University Hospitals Bristol NHS
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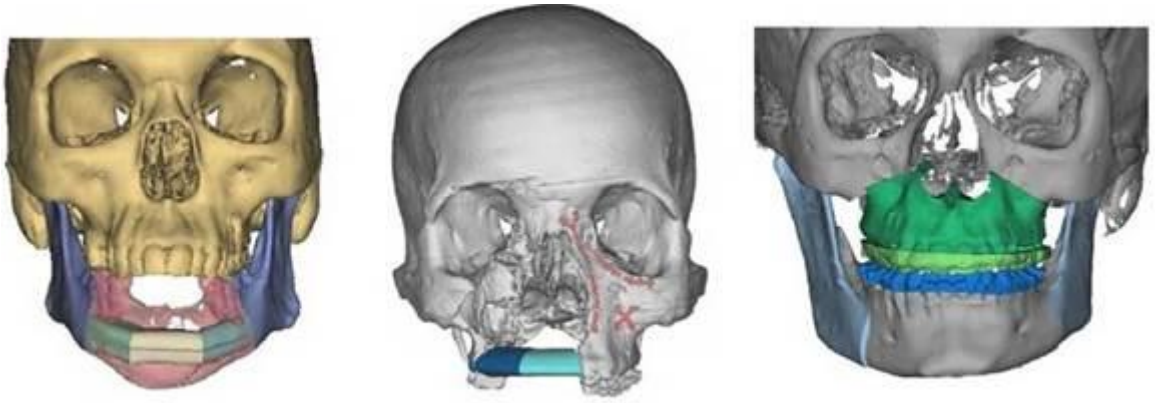
Oral & Maxillofacial Surgery

Evidence Update



July 2017

Bimonthly

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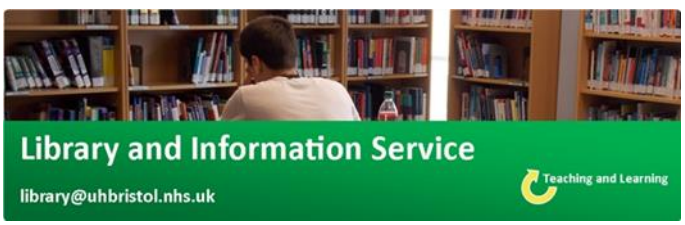
Embracing change
Recognising success
Working together
Our hospitals.



Lunchtime Drop-in Sessions

All sessions last one hour

July (13.00-14.00)
3rd (Mon) Interpreting Statistics
12th (Wed) Critical Appraisal
21st (Fri) Literature Searching
26th (Wed) Interpreting Statistics
August (12.00-13.00)
4th (Fri) Critical Appraisal
9th (Wed) Literature Searching
15th (Tues) Interpreting Statistics
24th (Thurs) Critical Appraisal

Your Outreach Librarian- Jo Hooper

Whatever your information needs, the library is here to help. As your Outreach Librarian I offer **literature searching services** as well as training and guidance in **searching the evidence** and **critical appraisal** – just email me at library@uhbristol.nhs.uk

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

Literature searching: We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a one-to-one session where we can guide you through the process of creating a well-focused literature research and introduce you to the health databases access via NHS Evidence. Please email requests to library@uhbristol.nhs.uk

Contents

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- Family medicine
- Gastroenterology and hepatology
- General surgery
- Geriatrics
- Haematology
- Hospital Medicine
- Infectious diseases
- Nephrology and hypertension
- Neurology
- Obstetrics and gynaecology
- Oncology
- Paediatrics
- Primary care internal medicine
- Psychiatry
- Pulmonary, critical care and sleep medicine
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Latest Evidence

NICE National Institute for Health and Care Excellence

Effectiveness of treatments for medication-related osteonecrosis of the jaw: A systematic review and meta-analysis

Source: PubMed - 18 May 2017 - Publisher: Journal Of The American Dental Association (1939)

Read Summary

A scoping review of outcomes related to orthodontic treatment measured in cleft lip and palate

Source: PubMed - 01 May 2017 - Publisher: Orthodontics & Craniofacial Research

Read Summary

Cochrane Library

Non-pharmacological interventions for managing dental anxiety in children

Robert P Anthonappa, Paul F Ashley, Debbie L Bonetti, Guido Lombardo, Philip Riley

Online Publication Date: June 2017

Interventions for replacing missing teeth: implant placement at different levels in relation to crestal bone

Ismael Khouly, Analia Veitz-Keenan, Peter Michael Loomer, Marco Esposito

Online Publication Date: April 2017

Oral hygiene programmes for people with intellectual disabilities

Catherine Waldron, Caoimhin MacGiolla Phadraig, June Nunn, Catherine Comiskey, Erica Donnelly-Swift, Suzanne Guerin, Mike J Clarke

Online Publication Date: April 2017

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Initial evaluation and management of facial trauma in adults

- General examination

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 into the following categories:

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

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

Oral surgery

Trans-Oral Robotic Surgery for a Ewing's sarcoma of tongue in a pediatric patient: A case report

Author(s): Canevari F.R.; Galla S.; Sorrentino R.; Montevecchi F.; Vicini C.; Sireci F.

Source: Brazilian Journal of Otorhinolaryngology; 2017

Publication Type(s): Article In Press

Immunology biomarkers in oral surgery

Author(s): Veleska-Stevkovska D.; Peeva-Petreska M.; Velickovski B.; Apostolova G.; Koneski F.; Aleksova P.

Source: Research Journal of Pharmaceutical, Biological and Chemical Sciences; 2017; vol. 8 (no. 2); p. 395-401

Publication Type(s): Article

Abstract: The initial response during oral surgical interventions is characterized by rapid production and release of various endogenous mediators. The aim of the study was to determine the serum levels of IFN-alpha and IFN-gamma in the perioperative period, as well as the correlation between the serum levels of IFN with sex and age, possible traumatic damage, time interval of the intervention and the possible objective clinical complications throughout the post-operative period. **[ABSTRACT EDITED]**

CONSORT the effect of intraoperative dexmedetomidine on hemodynamic responses during emergence from nasotracheal intubation after oral surgery

Author(s): Jo Y.Y.; Kim H.S.; Lee K.C.; Chang Y.J.; Shin Y.; Kwak H.J.

Source: Medicine (United States); 2017; vol. 96 (no. 16)

Publication Type(s): Article

Abstract: Background: Dexmedetomidine provides smooth emergence with reduced agitation. The authors hypothesized low-dose dexmedetomidine infusion might contribute to hemodynamic stability during and after nasotracheal tube extubation. **[ABSTRACT EDITED]**

Evaluation of different doses of dexmedetomidine alone versus the combination of dexmedetomidine and fentanyl in sedation during awake fiberoptic intubation in oral cancer surgery patients: A prospective, randomized, double-blind clinical trial

Author(s): Hassan M.E.; Mahran E.

Source: Saudi Journal of Anaesthesia; 2017; vol. 11 (no. 2); p. 196-202

Publication Type(s): Article

Available in full text at Saudi Journal of Anaesthesia - from ProQuest

Abstract: Background: Awake fiberoptic intubation (AFOI) is one of the principal techniques in the management of difficult airway in oral cancer surgery. We hypothesized that the addition of a small dose of fentanyl could improve the sedative criteria of dexmedetomidine during AFOI technique, without the need to increase the dose of dexmedetomidine which may be associated with airway compromise. **[ABSTRACT EDITED]**.

Sindrome della morte improvvisa o di Brugada in chirurgia orale: Caso clinico e revisione della letteraturaSudden unexpected death or Brugada syndrome in oral surgery: A case report and literature review

Author(s): Paradiso D.; Lomurno G.; Eramo S.; Bensi C.

Source: Dental Cadmos; 2017; vol. 85 (no. 2); p. 104-111

Publication Type(s): Article

Abstract:OBJECTIVES. The aim of this study is to present a case of Brugada syndrome in a patient requiring oral surgery. A review of the literature is also provided. **[ABSTRACT EDITED]**

A case of psychogenic non-epileptic seizures after oral surgery under general anesthesia

Author(s): Ushiroda J.; Kawaguchi M.

Source: Journal of Japanese Dental Society of Anesthesiology; 2017; vol. 45 (no. 1); p. 32-34

Publication Type(s): Article

Abstract: We report a case of psychogenic non-epileptic seizures after general anesthesia. A 62-year-old woman underwent resection of the coronoid processes and dissection of the masseter muscle under general anesthesia. The surgical procedures were performed uneventfully, and there were no specific problems during the operation. After the operation, she regained consciousness and was neurologically intact. While exiting the operating room floor, she lost consciousness for a moment immediately after complaining of difficulty breathing. However, she regained consciousness soon thereafter. We judged that she had no problem with her status, so she went back to the surgical ward. Afterwards, she developed systemic convulsions, including a loss of consciousness and respiratory arrest. An emergent head CT exam and arterial blood gas analysis did not show any pathological density, structural change, or abnormal values. Later, we discovered that she had experienced the same symptoms after previous surgical operations. We speculated that she was experiencing psychogenic non-epileptic seizures (PNES) because a subsequent elec-Troencephalogram exam did not show any abnormal waves. PNES is considered to be a partial symptom of dissociative disorder. The condition may be triggered by psychological problems consisting of severe anxiety and mental conflict. A prompt differential diagnosis between a true epilepsy attack and PNES is usually difficult because the diagnosis of PNES is based mainly on

diagnosis by exclusion. Reportedly, a certain percent of patients with PNES also have epilepsy. Thus, a careful diagnosis is necessary for PNES.

Effect of intravenous patient-controlled analgesia (IV-PCA) on postoperative pain in patients undergoing surgery for oral and maxillofacial tumors

Author(s): Miyake S.; Onishi R.; Tanimura H.; Honda Y.; Miyawaki T.; Higuchi H.; Takaya K.; Maeda S.; Kawase A.

Source: Journal of Japanese Dental Society of Anesthesiology; 2017; vol. 45 (no. 1); p. 17-22

Publication Type(s): Article

Abstract: We retrospectively evaluated the usefulness of intravenous paticnt-controllcd analgesia (IV-PCA) on postoperative pain in patients undergoing surgery for oral and maxillofacial tumors in our hospital over the past 2 years. Thirteen patients who used IV-PCA with fentanyl following the removal of oral and maxillofacial tumors and/or reconstruction (> =4 operative hours) during the study period were recruited for the study (IV-PCA group). Thirteen patients who did not use IV-PCA following the same kinds of surgeries lasting over 4 hours during the same period served as a control group (non-IV-PCA group). The numeric rating scale of pain (NRS) was used as a pain score. The maximum NRS and postoperative complications until 24 hours after surgery were compared between the groups. For the statistical analysis, we used the unpaired t-Test, the Mann-Whitney test, or the chi-square test I a significant result was defined as $p<0.05$. No significant differences in the age, sex, height, weight, body mass index, duration of operation, or method of anesthesia were observed between the groups. The rate of patients with a maximum NRS of 4 or greater until 24 hours after surgery was significantly lower in the IV-PCA group than in the non-IV-PCA group. The occurrence of nausea and/or vomiting was noted in both groups, but there was no difference in the rate of occurrence between the groups. Furthermore, no severe complications occurred in the IV-PCA group, resulting in the discontinuation of IV-PCA. These results suggest that IV-PCA with fentanyl is a useful method against postoperative pain following surgery for oral and maxillofacial tumors.

