of Surgery for Cleft Lip and Palate.

**Citation:** Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Nov 2015, vol. 73, no. 11, p. 2219-2224 (November 2015)

**Author(s):** Ono, Sachiko, Ishimaru, Miho, Matsui, Hiroki, Fushimi, Kiyohide, Yasunaga, Hideo

**Abstract:** Cleft lip and cleft palate are the most common craniofacial anomalies. However, the effect of hospital volume on outcomes of surgery for cleft lip and palate is unknown. The Japanese Diagnosis Procedure Combination database was searched to identify patients who underwent surgery for cleft lip and palate from July 2010 through March 2013. Hospital volume was divided into tertiles (≤28, 29 to 82, and ≥83 admissions/yr). Outcomes included total cost, length of hospital stay, duration of anesthesia, and length of antibiotic use. The relation between hospital volume and surgical outcomes was analyzed by multivariable regression analyses. The authors identified 7,405 admissions for cleft lip alone, cleft palate alone, or cleft lip and palate during the study period. Compared with the reference low-volume hospital category, a shorter duration of anesthesia was seen in the medium-volume group (-15 minutes; 95% confidence interval, -37 to 7 minutes) and high-volume group (-22 minutes; 95% confidence interval, -65 to 3 minutes). No statistical associations were observed between hospital volume and total cost or length of stay. Although not statistically important, a higher hospital volume was associated with a shorter length of antibiotic use after adjusting for duration of anesthesia. In the present study of surgical outcomes for cleft lip and palate, hospital volume was inversely associated with duration of anesthesia and length of antibiotic use, but was not statistically associated with length of hospital stay or total cost. Copyright © 2015 American Association of Oral and Maxillofacial Surgeons. Published by Elsevier Inc. All rights reserved.

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**Title:** Reduced nasal growth after primary nasal repair combined with cleft lip surgery.

**Citation:** Journal of plastic, reconstructive & aesthetic surgery : JPRAS, Nov 2015, vol. 68, no. 11, p. e159. (November 2015)

**Author(s):** Yoshimura, Y, Okumoto, T, Iijima, Y, Inoue, Y
Abstract: Nasal growth after cleft lip surgery with or without primary nasal repair was evaluated using lateral cephalograms. In 14 patients who underwent simultaneous nasal repair with primary cleft lip repair and 12 patients without simultaneous nasal repair, lateral cephalograms were obtained at 5 and 10 years of age. Lateral cephalograms of normal Japanese children were used as a control. At 5 years of age, there were significant differences in the nasal height and columellar angle among the three groups. Children without simultaneous nasal repair had shorter noses with more upward tilt of the columella compared with the controls, while children with simultaneous nasal repair had much shorter noses and more upward tilt than those without repair. At 10 years of age, the children without simultaneous nasal repair showed no differences from the control group, while those with simultaneous repair still had shorter noses and more upward tilt of the columella. These findings suggest that performing nasal repair at the same time as primary cleft lip surgery has an adverse influence on the subsequent growth of the nose. Copyright © 2015 British Association of Plastic, Reconstructive and Aesthetic Surgeons. Published by Elsevier Ltd. All rights reserved.

Title: [Interdisciplinary orthodontic surgical treatment of children with cleft lip and palate from 9 to 20 years of age].

Citation: Nederlands tijdschrift voor tandheelkunde, Nov 2015, vol. 122, no. 11, p. 637-642, 0028-2200 (November 2015)

Author(s): Kuijpers-Jagtman, A M, Mink van der Molen, A B, Bierenbroodspot, F,

Abstract: Cleft lip and palate is a common congenital malformation with a prevalence of 1:600 newborns. Children with orofacial clefts are treated by an interdisciplinary team of specialists while parents and child play a key role in their own care process. The orthodontic and facial orthopedic treatment of a child with a cleft takes many years. Children often get bored of the long treatment and this can cause problems with compliance and oral hygiene. Therefore it is advisable to distinguish 5 well-defined stages in the orthodontic treatment and to attempt to have some 'orthodontics free' time in between. The 3 orthodontic treatment phases between the age of 9 and 20 years consist of orthodontic treatment concerning the closing of the cleft with a bone transplant, the treatment of the permanent dentition and, finally, a possible combined orthodontic surgical treatment at the end of the period of growth. Good interdisciplinary collaboration among the different dental disciplines is essential in this regard.