Emerging Perspectives in Scaffold for Tissue Engineering in Oral Surgery

Author(s): Ceccarelli G.; Benedetti L.; Cusella De Angelis M.G.; Presta R.; Lupi S.M.; Rodriguez Y Baena R.

Source: Stem Cells International; 2017; vol. 2017

Publication Type(s): Review

Abstract: Bone regeneration is currently one of the most important and challenging tissue engineering approaches in regenerative medicine. Bone regeneration is a promising approach in dentistry and is considered an ideal clinical strategy in treating diseases, injuries, and defects of the maxillofacial region. Advances in tissue engineering have resulted in the development of innovative scaffold designs, complemented by the progress made in cell-based therapies. In vitro bone regeneration can be achieved by the combination of stem cells, scaffolds, and bioactive factors. The biomimetic approach to create an ideal bone substitute provides strategies for developing combined scaffolds composed of adult stem cells with mesenchymal phenotype and different organic biomaterials (such as collagen and hyaluronic acid derivatives) or inorganic biomaterials such as manufactured polymers (polyglycolic acid (PGA), polylactic acid (PLA), and polycaprolactone). This review focuses on different biomaterials currently used in dentistry as scaffolds for bone regeneration in treating bone defects or in surgical techniques, such as sinus lift, horizontal and vertical bone grafts, or socket preservation. Our review would be of particular interest to medical and surgical researchers at the interface of cell biology, materials science, and tissue engineering, as

well as industry-related manufacturers and researchers in healthcare, prosthetics, and 3D printing, too.

New Biomaterials and Regenerative Medicine Strategies in Periodontology, Oral Surgery, Esthetic and Implant Dentistry 2016

Author(s): Dohan Ehrenfest D.M.; Wang H.-L.; Piattelli A.; Sammartino G.

Source: BioMed Research International; 2017; vol. 2017

Publication Type(s): Editorial

Available in full text at BioMed Research International - from EBSCOhost

Erratum to "Comparison of cardiovascular responses after injection of lidocaine with either clonidine or adrenaline: a two-year comparative analysis" [Br J Oral Maxillofac Surg 55(1) (2017) 67-70](S0266435616302819)(10.1016/j.bjoms.2016.09.011)

Author(s): Dandriyal R.; Pachauri S.; Giri K.Y.; Rastogi S.; Prasad N.I.B.; Agarwal S.; Singh H.P.

Source: British Journal of Oral and Maxillofacial Surgery; Jul 2017; vol. 55 (no. 6); p. 655

Publication Type(s): Erratum

Abstract: The authors regret that on p. 67 the second paragraph was given in error as follows: The publisher would like to apologise for any inconvenience caused.

Point-of-care ultrasound for oral and maxillofacial surgeons.

Author(s): Ryba, F M; George, K

Source: The British journal of oral & maxillofacial surgery; Jul 2017; vol. 55 (no. 6); p. 600-603

Publication Type(s): Journal Article

Abstract: Point-of-care ultrasound is an ultrasound examination that is made at the bedside by the examining clinician in the Accident and Emergency department, clinic, ward, or operating theatre, and it has been growing in popularity since it was first introduced in the 1990s. It is used as an adjunct to clinical examination to aid diagnosis or treatment. We have carried out a pilot survey to assess whether oral and maxillofacial surgeons in the United Kingdom either need or desire to make such an examination. We present the results of our survey and discuss the uses and benefits of point-of-care ultrasound in oral and maxillofacial surgery.

Erratum to "Transforming growth factor-β1 activates ΔNp63/c-Myc to promote oral squamous cell carcinoma" [Oral Surg Oral Med Oral Pathol Oral Radiol 2016;122:460-482].

Author(s):

Source: Oral surgery, oral medicine, oral pathology and oral radiology; Jul 2017; vol. 124 (no. 1); p. 104

Publication Type(s): Published Erratum

Behavioral regression in 2 patients with autism spectrum disorder and attention-deficit/hyperactivity disorder after oral surgery performed with a general anesthetic.

Author(s): Matton, Seth; Romeo, Gerardo P

Source: Journal of the American Dental Association (1939); Jul 2017; vol. 148 (no. 7); p. 519-524

Publication Type(s): Journal Article

Abstract:BACKGROUND AND OVERVIEWRoutine dental care for people with autism spectrum disorders can be complex. There is little published on postoperative behavioral changes associated with use of general anesthetics in this population.CASE DESCRIPTIONThe authors describe postoperative behavioral changes in 2 patients with autism spectrum disorder and attention deficit hyperactivity disorder that the patients' caretakers described as regression. In both cases, behaviors representative of autism spectrum disorder and attention deficit hyperactivity disorder worsened after uncomplicated oral surgery after receipt of a general anesthetic in the operating room. In both cases, behavioral changes caused great difficulties for the patients and caretakers and were difficult to address.CONCLUSIONS AND PRACTICAL IMPLICATIONSWith little in the scientific literature, these 2 cases have a great importance for the dental care practitioner. Awareness must be raised so that further investigation can occur regarding this phenomenon.

Palatal Injection for the Removal of Maxillary Teeth: Current Practice Among Oral and Maxillofacial Surgeons.

Author(s): Badenoch-Jones, Emma K; David, Michael; Lincoln, Trent

Source: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Jul 2017; vol. 75 (no. 7); p. 1376

Publication Type(s): Journal Article

Abstract:PURPOSEConventional teaching regarding palatal injection for the removal of maxillary teeth dictates the administration of buccal and palatal injections. Recently, some investigators have questioned the necessity of the palatal injection, suggesting that contemporary local anesthetics might diffuse sufficiently across the buccopalatal cortical bone distance. It has been suggested that because the buccopalatal cortical bone distance increases anteriorly to posteriorly in the maxilla, the success of maxillary extractions with buccal injection only might be related to the anteroposterior position of the tooth. Evidence from clinical trials has only recently become available. Since 2006, 15 clinical trials that examined outcomes of maxillary tooth extractions performed with buccal injection of local anesthetic only have been published. However, there are limited data available on the clinical practice of surgeons.MATERIALS AND METHODSAn online survey was sent to 276 full members of the Canadian Association of Oral and Maxillofacial Surgeons. Respondents were asked about their use of palatal injection for the removal of maxillary teeth under local anesthesia, including how often they administer a palatal injection for maxillary extractions in each region of the maxilla.RESULTSNinety-two responses were received (33%). Most practitioners deliver a palatal injection for every maxillary tooth extraction under local anesthesia. However, there is a substantial number who do not always administer a palatal injection (ie, they give it "most of the time," "occasionally," or "never"). This number decreased in a linear fashion anteriorly to posteriorly in the maxilla (incisors, 17 of 89; canines, 16 of 88; premolars, 13 of 88; first and second molars, 10 of 89; third molars, 10 of 88).CONCLUSIONSome surgeons who do not always administer a palatal injection for extraction of maxillary teeth under local anesthesia. The number is larger for anterior compared with posterior teeth.

Which Factors Affect Citation Rates in the Oral and Maxillofacial Surgery Literature?

Author(s): Cheng, Kristie L; Dodson, Thomas B; Egbert, Mark A; Susarla, Srinivas M

Source: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Jul 2017; vol. 75 (no. 7); p. 1313-1318

Publication Type(s): Journal Article

Abstract:PURPOSECitation rate is one of several tools to measure academic productivity. The purposes of this study were to estimate and identify factors associated with citation rates in the oral

and maxillofacial surgery (OMS) literature.MATERIALS AND METHODSThis was a retrospective longitudinal study of publications in the Journal of Oral and Maxillofacial Surgery (JOMS), International Journal of Oral and Maxillofacial Surgery (IJOMS), and Oral Surgery, Oral Medicine, Oral Pathology, and Oral Radiology (OOOO) from January through December 2012. The predictor variables were author- and article-specific factors. The outcome variable was the citation rate, defined as the total number of citations for each article over a 4-year period. Descriptive, bivariate, and multiple regression statistics were computed.RESULTSThe authors identified 993 articles published during 2012. The mean number of citations at 4 years after publication was 5.6 ± 5.3 (median, 4). In bivariate analyses, several author- and article-specific factors were associated with citation rates. In a multiple regression model adjusting for potential confounders and effect modifiers, first author H-index, number of authors, journal, OMS focus area, and Oxford level of evidence were significantly associated with citation rate (P ≤ .002).CONCLUSIONThe authors identified 5 factors associated with citation rates in the OMS literature. These factors should be considered in context when evaluating citation-based metrics for OMS. Studies that focus on core OMS procedures (eg, dentoalveolar surgery, dental implant surgery), are published in specialty-specific journals (eg, JOMS or IJOMS), and have higher levels of evidence are more likely to be cited.

ACS Fellowship for Single-Degree Oral and Maxillofacial Surgeons.

Author(s): Geist, Eric T

Source: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Jul 2017; vol. 75 (no. 7); p. 1310-1311

Publication Type(s): Letter

Has the primary care oral surgery service reduced the activity in secondary care oral and maxillofacial units?

Author(s): Chiu G.A.

Source: British Journal of Oral and Maxillofacial Surgery; Jun 2017; vol. 55 (no. 5); p. 533-537

Publication Type(s): Article

Abstract: To find out if the devolution of some dentoalveolar services into primary care in 2007 was having an effect on the workload of oral and maxillofacial units, I reviewed the workload of two units in 2011-13.Copyright © 2017

A novel way to secure the laryngeal mask airway during oral surgery procedures

Author(s): Mireles R.; Devgun R.; Ramsdell R.; Heard C.; Tucker B.; Votta T.; Chahal P.

Source: Anesthesia and Analgesia; Jun 2017; vol. 124 (no. 6); p. 1836-1838

Publication Type(s): Article

Available in full text at Anesthesia and Analgesia - from Ovid

Abstract: The laryngeal mask airway (LMA) has been used successfully for an ever-increasing number of applications. Utilization in oral maxillofacial surgery has been hampered by surgical difficulties working around the device. In this case series, a novel device, the LMA-PROP, was used to determine whether it was possible to alleviate device-positioning concerns with third molar extraction cases. LMA-PROP was used with both anesthesia and surgical satisfaction in this small pilot study. LMA-PROP appears to be a helpful new tool allowing the surgeon to maintain current surgical techniques for third molar extraction while securing LMA adequately for anesthesia maintenance.© Copyright 2016 International Anesthesia Research Society.

Low-dose carperitide (alpha-human A-type natriuretic peptide) alleviates hemoglobin concentration decrease during prolonged oral surgery: a randomized controlled study

Author(s): Tsukamoto M.; Esaki K.; Koyama S.; Hitosugi T.; Yokoyama T.

Source: Journal of Anesthesia; Jun 2017; vol. 31 (no. 3); p. 325-329

Publication Type(s): Article

Abstract: Purpose: Surgical injury stimulates the renin-angiotensin-aldosterone system (RAAS) and causes antidiuresis, leading to postoperative oliguria. Carperitide (alpha-human A-type natriuretic peptide) is a cardiac peptide hormone secreted from the atrium. This peptide hormone enhances diuresis by suppressing the RAAS. In our experience, carperitide alleviates decreased hemoglobin (Hb) concentration during elective surgery. In the current study, we investigated the relationship between low-dose carperitide (0.01 micro g/kg/min) and Hb concentration during oral surgery. Methods: Patients (ASA-PS: I-II, 40-80 years old) undergoing oral maxillofacial surgery (duration of operation >8 h) were enrolled in this study. Patients were divided into two groups: the carperitide group received carperitide at 0.01 micro g/kg/min and the control group received normal saline. Body fluid water [including total body water (TBW), extracellular water (ECW), and intracellular water (ICW)], urine volume, and chemical parameters such as Hb concentration, PaO2, and serum electrolytes were evaluated every 2 h. Results: In the carperitide group (n = 15), Hb decreased from 12.6 +/- 1.1 to 10.8 +/- 1.5 g/dl, while it decreased from 12.6 +/- 1.4 to 9.5 +/- 1.3 g/dl in the control group (n = 15) (p 2, and serum electrolytes between the two groups. In addition, there were no perioperative clinical respiratory and hemodynamic complications in the groups. Conclusion: The Hb concentration in the group administered low-dose carperitide at 0.01 micro g/kg/min remained higher than that in the control group during surgery. Administration of low-dose carperitide may therefore reduce the risk of blood transfusion during surgery.

Promotion of oral surgical wound healing using autologous mucosal cell sheets

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

Source: Oral Oncology; Jun 2017; vol. 69 ; p. 84-91

Publication Type(s): Article

Abstract: Objectives Severe oral mucosal and tissue defects can lead to pain, infection, and later undesirable healing of scarring and adhesion, resulting in a poor quality of life. In vitro-engineered oral mucosal equivalents for covering such defects are an alternative to avoiding the donor site morbidity of conventional skin or tissue grafts. We examined the efficacy of our newly developed three-dimensional mucosal cell sheets in an in vivo tongue wound model mimicking the surgical extirpation of tongue cancer. **[ABSTRACT EDITED]**

Seven-year review of dental foundation year 2/senior house officer training at the Oral and Maxillofacial Surgery Unit in Oxford.

Author(s): Garg, M; Wong, L; Dhariwal, D

Source: The British journal of oral & maxillofacial surgery; Jun 2017

Publication Type(s): Journal Article

Abstract: The dental senior house officer (SHO)/dental foundation year 2 (DF2) posts in Oxford have provided hospital-based training for dentists, but in 2013 the Oral and Maxillofacial Surgery (OMFS) Unit withdrew from DF2 training because persistent negative feedback from the dental deanery varied from that obtained internally. We sent questionnaires to a consecutive group of 62 dentists who had worked at the John Radcliffe Hospital, Oxford, between 2006 and 2013 to find out about their experience of the posts. Forty responded (65% response rate). We analysed their expectations,

the support provided, their experience of teaching and training, the opportunities available, and free-text feedback about the post and their current posts. They had all found the job helpful, and had gained generic, dental, medical, and surgical skills. The overall mean (SD) score for the post was 8 (2) on a Likert scale of 1-10 (with 10 being excellent). When they completed the questionnaire between December 2013 and July 2014, 18 respondents were working as general dental practitioners and four were training for a career in OMFS. The study showed that work as a dental SHO or DF2 has multiple benefits. We hope that our findings will help to improve OMFS training posts for dental core trainees in Oxford.

Inspiring a career in oral and maxillofacial surgery: a first-degree medical student's perspective.

Author(s): Spiers, H; Ashby, J

Source: The British journal of oral & maxillofacial surgery; Jun 2017

Publication Type(s): Letter

Evaluation of Oral and Maxillofacial Surgery Residents' Operative Skills: Feasibility and Engagement Study Using SIMPL Software for a Mobile Phone.

Author(s): Kaban, Leonard B; Cappetta, Alyssa; George, Brian; Lahey, Edward; Bohnen, Jordan; Troulis, Maria J

Source: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Jun 2017

Publication Type(s): Journal Article

Abstract:PURPOSEThere are no universally accepted tools to evaluate operative skills of surgical residents in a timely fashion. The purpose of this study was to determine the feasibility of using a smartphone application, SIMPL (System for Improving and Measuring Procedural Learning), developed by a multi-institutional research collaborative, to achieve a high rate of timely operative evaluations and resident communication and to collect performance data. The authors hypothesized that these goals would be achieved because the process is convenient and efficient.MATERIALS AND METHODSThis was a prospective feasibility and engagement study using SIMPL to evaluate residents' operative skills. SIMPL requires the attending surgeon to answer 3 multiple-choice questions: 1) What level of help (Zwisch Scale) was required by the trainee? 2) What was the level of performance? 3) How complex was the case? The evaluator also can dictate a narrative. The sample was composed of 3 faculty members and 3 volunteer senior residents. Predictor variables were the surgeons, trainees, and procedures performed. Outcome variables included number and percentage of procedures performed by faculty-and-resident pairs assessed, time required to complete assessments, time lapsed to submission, percentage of assessments with narratives, and residents' response rates.RESULTSFrom March through June 2016, 151 procedures were performed in the operating room by the faculty-and-resident teams. There were 107 assessments submitted (71%). Resident response (self-assessment) to faculty evaluations was 81%. Recorded time to complete assessments (n = 75 of 107) was shorter than 2 minutes. The time lapsed to submission was shorter than 72 hours (100%). Dictations were submitted for 35 evaluations (33%). Data for the type of help, performance, and complexity of cases were collected for each resident.CONCLUSIONSSIMPL facilitates timely intraoperative evaluations of surgical skills, engagement by faculty and residents, and collection of detailed procedural data. Additional prospective trials to assess this tool further are planned.

Video see-through augmented reality for oral and maxillofacial surgery.

Author(s): Wang, Junchen; Suenaga, Hideyuki; Yang, Liangjing; Kobayashi, Etsuko; Sakuma, Ichiro

Source: The international journal of medical robotics + computer assisted surgery : MRCAS; Jun 2017; vol. 13 (no. 2)

Publication Type(s): Journal Article

Abstract:BACKGROUNDOral and maxillofacial surgery has not been benefitting from image guidance techniques owing to the limitations in image registration.METHODSA real-time markerless image registration method is proposed by integrating a shape matching method into a 2D tracking framework. The image registration is performed by matching the patient's teeth model with intraoperative video to obtain its pose. The resulting pose is used to overlay relevant models from the same CT space on the camera video for augmented reality.RESULTSThe proposed system was evaluated on mandible/maxilla phantoms, a volunteer and clinical data. Experimental results show that the target overlay error is about 1 mm, and the frame rate of registration update yields 3-5 frames per second with a 4 K camera.CONCLUSIONSThe significance of this work lies in its simplicity in clinical setting and the seamless integration into the current medical procedure with satisfactory response time and overlay accuracy. Copyright © 2016 John Wiley & Sons, Ltd.

Re: Should we consider devolution of "head and neck" surgery from the specialties of oral and maxillofacial surgery; ear, nose and throat surgery; and plastic surgery?

Author(s): Elledge, R; Walton, G; Sandhu, R; Prasad, S; Howe, D

Source: The British journal of oral & maxillofacial surgery; Jun 2017; vol. 55 (no. 5); p. 566

Publication Type(s): Letter

Re: Cross-cover of oral and maxillofacial surgery out-of-hours: an audit of a new adult treatment clinic.

Author(s): Chegini, S; Heliotis, M

Source: The British journal of oral & maxillofacial surgery; Jun 2017; vol. 55 (no. 5); p. 565

Publication Type(s): Letter

How far reaching is our research? An analysis of the journals in which oral and maxillofacial surgery research is cited.

Author(s): Tahim, A; Hilmi, S; Holmes, S

Source: The British journal of oral & maxillofacial surgery; Jun 2017; vol. 55 (no. 5); p. 538-539

Publication Type(s): Journal Article

Abstract: In this study we investigate the five most cited articles in the British Journal of Oral and Maxillofacial Surgery (BJOMS). Articles cited were usually published in other OMFS journals (40%) or dentistry journals (32%). The mean (SD) SCImago Journal and Country Rank, (SJR) (an interface to access the bibliometric database of journals) for cited papers was 0.64 (SD=0.56). Nearly one third of citations were of research in OMFS and dentistry, suggesting its relevance to the wider academic community.

Surgical management in dentistry: the interdisciplinary relationship between periodontology and oral and maxillofacial surgery.

Author(s): Tong, Darryl C

Source: Periodontology 2000; Jun 2017; vol. 74 (no. 1); p. 168-175

Publication Type(s): Journal Article Review

Abstract: Surgical procedures of the oral cavity can be performed by a number of dental specialists and clinicians. Because of the limited number of surgical procedures that can be performed inside the oral cavity, the boundaries between specialties may become indistinct and lead to confusion for general dentists in terms of patient referrals. In this article, what the two surgical specialties of dentistry (i.e. periodontology and oral and maxillofacial surgery) have to offer is highlighted, together with clinical examples to illustrate the interdisciplinary relationship between them.

The Oral and Maxillofacial Surgery Anesthesia Team Model.

Author(s): Fain, Douglas W; Ferguson, Brett L; Indresano, A Thomas; Johnson, J David; Rafetto, Louis K; Farrell, Scott; Nelson, Steven R; Nannini, Victor L; Schwartz, Paul J; Clark, Robert S; Morrison, J David; Tiner, B D; Egbert, Mark A

Source: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Jun 2017; vol. 75 (no. 6); p. 1097-1100

Publication Type(s): Journal Article

Abstract: Oral and maxillofacial surgeons have been providing safe anesthesia to their patients using the anesthesia team model; this has allowed access to care for patients that have significant anxiety. The AAOMS strives to maintain the excellent safety record of the anesthesia team model by creating simulation programs in anesthesia, regularly updating the office anesthesia evaluation program, convening anesthesia safety conferences and strengthening the standards in our training programs. Through these efforts, our delivery of anesthesia to our patients will remain safe and effective.