Title: The Use of an Inferior Pennant Flap during Unilateral Cleft Lip Repair Improves Lip Height Symmetry.

Citation: Plastic and reconstructive surgery, Nov 2015, vol. 136, no. 5, p. 1046-1053

Author(s): Russell, Aaron J, Patel, Kamlesh B, Skolnick, Gary B, Woo, Albert S
Abstract: To improve the rotation of Cupid's bow and achieve sufficient vertical lip height, several variations of the Millard rotation-advancement have incorporated a small laterally based triangular flap above the cutaneous roll. This study uses three-dimensional photogrammetry to evaluate the outcomes of unilateral cleft lip repairs performed with and without pennant flaps. Three-dimensional photographs were analyzed to assess postoperative lip height asymmetry in 90 unilateral cleft lip patients (58 complete and 32 incomplete) treated between 2001 and 2012. Cleft lip repairs were performed by three pediatric cleft surgeons using different techniques. Thirty-nine of 90 procedures (43 percent) used an inferiorly placed triangular flap. All patients were photographed at least 9 months postoperatively (mean, 4.2 years). Lip height asymmetry was based on the vertical distances from the subnasale to the peaks of Cupid's bow. Regression analysis revealed that the use of a pennant flap was a significant predictor of postoperative lip height asymmetry ($\beta = 4.2\%$, $p = 0.015$). The surgeon performing the repair was also a significant factor in patients with complete cleft lips ($\beta = 3.6\%$, $p = 0.005$). All three surgeons achieved greater lip height symmetry when a pennant flap was performed. The results of unilateral cleft lip repairs are affected by both the surgeon and the surgical technique. Procedures that used a pennant flap showed better philtral height symmetry than nonpennant repairs. Therapeutic, III.

Title: Radiology of Cleft Lip and Palate: Imaging for the Prenatal Period and throughout Life.


Author(s): Abramson, Zachary R, Peacock, Zachary S, Cohen, Harris L, Choudhri, Asim F

Abstract: Recent advances in prenatal imaging have made possible the in utero diagnosis of cleft lip and palate and associated deformities. Postnatal diagnosis of cleft lip is made clinically, but imaging still plays a role in detection of associated abnormalities, surgical treatment planning, and screening for or surveillance of secondary deformities. This article describes the clinical entities of cleft lip with or without cleft palate (CLP) and isolated cleft palate and documents their prenatal and postnatal appearances at radiography, ultrasonography (US), magnetic resonance (MR) imaging, and computed tomography (CT). Imaging protocols and findings for prenatal screening, detection of associated anomalies, and evaluation of secondary deformities throughout life are described and illustrated. CLP and isolated cleft palate are distinct entities with shared radiologic appearances. Prenatal US and MR imaging can depict clefting of the lip or palate and associated anomalies. While two- and three-dimensional US often can depict cleft lip, visualization of cleft palate is more difficult, and repeat US or fetal MR imaging should be performed if cleft palate is suspected. Postnatal imaging can assist in identifying associated abnormalities and dentofacial deformities. Dentofacial sequelae of cleft lip and palate include missing and supernumerary teeth, oronasal fistulas, velopharyngeal insufficiency, hearing loss, maxillary growth restriction, and airway abnormalities. Secondary deformities can often be found incidentally at imaging performed for other purposes, but detection is necessary because they may have considerable implications for the patient. (©)RSNA, 2015.
Maxillary advancement osteotomy with sequelae cleft lip and palate: Dilemma between occlusion and aesthetic profile.