End Stage Renal Disease: Not a Contraindication for Minor Oral Surgery-Protocol for the Management of Oral Surgery patients with ESRD on Hemodialysis.

Author(s): Pendem, Sneha; Lakshmi Narayana, G; Ravi, Poornima

Source: Journal of maxillofacial and oral surgery; Jun 2017; vol. 16 (no. 2); p. 231-237

Publication Type(s): Journal Article

Abstract:OBJECTIVETo describe a safe and effective protocol for the management of patients with end stage renal disease (ESRD) undergoing minor oral surgery.SUBJECTS AND METHODSA prospective cohort study was conducted on all patients with ESRD who were referred for dental consultation. A definite protocol was designed in consultation with the nephrologist to minimize the risk of bleeding and wound healing complications during and after the minor surgical procedures. 36 patients consented for the protocol to be followed while 4 patients did not comply with the protocol and in 2 cases the protocol could be followed. The intra operative, post operative bleeding, and the wound healing were assessed in these patients.RESULTS36 patients had uneventful extractions as the blood pressure was brought down to pre hypertensive stage following the protocol. 4 patients who did not comply with the protocol had episodes of bleeding in the post operative period. There were two special scenarios where additional precautions had to be taken have been discussed. The wound healing was satisfactory in all these patients.CONCLUSIONThe protocol discussed in this article helps us provide safe minor oral surgical treatment in patients with ESRD.

Risks and benefits of pre-operative dexmedetomidine in oral and maxillofacial surgeries: a systematic review.

Author(s): Davoudi, Amin; Movahedian Attar, Bijan; Shadmehr, Elham

Source: Expert opinion on drug safety; Jun 2017; vol. 16 (no. 6); p. 711-720

Publication Type(s): Journal Article Review

Abstract:INTRODUCTIONOral and maxillofacial surgeries might induce anxiety and pain to the patients. Sedative agents are one of the best ways for eliminating such consequences. Dexmedetomidine (DEX) is a recent sedative agent which presents higher sedative quality with greater specificity than other drugs. The aim of present paper is to evaluate the risks and benefits of administrating DEX during oral and maxillofacial surgeries by reviewing high quality released articles. Areas covered: Searches on PubMed, Scopus and Web of Science databases were completed with focus on randomized controlled trials (RCT). Related articles, from 2000 to 2015, were selected based on inclusion criteria and quality assessments factors. Full texts of the selected articles were screened and their significant information were gathered for judgments. Expert opinion: 17 RCTs on a total of 765 patients were screened. Some of the difficulties during reviewing the articles were: different pharmacokinetic and pharmacodynamics of drugs when combined with DEX, different time spots and method of monitoring, including studies on both minor and major surgeries for better data collection. Recent researches are going to focus on application of DEX for in-office procedures because of its desirable properties. Nevertheless, the analgesic and amnesic features of DEX are still questionable.

Value in Oral and Maxillofacial Surgery: A Systematic Review of Economic Analyses.

Author(s): Geisler, Benjamin P; Ji, Yisi D; Peacock, Zachary S

Source: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; May 2017

Publication Type(s): Journal Article

Abstract:PURPOSEThe purpose of this study is to describe the state of economic analyses in the field of oral and maxillofacial surgery (OMS). **[ABSTRACT EDITED]**

Bisphosphonate-related osteonecrosis of the jaw

Underlying mechanisms and therapeutic strategies for bisphosphonate-related osteonecrosis of the jaw (BRONJ)

Author(s): Endo Y.; Takahashi T.; Kumamoto H.; Nakamura M.; Sugawara S.; Takano-Yamamoto T.; Sasaki K.

Source: Biological and Pharmaceutical Bulletin; 2017; vol. 40 (no. 6); p. 739-750

Abstract: Bisphosphonates (BPs), with a non-hydrolysable P-C-P structure, are cytotoxic analogues of pyrophosphate, bind strongly to bone, are taken into osteoclasts during bone-resorption and exhibit long-acting anti-bone-resorptive effects. Among the BPs, nitrogen-containing BPs (N-BPs) have far stronger anti-boneresorptive effects than non-N-BPs. In addition to their pyrogenic and digestive-organ-injuring side effects, BP-related osteonecrosis of jaws (BRONJ), mostly caused by N-BPs, has been a serious concern since 2003. The mechanism underlying BRONJ has proved difficult to unravel, and there are no solid strategies for treating and/or preventing BRONJ. Our mouse experiments have yielded the following results. (a) N-BPs, but not non-N-BPs, exhibit direct inflammatory and/or necrotic effects on soft tissues. (b) These effects are augmented by lipopolysaccharide, a bacterial-cell-wall component. (c) N-BPs are transported into cells via phosphate transporters. (d) The non-N-BPs etidronate (Eti) and clodronate (Clo) competitively inhibit this transportation (potencies, Clo>Eti) and reduce and/or prevent the N-BP-induced inflammation and/or necrosis. (e) Eti, but not Clo, can expel N-BPs that have accumulated within bones. (f) Eti and Clo each have an analgesic effect (potencies, Clo>Eti) via inhibition of phosphate transporters involved in pain transmission. From these findings, we propose that phosphate-transporter-mediated and inflammation/infection-promoted mechanisms underlie BRONJ. To treat and/or prevent BRONJ, we propose (i) Eti as a

substitution drug for N-BPs and (ii) Clo as a combination drug with N-BPs while retaining their anti-bone-resorptive effects. Our clinical trials support this role for Eti (we cannot perform such trials using Clo because Clo is not clinically approved in Japan).

Retrospective study of patients with medication-related osteonecrosis of the jaw treated conservatively

Author(s): Konishi T.

Source: Supportive Care in Cancer; 2017; vol. 25 (no. 2)

Publication Type(s): Conference Abstract

Abstract: Introduction Treatment methods for medication-related osteonecrosis of the jaw (MRONJ) have yet to be established, and the number of patients with this condition is on the rise. Objectives In Japan, though several reports have described successful surgical treat-ments, there are few reports describing outcomes of patients receiving mainly conservative management because surgical treatment was considered to be difficult. We report a retrospective study of patients with MRONJ who received conservative treatment. Methods In total, 79 of the MRONJ patients who visited our department during the period from 2010 through 2016 were conservatively treated. These patients were retrospectively investigated. Results The patients were 38 men and 41 women, and their median age was 68 years. The most common primary disease was breast cancer, followed by prostate cancer. The median time to onset of MRONJ was 22 months (3-112 months). Factors considered to have caused osteonecrosis were tooth extraction, 23 patients; apical and/or marginal periodontitis, 29; ill-fitting dentures, 13; unknown, 13; and implant, 1. The disease stage at first presentation was 0 in 21 patients, 1 in 3, and 2 in 55. All of these patients were treated conservatively (oral care, oral cleaning, and antibacterial administration). Conclusions When surgical treatment for MRONJ is regarded as being difficult, rather than choosing a surgical approach to expedite healing as the first line therapy, the possibility of conservative management should be considered. Long-term administration of appropriate antibacterial agents is a potential alternative that may compare favorably with surgical treatment.

Conservative surgery treatment of medication related osteonecrosis of the jaw (mronj) stage ii and iii. a preliminary report

Author(s): Vardas E.; Papadopoulou E.; Kouri M.; Chatzihalepli C.; Vourli A.; Nicolatou-Galitis O.; Kalfarentzos E.; Papadogeogakis N.; Tzerbos F.; Petsinis V.; Tsiklakis K.; Galiti D.; Athanasiadis I.; Nikolaidi A.; Ardavanis A.; Tryfonopoulos D.; Samelis G.

Source: Supportive Care in Cancer; 2017; vol. 25 (no. 2)

Publication Type(s): Conference Abstract

Abstract: Introduction Conservative surgical management of MRONJ involves sequestrectomy and/or superficial surgical debridement of necrotic bone, in combination with oral antibiotics and chlorhexidine rinses. Objectives To present the clinical outcome of 14 oncology patients with metastatic bone disease and MRONJ, who were managed with a conservative surgical approach **[ABSTRACT EDITED]**

Bisphosphonate-Related Osteonecrosis and Metastasis Within the Same Site of the Jaw: Expected for Multiple Myeloma, But Unusual for Breast Cancer

Author(s): Altundag K.

Source: Journal of Oral and Maxillofacial Surgery; 2017

Publication Type(s): Article In Press

Radiographic Findings in Patients with Medication-Related Osteonecrosis of the Jaw.

Author(s): Cardoso, Camila Lopes; Barros, Carolina Arrabal; Curra, Cláudia; Fernandes, Luciana Maria Paes da Silva Ramos; Franzolin, Solange de Oliveira Braga; Júnior, Joel Santiago Ferreira; De Antoni, Carlos César; Curi, Marcos Martins

Source: International journal of dentistry; 2017; vol. 2017 ; p. 3190301

Publication Type(s): Journal Article

Available in full text at International Journal of Dentistry - from ProQuest

Abstract:A retrospective study was conducted of the records and panoramic radiographs of 35 patients treated with bisphosphonates (BP) and diagnosed with MRONJ. Panoramic radiography was used for evaluation, by two examiners, the following findings were subject of search: osteolysis (OT), cortical bone erosion (EC), bone sclerosis focal (FS) and diffuse (DS), bone sequestration (BS), thickening of lamina dura (TD), prominence of the inferior alveolar nerve canal (IAN), persisting alveolar sockets (SK), and the presence of a pathological fracture (PF). Medical information and staging were also recorded in order to correlate with radiographic findings. Bone sclerosis was the most frequent alteration, followed by OT and TD. The mandible was more affected than the maxilla. There was no significant difference between genders or significant correlation between the number of injuries with age and duration of BP usage. Considering the association between the radiographic findings and MRONJ staging, EC was predominant in stage 3 and DS in stage 2. IAN and PF demonstrated greater association with stage 3. In conclusion, the higher the clinical staging, the greater the severity of the bone alteration. Panoramic radiographic examination is a useful screening tool in patients submitted to antiresorptive therapy.

A Case of Bisphosphonate-Related Osteonecrosis of the Jaw in a Patient with Subpontic Osseous Hyperplasia.

Author(s): Tsuji, Chiaki; Watanabe, Hiroshi; Nakayama, Hidenori; Goto, Mitsuo; Kurita, Kenichi

Source: Case reports in dentistry; 2017; vol. 2017 ; p. 9659761

Publication Type(s): Journal Article

Available in full text at Case Reports in Dentistry - from ProQuest

Abstract: Subpontic osseous hyperplasia (SOH) is a growth of bone occurring on the edentulous ridge beneath the pontics of fixed partial dentures (FPDs). This report describes a case of bisphosphonate-(BP-) related osteonecrosis of the jaw (BRONJ) in a SOH patient followed by deciduation of the bony lesion. A 73-year-old woman visited a dental clinic after experiencing pain and swelling beneath the pontics of a FPD that had been inserted 15 years ago. The pontics were removed, but the symptoms persisted and she was referred to our hospital. There was an osseous bulge and gum swelling around the edentulous ridge of teeth 18 and 19, as well as bone exposure. As she had been taking an oral BP for 6 years, we diagnosed this case as stage 2 BRONJ. Following BP withdrawal, the bony lesion detached from the mandible. The tissue was diagnosed as sequestrum based on the histopathological findings. Two months after deciduation, epithelialization over the area of exposed bone was achieved and no recurrence has been observed.

Bisphosphonate-Related Osteonecrosis and Metastasis Within the Same Site of the Jaw

Author(s): Corsi A.; Riminucci M.; Agrillo A.; Ungari C.

Source: Journal of Oral and Maxillofacial Surgery; Dec 2017

Publication Type(s): Article In Press

Abstract: Osteonecrosis of the jaw (ONJ) is a well known complication in patients treated with bisphosphonates (BPs) for skeletal metastasis and multiple myeloma (MM). Few oncologic patients under treatment with BPs and with ONJ and metastasis or MM at the same site of the jaw have been described. We report here on a 54-year old white female who was treated with intra-venous zoledronic acid for skeletal metastasis of breast cancer who developed ONJ. Because of a fracture at the site of ONJ, resection of the affected segment was performed. Although metastasis was not suspected by pre-operative image analysis, histological examination revealed syncronous osteonecrosis and breast cancer metastasis in the resected mandibular segment. This case highlights that, in oncologic patients treated with BPs, ONJ may hide malignancy and that histology is the unique tool by which the diagnosis of either osteonecrosis or malignancy or both can be made definitely.

Treatment with teriparatide for advanced bisphosphonate-related osteonecrosis of the jaw around dental implants: a case report.

Author(s): Zushi, Yusuke; Takaoka, Kazuki; Tamaoka, Joji; Ueta, Miho; Noguchi, Kazuma; Kishimoto, Hiromitsu

Source: International journal of implant dentistry; Dec 2017; vol. 3 (no. 1); p. 11

Publication Type(s): Journal Article

Abstract: We report a case of a 66-year-old severely osteoporotic woman with bisphosphonate-related osteonecrosis of the jaw (BRONJ) around her dental implants, who was treated successfully with teriparatide and sequestrectomy of the mandible. After 5 months of teriparatide therapy, the sequestrum separation had progressed and a sequestrectomy was performed under general anesthesia. Five months after the operation, new bone formation was observed around the bone defect in the region of the sequestrectomy. A repeat computed tomographic image revealed improvement in the bone defect in the mandible. These results suggest that teriparatide provides beneficial effects in the treatment of advanced BRONJ around dental implants.

Medication-related osteonecrosis of the jaw: a preliminary retrospective study of 130 patients with multiple myeloma.

Author(s): Choi, Woo-Sung; Lee, Jae-Il; Yoon, Hyun-Joong; Min, Chang-Ki; Lee, Sang-Hwa

Source: Maxillofacial plastic and reconstructive surgery; Dec 2017; vol. 39 (no. 1); p. 1

Publication Type(s): Journal Article

Abstract:BACKGROUNDMultiple myeloma (MM) is characterized by a neoplastic proliferation of plasma cells primarily in the bone marrow. Bisphosphonates (BP) are used as supportive therapy in the management of MM. This study aimed to analyze the incidence, risk factors, and clinical outcomes of medication-related necrosis of the jaw (MRONJ) in MM patients. **[ABSTRACT EDITED]**

Surgical resection and vascularized bone reconstruction in advanced stage medication-related osteonecrosis of the jaw

Author(s): Caldroney S.; Ghazali N.; Dyalram D.; Lubek J.E.

Source: International Journal of Oral and Maxillofacial Surgery; Jul 2017; vol. 46 (no. 7); p. 871-876

Publication Type(s): Article

Abstract:A retrospective review of all patients with stage 3 medication-related osteonecrosis of the jaw (MRONJ), treated by surgical resection and immediate vascularized bone reconstruction at a tertiary care medical center, was performed. Eleven patients were included, seven female and four male; their mean age was 65.8 years (range 56-73 years). Mean follow-up was 25 months. Ten

patients had received intravenous bisphosphonates. The most common pathology was breast cancer (4/11). Pain (n = 8) and pathological fracture (n = 7) were the most common presenting symptoms. Microvascular free flaps consisted of seven fibula osteocutaneous flaps and four scapula osteocutaneous free flaps. All patients reported resolution of symptoms, with complete bone union identified radiographically (100%). Complications occurred in three patients (27%). One patient required removal of hardware at 8 months postoperative. Dental implant rehabilitation was completed in two patients. Ten patients are tolerating an oral diet. Ten patients are alive without evidence of MRONJ at any of the surgical sites. One patient died 28 months after surgery from progression of metastatic disease. Advanced MRONJ can be successfully treated in patients using vascularized tissue transfer, including those patients with significant peripheral vascular disease. Dental rehabilitation is a viable option for advanced MRONJ patients treated by vascularized flap reconstruction.

Why worry about bisphosphonate-related osteonecrosis of the jaw? A guide to diagnosis, initial management, and referral of patients.

Author(s): Payne, Karl Fb; Goodson, Alexander Mc; Tahim, Arpan S; Rafi, Imran; Brennan, Peter A

Source: The British journal of general practice : the journal of the Royal College of General Practitioners; Jul 2017; vol. 67 (no. 660); p. 330-331

Publication Type(s): Journal Article

PubMedID: 28663433

Available in full text at British journal of general practice: the journal of the Royal College of General Practitioners [Br J Gen Pract] NLMUID: 9005323, The - from EBSCOhost

Extensive Surgical Procedures Result in Better Treatment Outcomes for Bisphosphonate-Related Osteonecrosis of the Jaw in Patients With Osteoporosis.

Author(s): Kim, Hui Young; Lee, Shin-Jae; Kim, Soung Min; Myoung, Hoon; Hwang, Soon Jung; Choi, Jin-Young; Lee, Jong-Ho; Choung, Pill-Hoon; Kim, Myung Jin; Seo, Byoung Moo

Source: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Jul 2017; vol. 75 (no. 7); p. 1404-1413

Publication Type(s): Journal Article

Abstract:PURPOSETo identify the risk factors associated with relapse or treatment failure after surgery for bisphosphonate-related osteonecrosis of the jaw (BRONJ) in patients with osteoporosis. **[ABSTRACT EDITED]**

Taking oral bisphosphonates for more than 3 years and undergoing mandibular tooth extraction may be risk factors for osteonecrosis of the jaw.

Author(s): Brignardello-Petersen, Romina

Source: Journal of the American Dental Association (1939); Jul 2017; vol. 148 (no. 7); p. e90

Publication Type(s): Journal Article

Panoramic radiographic features that predict the development of bisphosphonate-related osteonecrosis of the jaw

Author(s): Kubo R.; Ariji Y.; Nozawa M.; Ariji E.; Taniguchi T.; Katsumata A.

Source: Oral Radiology; Jun 2017 ; p. 1-10

Publication Type(s): Article In Press

Abstract: Objectives: The purpose of this study was to clarify which panoramic radiographic features can predict the development of bisphosphonate-related osteonecrosis of the jaw (BRONJ). Methods: Participants included 24 patients treated with bisphosphonates (BP) for osteoporosis who developed osteonecrosis of the jaw (ONJ+ group). Controls included 179 patients treated with BP who did not have osteonecrosis (ONJ- group) and 200 patients with no history of BP administration (unmedicated group). The mandibular cortical width, mandibular cortical index (MCI), sclerosis of trabecular bone, and thickening of the lamina dura were evaluated on panoramic radiographs. Results: The mandibular cortical width was significantly smaller in the ONJ- group than in the other groups. Class II MCI (semilunar defects of endosteal margin) was frequently noted on the affected and contralateral sides in the ONJ+ group but not in the ONJ- or unmedicated groups. Sclerosis of the trabecular bone was significantly more frequently observed on the affected side in the ONJ+ group than in the other groups. Thickening of the lamina dura was observed significantly more frequently in the BP-treated groups than in the unmedicated group. Conclusions: Class II MCI may be an indicator to predict the development of BRONJ. Sclerosis of trabecular bone was a characteristic imaging feature of BRONJ. Thickening of the lamina dura may be an imaging feature caused by BP administration.

Osteoclast profile of medication-related osteonecrosis of the jaw secondary to bisphosphonate therapy: A comparison with osteoradionecrosis and osteomyelitis

Author(s): Weber M.; Preidl R.; Wehrhan F.; Amann K.; Gross C.; Creutzburg K.; Mobius P.

Source: Journal of Translational Medicine; Jun 2017; vol. 15 (no. 1)

Publication Type(s): Article

Available in full text at Journal of Translational Medicine - from BioMed Central

Abstract: Background: The medication-related osteonecrosis of the jaw secondary to bisphosphonate therapy [MRONJ (BP)] is characterized by non-healing exposed bone in the maxillofacial region. The pathogenesis of MRONJ (BP) is not fully understood. Giant, hypernucleated, inactive osteoclasts were found in MRONJ (BP) tissues, which indicated that accelerated cell-cell fusion might play a role. Dendritic cell-specific transmembrane protein (DC-STAMP) is associated with the cell-cell fusion of osteoclasts and precursor cells. Tartrate-resistant acid phosphatase (TRAP) is essential for osteoclastic bone resorption. The cell-cell fusion, as part of the osteoclastogenesis, and the resorptive activity can determine the morphology of osteoclasts. This study analyzed jaw bone from patients with MRONJ (BP), osteomyelitis (OM) and osteoradionecrosis (ORN) because a comparison with the osteoclast profiles of OM and ORN is essential for characterizing the osteoclast profile of MRONJ (BP). **[ABSTRACT EDITED]**

Does the Addition of Bone Morphogenetic Protein 2 to Platelet-Rich Fibrin Improve Healing After Treatment for Medication-Related Osteonecrosis of the Jaw?

Author(s): Park J.-H.; Kim J.-W.; Kim S.-J.