Citation: Revue de stomatologie, de chirurgie maxillo-faciale et de chirurgie orale, Nov 2015, vol. 116, no. 5, p. 289-295 (November 2015)

Author(s): Vigneron, A, Morand, B, Lafontaine, V, Lesne, V, Lesne, C, Bettega, G

Abstract: Maxillary hypoplasia is a common sequela of cleft lip and palate. Its surgical treatment consists in a maxillary advancement by distraction or by conventional orthognathic surgery but morphological results are unpredictable. Our goal in this study was to see if the esthetical results (on the lip and the nose) of maxillary advancement were correlated to the preservation of lateral incisor space of the cleft side. This retrospective study included 38 patients operated between 2002 and 2013. Unilateral clefts were studied independently from bilateral clefts. Profile aesthetics was evaluated independently and subjectively by two surgeons and scored on an 8-point scale. The result was classified as "good" if the score was superior or equal to 6. The score was correlated to the following parameters: amount of maxillary advancement, upper incisor axis, preservation of the missing lateral incisor space. In the "good result" group, the space of the lateral incisor was less often preserved. The nasolabial angle was more open and the upper central incisor axis more vertical. These results were more pronounced in bilateral clefts, but also found in unilateral clefts. Under reservation of the subjective evaluation and of the small number of patients, it seemed that lateral incisor space closure improved the profile of patients treated by maxillary advancement for cleft lip and palate sequelae. Copyright © 2015 Elsevier Masson SAS. All rights reserved.

Parent-Reported Family Functioning Among Children With Cleft Lip/Palate.

Citation: The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Nov 2015, vol. 52, no. 6, p. 651-659 (November 2015)

Author(s): Crerand, Canice E, Rosenberg, Janine, Magee, Leanne, Stein, Margot B, Wilson-Genderson, Maureen, Broder, Hillary L

Abstract: To examine family functioning related to sociodemographic and clinical characteristics in youth with cleft lip and/or palate (CL/P). Cross-sectional, multi-site investigation. Six U.S. cleft centers. A diverse sample of 1200 children with CL/P and their parents. Parents completed the Family Environment Scale (FES), which assesses three domains of family functioning: cohesion (or closeness), expressiveness (open expression of feelings), and conflict. Demographic and clinical characteristics were also assessed including race, ethnicity, type of insurance, and surgical recommendations. The FES scores for families seeking team evaluations for their youth with CL/P (mean age = 11.6 years) fall within the average range compared with normative samples. Families receiving surgical recommendations for their youth also had FES scores in the average range, yet families of children recommended for functional surgery reported greater cohesion, expressiveness,
and less conflict compared with those recommended for aesthetic surgery (P < .05). For cohesion and expressiveness, significant main effects for race (P = .012, P < .0001, respectively) and ethnicity (P = .004, P < .0001, respectively) were found but not for their interaction. No significant differences were found on the conflict domain. Families with private insurance reported significantly greater cohesion (P < .001) and expressiveness (P < .001) than did families with public insurance. Family functioning across domains was in the average range. However, observed differences by race, ethnicity, type of insurance, and surgical recommendation may warrant consideration in clinical management for patients and families.

**Title:** Anatomic Severity, Midfacial Growth, and Speech Outcomes in Van der Woude/Popliteal Pterygium Syndromes Compared to Nonsyndromic Cleft Lip/Palate.