Source: Journal of Oral and Maxillofacial Surgery; Jun 2017; vol. 75 (no. 6); p. 1176-1184

Abstract: Purpose To investigate the effect of the addition of bone morphogenetic protein 2 (BMP-2) to leukocyte-rich and platelet-rich fibrin (L-PRF) on the treatment of medication-related osteonecrosis of the jaws (MRONJ), this study compared the healing outcome of combined use of BMP-2 and L-PRF with single use of L-PRF. Patients and Methods Of 55 patients who were diagnosed with MRONJ, 25 were treated with L-PRF alone and 30 were treated with L-PRF and recombinant human BMP-2. For each patient, surgical sites were evaluated postoperatively at 4 and 16 weeks. Associations between the treatment method and the resolution of MRONJ were analyzed with the adjustment of patient-specific factors that may influence the treatment outcome. Results At 4 and

16 weeks postoperatively, patients with MRONJ who were treated with both L-PRF and BMP-2 showed favorable outcomes with complete resolution of the lesions, which was statistically significant compared with that of the therapy using L-PRF alone (P =.028). Therefore, the additional use of BMP-2 considerably improved MRONJ healing. Among patient-specific factors, the existence of a bacterial colony in the biopsy specimen was a significant factor that negatively affected disease resolution (P =.017). Conclusions The combined use of BMP-2 and L-PRF leads to the early resolution of MRONJ; thus patients who need to continue antiresorptive therapy may benefit from the combined regimen.

Bisphosphonate-associated osteonecrosis of the jaw (BONJ) in metastatic breast cancer patients in greater glasgow and clyde

Author(s): Tan Y.; Barrett S.

Source: Clinical Oncology; Jun 2017; vol. 29 (no. 6)

Publication Type(s): Conference Abstract

Abstract: Purpose: Osteonecrosis of the jaw (ONJ) is an uncommon complication of bisphosphonate treatment for bone metastases, with dental extractions being a precipitating factor [1]. The incidence of bisphosphonate-associated osteonecrosis of the jaw (BONJ) in metastatic breast cancer patients is estimated at 2.5-3.1% in the literature [1,2], with higher rates quoted in populations of lower socio-economic status [3]. This audit served to study the incidence of BONJ in Greater Glasgow & Clyde (GGC), the management of bisphosphonate treatment post-diagnosis of BONJ as there is currently no consensus of practice, and documentation of dental assessment prior to bisphosphonate initiation **[ABSTRACT EDITED]**

A microorganism not to be overlooked in studies focusing on osteonecrosis of the jaws: Comment on "Kim SM, et al. Histochemical observation of bony reversal lines in bisphosphonate-related osteonecrosis of the jaw".

Author(s): Gülses, Aydin; Ayna, Mustafa; Açil, Yahya

Source: Oral surgery, oral medicine, oral pathology and oral radiology; Jun 2017; vol. 123 (no. 6); p. 738-739

Publication Type(s): Letter

Oral health management of patients at risk of medication-related osteonecrosis of the jaw.

Author(s):

Source: British dental journal; Jun 2017; vol. 222 (no. 12); p. 930

Publication Type(s): Journal Article

Abstract: The dentist should not be alarmist about the risk for the patient of developing medication-related osteonecrosis of the jaw (MRONJ).

Response to comment on "Reversal lines associated with Actinomyces infection in bisphosphonate-related osteonecrosis of the jaw".

Author(s): Kim, Soung Min; Lee, Suk Keun

Source: Oral surgery, oral medicine, oral pathology and oral radiology; Jun 2017; vol. 123 (no. 6); p. 739-741

Publication Type(s): Letter

Database: Medline

The Risk of Medication-Related Osteonecrosis of the Jaw After Dental Extraction is Higher for Patients on Intravenous as Compared With Oral Antiresorptive Drugs.

Author(s): Abt, Elliot

Source: The journal of evidence-based dental practice; Jun 2017; vol. 17 (no. 2); p. 105-106

Publication Type(s): Journal Article

Abstract:ARTICLE TITLE AND BIBLIOGRAPHIC INFORMATIONOccurrence and risk indicators of medication-related osteonecrosis of the jaw after dental extraction: a systematic review and meta-analysis. Gaudin E, Seidel L, Bacevic M, Rompen E, Lambert F. J Clin Periodontol 2015;42(10):922-32.SOURCE OF FUNDINGInternal institutional support TYPE OF STUDY/DESIGN: Systematic review with meta-analysis of data.

Maxillofacial

Trends in maxillofacial imaging

Author(s): Boeddinghaus R.; Whyte A.

Source: Clinical Radiology; 2017

Abstract: Maxillofacial imaging encompasses radiology of the teeth and jaws, including the temporomandibular joints. Modalities used include intra-oral radiographs, panoramic tomography, cephalograms, cone-beam computed tomography, computed tomography, magnetic resonance imaging, ultrasound, and radionuclide imaging. Common indications for imaging are impacted and supernumerary teeth, dental implants, inflammatory dental disease, and fibro-osseous lesions, cysts, and masses of the jaws. Osteonecrosis of the jaws may follow radiotherapy or the use of bisphosphonates and other drugs. Imaging of the temporomandibular joints and the potential role of imaging in obstructive sleep apnoea are also discussed.Copyright © 2017 The Royal College of Radiologists.

The effect of locally administered pamidronate on autogenous bone graft in maxillofacial reconstruction: A randomized clinical trial

Author(s): Bayat M.; Garajei A.; Bahrami N.; Afshari Pour E.; Hasheminasab M.; Ghorbani Y.; Kalantar Motamedi M.H.

Source: International Journal of Organ Transplantation Medicine; 2017; vol. 8 (no. 1); p. 43-47

Available in full text at International Journal of Organ Transplantation Medicine - from ProQuest

Abstract: Background: Although bone grafts are commonly used in reconstructive surgeries, they are sensitive to local perfusion and are thus prone to severe resorption. Biphosphonates can inactivate osteoclasts and can be used to control the undesirable bone resorption. Objective: To assess the effect of administration of biphosphonates on bone resorption. Methods: 20 patients with bony defects who were candidates for free autogenous grafts were randomized into "pamidronate" and "control" groups. Bone segments were soaked in either pamidronate solution or normal saline and were inserted into the area of the surgery. Bone densities were measured post-surgery and in 6-month follow-up. Data were obtained via Digora software and analyzed. Results: The mean+/-SD bone density in pamidronate group changed from 93.4+/-14.6 to 93.6+/-17.5 ($p < 0.05$); in the control group the density decreased from 89.7+/-13.2 to 78.9+/-11.4 ($p < 0.05$). The mean difference

of bone density in anterior areas of the jaws showed higher DXA in comparison to posterior regions (p=0.002). Conclusion: Locally administered pamidronate affects reduction in bone resorption.

Value in Oral and Maxillofacial Surgery: A Systematic Review of Economic Analyses

Author(s): Geisler B.P.; Ji Y.D.; Peacock Z.S.

Source: Journal of Oral and Maxillofacial Surgery; 2017

Publication Type(s): Article In Press

Abstract: Purpose: The purpose of this study is to describe the state of economic analyses in the field of oral and maxillofacial surgery (OMS). Materials and Methods: A systematic search of published literature up to 2016 was performed. The inclusion criteria were as follows: English-language articles on economic analyses pertaining to OMS including anesthesia and pain management; dentoalveolar surgery; orthognathic, cleft, and/or obstructive sleep apnea treatment; pathology; reconstruction; temporomandibular disorders; trauma; and other. The exclusion criteria were as follows: opinion or perspective articles, studies unrelated to OMS, nonhuman research, and implant-related studies. Cost-effectiveness analyses (CEAs), cost-utility analyses, and cost-minimization analyses (CMAs) were evaluated with the original Consolidated Health Economic Evaluation Reporting Standards (CHEERS) checklist or a modified CHEERS checklist. Results: The search yielded 798 articles, 77 of which met the inclusion criteria (published from 1980 to 2016, 48 from the United States). There were an increasing number of studies over time (P for trend

Oral and maxillofacial approach for the treatment of obstructive sleep Apnea - Review

Author(s): Srikanth G.; John E.R.; Pentapati K.C.

Source: Journal of Pharmaceutical Sciences and Research; 2017; vol. 9 (no. 6); p. 840-844

Publication Type(s): Review

Available in full text at Journal of Pharmaceutical Sciences and Research - from ProQuest

Abstract: Obstructive Sleep Apnoea - Hypopnea Syndrome (OSAHS) is a potentially serious sleep disorder in which breathing repeatedly stops and starts during sleep. It is associated with significant co-morbidities affecting millions of people around the world. Many of these individuals remain undiagnosed while those who are diagnosed often exhibit poor compliance with the nightly use of Continuous Positive Air Pressure (CPAP), a very effective non-invasive modality. The growing failure and discomfort reported by the patients brought light into the possibility of other options such as oral appliance therapy and surgical therapy, with an absolute cure rate in moderate to severe OSAHS seen with Maxillo-Mandibular Advancement (MMA) surgery. The article reviews various Oral and Maxillofacial management options for the treatment of OSAHS with their success rates.

Knowledge gaps in oral and maxillofacial surgery: A systematic mapping

Author(s): Osterberg M.; Holmlund A.; Lund B.; Sunzel B.; Tranaeus S.; Twetman S.

Source: International Journal of Technology Assessment in Health Care; 2017; vol. 33 (no. 1); p. 93-102

Publication Type(s): Article

Abstract: Objectives: The aim of this study was to evaluate available knowledge and identify knowledge gaps within the field of oral and maxillofacial surgery, by systematically collecting and evaluating systematic reviews. Twelve specific domains were selected: surgical removal of teeth,

antibiotic and corticosteroid prophylaxis, orofacial infections, dental and facial trauma, orthognathic surgery, reconstructive surgery, benign tumors, cysts, premalignant lesions, oral complications of treatment of malignant tumors, hyperbaric oxygen therapy, temporomandibular joint surgery, cost effectiveness of different surgical treatments, and ethics. Methods: The literature search, covering four databases, was conducted during September 2014: PubMed, The Cochrane library, Centre for Reviews and Dissemination and EBSCO dentistry and oral science source. Retrieved systematic reviews were quality assessed by AMSTAR. Results: In all, 1,778 abstracts were identified, of which 200 met the inclusion criteria. Forty-five systematic reviews were assessed as of high to moderate quality. The results disclosed some existing evidence in a few domains, such as surgical removal of teeth and implant survival after sinus lifts. However, in all domains, the search revealed a large number of knowledge gaps. Also of concern was the lack of data regarding health economics and ethics. Conclusions: In conclusion, there is a need for well-conducted clinical research in the fields of oral and maxillofacial surgery.

Comparison of hand and semiautomatic tracing methods for creating maxillofacial artificial organs using sequences of computed tomography (CT) and cone beam computed tomography (CBCT) images

Author(s): Szabo B.T.; Csomo K.; Dobo-Nagy C.; Aksoy S.; Repassy G.; Orhan K.