**Citation:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Nov 2015, vol. 52, no. 6, p. 676-681 (November 2015)

**Author(s):** Reardon, Jeffrey B, Brustowicz, Katherine A, Marrinan, Eileen M,

**Abstract:** To summarize the clinical characteristics and surgical and speech outcomes for patients with Van der Woude/popliteal pterygium syndromes (VWS/PPS) and to compare them with a historic cohort of patients with nonsyndromic cleft lip/cleft palate (CL/P). Retrospective chart review. Tertiary care center. All patients with VWS/PPS seen at Boston Children’s Hospital from 1979 to 2012: 28 patients with VWS (n = 21)/PPS (n = 7) whose mean age was 17.3 ± 10.4 years, including 18 females (64%) and 10 males (36%); 18 patients (64%) had a family history of VWS/PPS. Cleft type, operative procedures, speech, and midfacial growth. Data were compared with historic cohorts of patients with nonsyndromic CL/P treated at one tertiary care center. There were 24 patients (86%) with CP±L, Veau types I (n = 4, 17%), II (n = 4, 17%), III (n = 5, 21%), and IV (n = 11, 46%). Nine patients (38%) had palatal fistula after palatoplasty. Fourteen of 23 (61%) patients with CL/P age 5 years or older had midfacial retrusion, and 10 (43%) required a pharyngeal flap for velopharyngeal insufficiency. Fisher’s exact test demonstrated higher frequencies of Veau type IV CP±L (P = .0016), bilateral CL±P (P = .0001), and complete CL±P (P < .0001) in VWS/PPS compared with nonsyndromic patients. Incidences of midfacial retrusion (P = .0001), palatal fistula (P < .0001), and need for pharyngeal flap (P = .0014) were significantly greater in patients with VWS/PPS. Patients with VWS/PPS have more severe forms of labiopalatal clefting and higher incidences of midfacial retrusion, palatal fistula, and velopharyngeal insufficiency following primary repair as compared with nonsyndromic CL/P.

**Title:** Prevalence of Obstructive Sleep Apnea After Orticochea Pharyngoplasty for Velopharyngeal Insufficiency Management.

**Citation:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Nov 2015, vol. 52, no. 6, p. 682-687 (November 2015)
**Author(s):** Madrid, Jose Rolando Prada, Ortega, Viviana Gómez, Echeverri, Pilar, Velasquez, Nathaly Londoño

**Abstract:** The aim of this study is to describe the prevalence of obstructive sleep apnea (OSA) and its level of severity associated with Orticochea pharyngoplasty in patients with velopharyngeal insufficiency after at least 1 year of the surgical procedure. Case series prospective descriptive study. At FISULAB, a rehabilitation center for patients with cleft palate, we studied 37 patients who were treated elsewhere with Orticochea pharyngoplasty for velopharyngeal insufficiency; these patients may or may not have had clinical symptoms related to OSA. All participants underwent a polysomnography sleep study, which was also done in different institutions. We applied the Epworth Sleepiness Scales during the clinical investigation because it is an effective instrument used to measure average daytime sleepiness. Another questionnaire to identify cases of OSA was used. Among other variables studied, the apnea/hypopnea index was the main outcome, while age and type of cleft were secondary variables. From 37 patients who were studied (100%), we obtained the following results: normal apnea/hypopnea index: seven patients (18.9%); mild apnea/hypopnea index: 14 patients (37.8%); moderate apnea/hypopnea index: eight patients (21.6%); and severe apnea/hypopnea index: eight patients (21.6%). In this study, we found that more than three quarters (81%) of the patients who were treated for velopharyngeal insufficiency with Orticochea pharyngoplasty presented obstructive sleep apnea when analyzing the apnea/hypopnea index in the polysomnography sleep study.

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**Title:** Long-Term Follow-Up of UCLP Patients: Surgical and Orthodontic Burden of Care During Growth and Final Orthognathic Surgery Need.

**Citation:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Nov 2015, vol. 52, no. 6, p. 688-697 (November 2015)

**Author(s):** Meazzini, Maria Costanza, Capello, Alice Varacca, Ventrini, Francesca, Autelitano, Luca, Morabito, Alberto, Garattini, Giovanna, Brusati, Roberto

**Abstract:** The goal of this study was to evaluate the craniofacial morphology at 5 and 10 years of age and at the completion of growth, the need for final orthognathic surgery, and the orthodontic burden in a sample of patients with unilateral cleft lip and palate consecutively treated by the same surgeon with the same two-step protocol. A sample of 62 adult patients with unilateral cleft lip and palate was retrospectively collected (mean age, 17.5 years). Lateral cephalograms at three time points were traced. The need for orthognathic surgery was assessed, subdividing the sample into an orthognathic surgery group and nonorthognathic surgery group. Time and modality of orthodontic treatment were recorded. Cephalometric values related to maxillary growth (SNA, SNAns) and maxillomandibular relation (ANB, NAPg) were significantly different between the two groups already at 5 and 10 years of age. All patients presenting an ANB smaller than 2° at 5 years needed a Le Fort I osteotomy. Mandibular protrusion (SNB, SNPg) was not different at 5 and 10 years, but was different at the completion of growth. Patients with the same initial maxillomandibular relation did not show better growth when subjected to earlier or longer orthodontic treatment. Patients needing final jaw surgery had a more severe skeletal
discrepancy during early childhood. The ANB angle at 5 years allowed doctors to identify 45% of the need for orthognathic surgery. The final craniofacial pattern does not seem to change significantly with early or prolonged orthodontic treatment.

**Title:** Orthognathic Surgeries in Patients With Congenital Craniofacial Anomalies: Profile and Hospitalization Outcomes.

**Citation:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Nov 2015, vol. 52, no. 6, p. 698-705 (November 2015)

**Author(s):** Allareddy, Veerasathpurush

**Abstract:** To examine the occurrence of complications in patients with congenital facial anomalies who underwent orthognathic surgeries and to identify the role of patient-related factors in occurrence of complications. Retrospective analysis of hospital discharge database. Nationwide inpatient sample for the years 2004 to 2010. All patients with a diagnosis of cleft lip and/or palate or congenital craniofacial anomalies and who had an orthognathic surgery were selected. Orthognathic surgery. Occurrence of complications. During the study period, a total of 8340 patients with congenital craniofacial anomalies underwent orthognathic surgeries. The overall complication rate was 9.1%. Six different complications (bacterial infections, hemorrhage, postoperative pneumonia, iatrogenic-induced complications such as accidental punctures/lacerations or pneumothorax, other infections, and respiratory complications) occurred in at least 1% of all patients having orthognathic surgeries. Ninety-five percent of patients were discharged routinely after surgery. Patients with high comorbid burden are at a higher risk for developing complications (P < .05). The current study findings indicate that orthognathic surgeries can be safely performed in patients with congenital craniofacial anomalies. The present study results reflect the practice patterns and hospitalization outcomes across the country and could serve as benchmarks for future well-designed prospective controlled studies to examine risk factors associated with complications for not only orthognathic surgeries but also for a wider range of surgical procedures.

**Title:** Early Surgical Complications After Primary Cleft Lip Repair: A Report of 3108 Consecutive Cases.

**Citation:** The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Nov 2015, vol. 52, no. 6, p. 706-710 (November 2015)

**Author(s):** Schönmeyr, Björn, Wendby, Lisa, Campbell, Alex

**Abstract:** To analyze short term surgical complications after primary cleft lip repair. A total of 3108 consecutive lip repairs with 2062 follow-ups were reviewed retrospectively through medical records. Patients were aged 3 months to 75 years at the time of surgery, with a median of 7 years. Guwahati Comprehensive Cleft Care Center, Assam, India. Primary cleft lip repair. Documented complications in terms of dehiscence, necrosis, infection, and suture granuloma were compiled. Logistic regression was used with dehiscence (yes/no) or
infection (yes/no) as binary dependant variables. Age, cleft type, and surgeon (visiting/long term) were used as covariates. Among the 2062 patients who returned for early follow-up, 90 (4.4%) had one or more complications. Dehiscence (3.2%) and infection (1.1%) were the most common types of complication. Visiting surgeon, complete cleft, and bilateral cleft were significantly associated with wound dehiscence, and complete cleft was associated with wound infection according to the logistic regression analysis. Of patients with bilateral complete clefts, 6.9% suffered from some degree of wound dehiscence. In a setting where presurgical molding is unavailable and patients present at all ages, lip wound dehiscence is a relatively common complication in patients with bilateral complete clefts. The risk of dehiscence, however, is reduced when these cases are assigned to surgeons with experience with these types of clefts. We also found that the incidence of wound infection can be kept relatively low, even without the use of postoperative antibiotics.

Title: Is Linear Advancement Related to Relapse in Unilateral Cleft Lip and Palate Orthognathic Surgery?