Source: International Journal of Artificial Organs; 2017; vol. 40 (no. 6); p. 307-312

Publication Type(s): Article

Available in full text at International journal of artificial organs [Int J Artif Organs] NLMUID: 7802649, The - from EBSCOhost

Abstract: Introduction: The aim of this study was to compare the paranasal sinus volumes obtained by manual and semiautomatic imaging software programs using both CT and CBCT imaging. Methods: 121 computed tomography (CT) and 119 cone beam computed tomography (CBCT) examinations were selected from the databases of the authors' institutes. The Digital Imaging and Communications in Medicine (DICOM) images were imported into 3-dimensonal imaging software, in which hand mode and semiautomatic tracing methods were used to measure the volumes of both maxillary sinuses and the sphenoid sinus. The determined volumetric means were compared to previously published averages. Results: Isometric CBCT-based volume determination results were closer to the real volume conditions, whereas the non-isometric CT-based volume measurements defined coherently lower volumes. By comparing the 2 volume measurement modes, the values gained from hand mode were closer to the literature data. Furthermore, CBCT-based image measurement results corresponded to the known averages. Conclusions: Our results suggest that CBCT images provide reliable volumetric information that can be depended on for artificial organ construction, and which may aid the guidance of the operator prior to or during the intervention.

Monitoring of patients with tumors of the maxillofacial region on stages of complex treatment

Author(s): Kochurova E.V.; Nikolenko V.N.

Source: Voprosy Onkologii; 2017; vol. 63 (no. 1); p. 90-94

Publication Type(s): Article

Available in full text at Voprosy onkologii [Vopr Onkol] NLMUID: 0413775 - from EBSCOhost

Abstract: Treatment of patients with tumors of the maxillofacial region is a complex multi-step process. The type and volume of treatment were determined by the prevalence of cancer process. The plan of complex treatment of this group of patients was made individually but depending on the morphological variant, clinical and anatomic characteristics, dental status, carcinogenic factors and

stage of disease. For dynamic observation of the stages of treatment it is advisable to use biomarkers, through which it is possible to monitor the resulting effect.

Three-dimensional scanning electron microscopy of maxillofacial biomaterials

Author(s): Pabst A.M.; Ackermann M.; Muller W.E.G.

Source: British Journal of Oral and Maxillofacial Surgery; 2017

Publication Type(s): Article In Press

Simulation of three surgical techniques combined with two different bone-borne forces for surgically assisted rapid palatal expansion of the maxillofacial complex: A finite element analysis

Author(s): Mohlhenrich S.C.; Fritz U.; Modabber A.; Kniha K.; Peters F.; Steiner T.; Holzle F.; Raith S.

Source: International Journal of Oral and Maxillofacial Surgery; 2017

Publication Type(s): Article In Press

Abstract: Surgically assisted rapid palatal expansion (SARPE) is a common treatment to correct transverse maxillary deficiencies. Finite element analysis was simulated for six designs of SARPE based on a computed tomography scan of a human skull: median osteotomy with palatal (type A) or alveolar ridge (type B) bone-borne force, additional lateral osteotomy with palatal (type C) or alveolar ridge (type D) bone-borne force, and additional pterygomaxillary separation with palatal (type E) or alveolar ridge (type F) bone-borne force. The transverse expansion was about 1.0. mm. The distribution of von Mises stress and the displacement were evaluated. The largest stress distribution was after types A and B, followed by types C and D, and finally types E and F. Displacement increased simultaneously. Palatal bone-borne forces (types A, C, and E) led to higher stress distributions in the midface and maxilla, but to a more parallel expansion compared with alveolar ridge-borne forces (types B, D, and F). The largest bony displacements at the midpalatal suture were anterior in all models. Increased weakening of the bony pillar of the facial skeleton and the use of palatal bone-borne forces leads to a decrease in stress distribution in the midface and to a more parallel transverse expansion of the maxilla.

Morphometric analysis of the middle clinoid process using maxillofacial computed tomography scans

Author(s): Miller C.; Chamoun R.; Beahm D.

Source: Operative Neurosurgery; 2017; vol. 13 (no. 1); p. 124-129

Publication Type(s): Article

Abstract:BACKGROUND: The interest in detailed anatomy of the sella and parasellar regions has resurged recently due to the wide clinical applications of the expanded endoscopic approaches to the skull base. The middle clinoid process (MCP) is a bony structure that can affect wide endoscopic exposure of the sella and parasellar region. OBJECTIVE: To study and analyze the anatomic variations of the MCP in the general population using computed tomography scans. METHODS: A total of 150 maxillofacial computed tomography scans were reviewed to characterize the MCP. Only adult patients without intracranial or nasal pathology were included. Measurements were made in the axial and sagittal planes to determine the maximum diameter, length, angulation, and location of the MCP. RESULTS: The prevalence of the MCP was 30.7% in male and 42.7% in female patients. Of the MCPs, 41.8% were ring forming, whereas 76.4% were pneumatized. Quantitatively, the average axial base diameter was 4.6 +/- 1.4 mm, the average sagittal base diameter was 5.0 +/- 1.8 mm, the average length was 4.7 +/- 1.7 mm, the average midline distance was 5.9 +/- 2.3 mm, the average

distance from the sellar-clival junction was 10.6 +/- 3.3 mm, the average sagittal angle was 91.0+/-21.1degree, and the average axial anglewas 45.2+/-15.5degree. A significant increase was found in the prevalence of MCPs in white patients compared with black patients, and a significantly greater midline distance and axial angle were found in male compared with female patients. CONCLUSION: A clear understanding of the sellar and parasellar anatomy is crucial for successful and safe expanded endoscopic approaches. This study provides a quantitative anatomic characterization of the MCP in the U.S. population with demographic data analysis.

Filling bone defects with beta-TCP in maxillofacial surgery: A review

Author(s): Guillaume B.

Source: Morphologie; 2017

Publication Type(s): Article In Press

Abstract: Reconstruction of bone defects prior to implant placement now involves synthetic substitutes such as beta-TCP because of its ability to promote bone remodeling. Its capacity to be progressively substituted by the patient's bone allows to regenerate a dense bone volume. In addition, its availability in large quantities, avoiding the morbidity observed with harvesting autogenous bone, widens the operative indications. In this paper, the main indications of beta-TCP in maxillofacial surgery (dentistry, parodontology and dental implant surgery) are reviewed. They include periodontal bone disease, bone disjunction, pre-implant surgery (sinus floor elevation and lateralization of the inferior alveolar nerve).

Retention systems for extraoral maxillofacial prosthetic implants: A critical review

Author(s): Cobein M.V.; Coto N.P.; Vieira L.M.; Pimentel M.L.; Dias R.B.; Crivello Junior O.; Lemos J.B.D.; Byrne H.J.

Source: British Journal of Oral and Maxillofacial Surgery; 2017

Publication Type(s): Article In Press

Abstract: We describe the techniques available for retention of implant-supported prostheses: bar-clips, O-rings, and magnets. We present reported preferences and, although this is limited by the heterogeneity of methods used and patients studied, we hope we have identified the best retention systems for maxillofacial prosthetic implants. If practitioners know the advantages and disadvantages of each system, they can choose the most natural and comfortable prosthesis. We searched the PubMed and Scopus databases, and restricted our search to papers published 2001-13. MeSH terms used were Maxillofacial prosthesis and Craniofacial prosthesis OR Craniofacial prostheses. We found a total of 2630 papers, and after duplicates had been removed we analysed the rest and found 25 papers for review. Of these, 12 were excluded because they were case reports or non-systematic reviews. Of the remaining 13, 10 described group analyses and seemed appropriate to find practitioner's choices, as cited in the abstract (n = 1611 prostheses). Three papers did not mention the type of prosthetic connection used, so were excluded. The most popular choices for different conditions were analysed, though the sites and retention systems were not specified in all 10 papers. The bar-clip system was the most used in auricular (6/10 papers) and nasal prostheses (4/10). For the orbital region, 6/10 favoured magnets. Non-osseointegrated mechanical or adhesive retention techniques are the least expensive and have no contraindications. When osseointegrated implants are possible, each facial region has a favoured system. The choice of system is influenced by two factors: standard practice and the abilities of the maxillofacial surgeon and maxillofacial prosthetist.

Contemporary management of maxillofacial ballistic trauma

Author(s): Breeze J.; Tong D.; Gibbons A.

Source: British Journal of Oral and Maxillofacial Surgery; 2017

Publication Date: 2017

Publication Type(s): Article In Press

Abstract: Ballistic maxillofacial trauma in the UK is fortunately relatively rare, and generally involves low velocity handguns and shotguns. Civilian terrorist events have, however, shown that all maxillofacial surgeons need to understand how to treat injuries from improvised explosive devices. Maxillofacial surgeons in the UK have also been responsible for the management of soldiers evacuated from Iraq and Afghanistan, and in this review we describe the newer types of treatment that have evolved from these conflicts, particularly that of damage-control maxillofacial surgery.Copyright © 2017.

Antifungal properties and biocompatibility of silver nanoparticle coatings on silicone maxillofacial prostheses in vitro

Author(s): Meran Z.; Besinis A.; Handy R.D.; De Peralta T.

Source: Journal of Biomedical Materials Research - Part B Applied Biomaterials; 2017

Publication Type(s): Article In Press

Abstract: Patients with facial prostheses suffer from yeast, Candida albicans, infections. This study aimed to determine the biocompatibility and antifungal properties of silicone facial prostheses coated with silver nanoparticles (Ag NPs) in vitro. Medical grade silicone discs were coated with 5 and 50 mg L-1 dispersions of either Ag NPs or AgNO3. Coatings were fully characterized using scanning electron microscopy and energy dispersive X-ray spectroscopy. The biocompatibility was examined using human dermal fibroblasts (Hs68), whereas antifungal efficacy was tested against C. albicans (NCPF-3179). The fibroblast viability was assessed by measuring lactate dehydrogenase (LDH) activity, protein content and tissue electrolytes. There were no effects on the LDH activity of fibroblast cell homogenates, and leak of LDH activity into external media remained low (0.1-0.2 IU mL-1). Sublethal effects of Ag NP coatings on membrane permeability/ion balance was not observed, as measured by stable homogenate Na+ and K+ concentrations. Some Ag (13 mg L-1) was detected from the AgNO3 coatings in the media, but total Ag remained below detection limit (-1) for the Ag NP coatings; indicating the latter were stable. When fibroblasts grown on silver coatings were challenged with C. albicans, the Ag NP coating was effective at preventing fungal growth as measured by ethanol production by the yeast, and without damaging the fibroblasts. Ethanol production decreased from 43.2+/-25.02 in controls to 3.6 mumol mL-1 in all the silver treatments. Data shows that silicone prosthetic materials coated with Ag NPs are biocompatible with fibroblast cells in vitro and show antifungal properties.Copyright © 2017 Wiley Periodicals, Inc.