Citation: The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Nov 2015, vol. 52, no. 6, p. 717-723 (November 2015)

Author(s): Watts, Guy D, Antonarakis, Gregory S, Forrest, Christopher R, Tompson, Bryan D, Phillips, John H

Abstract: To investigate the stability of major versus minor Le Fort I maxillary advancements in unilateral cleft lip and palate (UCLP) patients. A retrospective longitudinal study was undertaken on 30 nonsyndromic UCLP patients treated with the same protocol at The Hospital for Sick Children, Toronto, Canada. Patients were grouped into major and minor movement groups based on planned surgical advancement. Standard lateral cephalometric radiographs were taken preoperatively (T1), immediately postoperatively (T2), and at least 1 year postoperatively (T3). Skeletal and dental variables were measured using cephalometric analysis. Stability was compared between groups using repeated-measures analysis of variance. Linear regression analysis was used to assess the relationship between advancement and relapse for the entire study population. A mean maxillary advancement of 9.8 mm and 4.9 mm was seen for the major (n = 10) and minor (n = 20) movement groups, respectively. The mean skeletal horizontal relapse was 1.8 mm (18%) for the major advancement group and 1.5 mm (31%) for the minor advancement group. There was no significant difference in skeletal horizontal relapse between the groups (P > .05). The correlation coefficient (r) between linear horizontal advancement and relapse was calculated to be .31 (P > .05). Dental horizontal relapse was not significant for either the major or minor groups, and no significant difference was found between the groups (P > .05). Skeletal and dental relapse was found to be unrelated to the amount of maxillary linear advancement using conventional Le Fort I osteotomies in UCLP.
Title: Multidisciplinary Aspects of 104 Patients With Pierre Robin Sequence.

Citation: The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Nov 2015, vol. 52, no. 6, p. 732-742 (November 2015)

Author(s): Filip, Charles, Feragen, Kristin Billaud, Lemvik, Jorunn Skartveit, Lindberg, Nina, Andersson, Els-Marie, Rashidi, Mitra, Matzen, Michael, Høgevold, Hans Erik

Abstract: To describe Pierre Robin sequence patients with a cleft palate from a multidisciplinary perspective. A total of 104 individuals with Pierre Robin sequence and cleft palate, born between 1980 and 2010. Data were collected retrospectively and compared with large control groups. Of 104 patients, 19 (18.3%) were treated with a nasopharyngeal or oropharyngeal tube, continuous positive airway pressure, and/or a tracheotomy. The mean weight percentile for newborns with Pierre Robin sequence was 30.9. It decreased to 29.9 at the time of cleft palate repair (mean age, 13.7 months) (P = .78). Of 87 patients, 30 (34.5%) developed normal speech after cleft palate repair. Of 93 nonsyndromic Pierre Robin sequence patients, 31 (33.3%) had or are having surgery for velopharyngeal insufficiency, a rate that is significantly higher when compared with a control group of cleft palate-only patients (19.4%; P = .004). Of 31 patients, 25 (80.6%) developed normal resonance after surgery for velopharyngeal insufficiency. There was no significant difference in the rate of syndromes between the Pierre Robin sequence patients and a control group of cleft palate patients without Pierre Robin sequence (P = .25). Seven of 39 boys (17.9%) with Pierre Robin sequence had a diagnosis of autism spectrum disorder. Even though the mean weight percentile for newborns with Pierre Robin sequence was low, the patients did not show a growth spurt during the first year of life. The high rate of velopharyngeal insufficiency after cleft palate repair in patients with Pierre Robin sequence needs further investigation. Also, the high rate of autism spectrum disorder among boys with Pierre Robin sequence prompts further investigation.

Title: Midline Cleft Lip and Bifid Nose Deformity: Description, Classification, and Treatment.

Citation: The Journal of craniofacial surgery, Nov 2015, vol. 26, no. 8, p. 2304-2308 (November 2015)

Author(s): Kolker, Adam R, Sailon, Alexander M, Meara, John G, Holmes, Anthony D

Abstract: Midline facial clefts are rare and challenging deformities caused by failure of fusion of the medial nasal prominences. These anomalies vary in severity, and may include microform lines or midline lip notching, incomplete or complete labial clefting, nasal bifidity, or severe craniofacial bony and soft tissue anomalies with orbital hypertelorism and frontoethmoidal encephaloceles. In this study, the authors present 4 cases, classify the spectrum of midline cleft anomalies, and review our technical approaches to the surgical correction of midline cleft lip and bifid nasal deformities. Embryology and associated anomalies are discussed. The authors retrospectively reviewed our experience with 4 cases of midline cleft lip with and without nasal deformities of varied complexity. In addition, a comprehensive literature search was performed, identifying studies published relating to
midline cleft lip and/or bifid nose deformities. Our assessment of the anomalies in our series, in conjunction with published reports, was used to establish a 5-tiered classification system. Technical approaches and clinical reports are described. Functional and aesthetic anatomic correction was successfully achieved in each case without complication. A classification and treatment strategy for the treatment of midline cleft lip and bifid nose deformity is presented. The successful treatment of midline cleft lip and bifid nose deformities first requires the identification and classification of the wide variety of anomalies. With exposure of abnormal nasolabial anatomy, the excision of redundant skin and soft tissue, anatomic approximation of cartilaginous elements, orbicularis oris muscle repair, and craniofacial osteotomy and reduction as indicated, a single-stage correction of midline cleft lip and bifid nasal deformity can be safely and effectively achieved.

Title: Fast and Early Mandibular Osteodistraction: The Long-Term Follow-Up of Mandibular Distraction Osteogenesis on Teeth Position.

Citation: The Journal of craniofacial surgery, Nov 2015, vol. 26, no. 8, p. 2325-2328 (November 2015)

Author(s): Cascone, Piero, Basile, Emanuela, Saccucci, Matteo, Di Carlo, Gabriele, Angeletti, Diletta, Ramieri, Valerio, Polimeni, Antonella

Abstract: Pierre Robin Sequence is a congenital pathology defined by the triad micrognathia, glossoptosis and often a U-shaped cleft of soft palate. Newborns affected by airways obstruction may necessitate more invasive options: tongue-lip adhesion, tracheostomy and mandibular distraction osteogenesis. The authors analyzed the effect of fast and early mandibular osteodistraction on deciduous dental development in patients affected by Pierre Robin Sequence. Analysis of the patients treated for severe form was performed by a team composed by maxillofacial surgeons and dentists. Five patients were included for the analysis: before and long term clinical and radiological assessments were considered. All patients underwent fast and early mandibular osteodistraction; two years follow up computed tomography and panorex reconstructions showed bone consolidation, 33 of 35 teeth analyzed before osteodistraction are present after distraction protocol; no positional changes were detected at the follow up analysis either deciduous teeth and molar permanent buds. No deformities regarding molar buds were detected. In conclusion external mandibular distractor devices have been associated with dental injuries and facial scaring. Even though, the dental complications identified can not be unambiguously connected to the external distractor devices.

Title: Nonsurgical treatment of hemifacial microsomia: A case report

Citation: Iranian Red Crescent Medical Journal, November 2015, vol./is. 17/11, 2074-1804;2074-1812 (01 Nov 2015)

Author(s): Nouri M., Farzan A.
Abstract: Introduction: Hemifacial microsomia (HFM) is a birth defect involving craniofacial structures derived from the first and second branchial arches. Although it is a relatively uncommon malformation, it is the second most common craniofacial birth defect after cleft lip and palate (CL/P). Case Presentation: This is a case report about the successful orthodontic treatment of a patient with mild hemifacial microsomia (HFM), using a non-surgical orthopedic and orthodontic treatment approach. The aim of this approach was to make the best noninvasive modality to treat HFM. A 7-year-old boy with a mild HFM presented with a convex profile and slight chin deviation. Orthopedic treatment performed using a hybrid functional and high pulls headgear. Treatment continued by fixed orthodontic straight wire appliance to achieve perfect occlusion. Conclusions: Excellent esthetic and functional results achieved; total treatment duration was about 72 months.

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