Maxillofacial fibrous dysplasia:A clinical analysis of 72 cases

Author(s): Fan Y.; Liu J.; Zhang C.; Zhang Z.; Hu J.; Yang H.

Source: Biomedical Research (India); 2017; vol. 28 (no. 6); p. 2498-2503

Publication Type(s): Article

Abstract: Objective: To analyse the clinical characteristics and imaging findings of maxillofacial fibrous dysplasia and the relationship between serum alkaline phosphatase and its clinical relative factors. Method: The clinical materials of 72 fibrous dysplasia patients were reviewed and the alkaline phosphatase among monostotic fibrous dysplasia, polyostotic fibrous dysplasia and non-fibrous dysplasia group (control group) were statistically analysed by variance (ANOVA) using the

SPSS 22.0 software. Result and discussion: There were 53 monostotic fibrous dysplasia (73.6%) and 19 polyostotic fibrous dysplasia (26.4%) among the 72 cases. Most fibrous dysplasia cases were not obvious boundary but ground glass type. The X-image classification of fibrous dysplasia showed that there were 44 cases of ground glass (61.1%), 10 cases of nodular sclerosis type (13.9%), 3 cases of cystic type (4.2%) and 15 cases of mixed type (20.8%). Before operation, serum alkaline phosphatase in polyostotic fibrous dysplasia group was (216.1 +/- 248.7) U/L, significantly higher than (66.2 +/- 14.9) U/L in control group and (118.8 +/- 92.2) U/L in monostotic fibrous dysplasia group. After treatment, the serum alkaline phosphatase was (66.2 +/- 14.9) U/L in control group, significantly higher than (118.8 +/- 92.2) U/L in the 53 monostotic cases and (216.1 +/- 248.7) U/L in the 19 polyostotic cases, P<0.01. There was no significantly statistical difference between control group and monostotic group. There were 17 relapses. 14 cases were relapses when they were admitted to hospital. According to the observation of recurrence cases, all the monostotic fibrous dysplasia's primary site was mandible. Authors suggested that it may relate to the operative way, anatomy and morphology of the upper and lower jaw. All the follow-up recurrence cases occurred in the mandible and first symptom was like inflammation, which might be associated with the anatomical characteristics of the mandible, surgical resection extent, proper treatment, and the short follow-up time. Conclusion: Fibrous dysplasia is a fibrous bone lesion while the maxillofacial region is one of the predilection sites. No significant gender differences in the disease. The increase of serum alkaline phosphatase may be associated with the range of fibrous dysplasia lesions. The operation type can be chosen according to the patients' condition, and the appropriate time for surgery is post-adolescence.

An overview on autologous fibrin glue in bone tissue engineering of maxillofacial surgery.

Author(s): Khodakaram-Tafti, Azizollah; Mehrabani, Davood; Shaterzadeh-Yazdi, Hanieh

Source: Dental research journal; 2017; vol. 14 (no. 2); p. 79-86

Publication Type(s): Journal Article Review

Available in full text at Dental Research Journal - from ProQuest

Abstract: The purpose of this review is to have an overview on the applications on the autologous fibrin glue as a bone graft substitute in maxillofacial injuries and defects. A search was conducted using the databases such as Medline or PubMed and Google Scholar for articles from 1985 to 2016. The criteria were "Autograft," "Fibrin tissue adhesive," "Tissue engineering," "Maxillofacial injury," and "Regenerative medicine." Bone tissue engineering is a new promising approach for bone defect reconstruction. In this technique, cells are combined with three-dimensional scaffolds to provide a tissue-like structure to replace lost parts of the tissue. Fibrin as a natural scaffold, because of its biocompatibility and biodegradability, and the initial stability of the grafted stem cells is introduced as an excellent scaffold for tissue engineering. It promotes cell migration, proliferation, and matrix making through acceleration in angiogenesis. Growth factors in fibrin glue can stimulate and promote tissue repair. Autologous fibrin scaffolds are excellent candidates for tissue engineering so that they can be produced faster, cheaper, and in larger quantities. In addition, they are easy to use and the probability of viral or prion transmission may be decreased. Therefore, autologous fibrin glue appears to be promising scaffold in regenerative maxillofacial surgery.

Selective laser-melted fully biodegradable scaffold composed of poly(d,l-lactide) and beta-tricalcium phosphate with potential as a biodegradable implant for complex maxillofacial reconstruction: In vitro and in vivo results

Author(s): Smeets R.; Hanken H.; Heiland M.; Barbeck M.; Ghanaati S.; Fischer H.; Lindner M.; Woltje M.; Kolk A.

Source: Journal of Biomedical Materials Research - Part B Applied Biomaterials; Jul 2017; vol. 105 (no. 5); p. 1216-1231

Publication Type(s): Article

Abstract: Objectives: Scaffolds (SC) composed of poly(d,l-lactide) and beta-tricalcium phosphate of variable pore structures were manufactured by selective laser melting (SLM), which allowed the production of porous interconnected structures promoting cellular adhesion and vascular proliferation. Biocompatibility, rate of osseointegration and new bone formation (NB) were analyzed. Material and methods: Powder based on the material composition was selective melted by a laser beam allowing layer-by-layer production. Pore size and biocompatibility were tested with mesenchymal stem cells (rMSC) and Saos 2 cells that were cultivated on SCs showing better proliferation, without toxicity, than controls. SCs with a 600- to 700-micro m pore diameter proved ideal for fast and reliable cellular and vascular supply throughout the interconnecting pore system. Jaw and calvarial critical-size defects (CSD) with diameters of 5 or 16 mm were drilled in rats and either SLM test SCs (pore diameter 600 micro m) or the previously removed autologs bone as controls were (re-) implanted. Results: The SC in vivo led to complete bone ingrowth with minimal inflammatory reaction adjacent to and within the CSD as compared with controls. The SC promoted the differentiation of rMSC into osteoblasts, revealing osteoinductive properties. Promising NB ingrowth of the material was also obtained in the animal study. Conclusion: The SC showed complete bony replacement within 30 days in all rats; this ingrowth was significantly superior to that of controls and revealed no signs of significant foreign body reaction. Because of continuous replacement by bone this material composition is ideal for SCs fitting 3D bone defects. © 2016 Wiley Periodicals, Inc. J Biomed Mater Res Part B: Appl Biomater, 105B: 1216-1231, 2017.Copyright © 2016 Wiley Periodicals, Inc.

Point-of-care ultrasound for oral and maxillofacial surgeons

Author(s): Ryba F.M.; George K.

Source: British Journal of Oral and Maxillofacial Surgery; Jul 2017; vol. 55 (no. 6); p. 600-603

Publication Date: Jul 2017

Publication Type(s): Article

Abstract: Point-of-care ultrasound is an ultrasound examination that is made at the bedside by the examining clinician in the Accident and Emergency department, clinic, ward, or operating theatre, and it has been growing in popularity since it was first introduced in the 1990s. It is used as an adjunct to clinical examination to aid diagnosis or treatment. We have carried out a pilot survey to assess whether oral and maxillofacial surgeons in the United Kingdom either need or desire to make such an examination. We present the results of our survey and discuss the uses and benefits of point-of-care ultrasound in oral and maxillofacial surgery.Copyright © 2017 The British Association of Oral and Maxillofacial Surgeons

What is the frequency of anatomical variations and pathological findings in maxillary sinuses among patients subjected to maxillofacial cone beam computed tomography? A systematic review.

Author(s): Ata-Ali, J; Diago-Vilalta, J-V; Melo, M; Bagán, L; Soldini, M-C; Di-Nardo, C; Ata-Ali, F; Mañes-Ferrer, J-F

Source: Medicina oral, patologia oral y cirugia bucal; Jul 2017; vol. 22 (no. 4); p. e400

Publication Type(s): Journal Article

Abstract:BACKGROUNDWhen considering dental implant rehabilitation in atrophic posterior sectors, the maxillary sinuses must be evaluated in detail. Knowledge of the anatomical variations and of the

potential lesions found in these structures conditions the outcome of sinus lift procedures and therefore of the dental implants. A systematic review is made to determine the frequency of anatomical variations and pathological findings in maxillary sinuses among patients subjected to cone beam computed tomography (CBCT). **[ABSTRACT EDITED]**

New tumour entities in the 4th edition of the World Health Organization Classification of Head and Neck tumours: odontogenic and maxillofacial bone tumours.

Author(s): Speight, Paul M; Takata, Takashi

Source: Virchows Archiv : an international journal of pathology; Jul 2017

Publication Type(s): Journal Article Review

Abstract: The latest (4th) edition of the World Health Organization Classification of Head and Neck tumours has recently been published with a number of significant changes across all tumour sites. In particular, there has been a major attempt to simplify classifications and to use defining criteria which can be used globally in all situations, avoiding wherever possible the use of complex molecular techniques which may not be affordable or widely available. This review summarises the changes in Chapter 8: Odontogenic and maxillofacial bone lesions. The most significant change is the re-introduction of the classification of the odontogenic cysts, restoring this books status as the only text which classifies and defines the full range of lesions of the odontogenic tissues. The consensus group considered carefully the terminology of lesions and were concerned to ensure that the names used properly reflected the best evidence regarding the true nature of specific entities. For this reason, this new edition restores the odontogenic keratocyst and calcifying odontogenic cyst to the classification of odontogenic cysts and rejects the previous terminology (keratocystic odontogenic tumour and calcifying cystic odontogenic tumour) which were intended to suggest that they are true neoplasms. New entities which have been introduced include the sclerosing odontogenic carcinoma and primordial odontogenic tumour. In addition, some previously poorly defined lesions have been removed, including the ameloblastic fibrodentinoma, ameloblastic fibro-odontoma, which are probably developing odontomas, and the odontoameloblastoma, which is not regarded as an entity. Finally, the terminology "cemento" has been restored to cemento-ossifying fibroma and cemento-osseous dysplasias, to properly reflect that they are of odontogenic origin and are found in the tooth-bearing areas of the jaws.

Abstracts from the 67th Annual Session of the American Academy of Oral and Maxillofacial Radiology.

Author(s):

Source: Oral Surgery, Oral Medicine, Oral Pathology & Oral Radiology; Jul 2017; vol. 124 (no. 1)

Publication Type(s): Academic Journal

Palatal Injection for the Removal of Maxillary Teeth: Current Practice Among Oral and Maxillofacial Surgeons

Author(s): Badenoch-Jones E.K.; David M.; Lincoln T.

Source: Journal of Oral and Maxillofacial Surgery; Jun 2017

Publication Type(s): Article In Press

Abstract: Purpose: Conventional teaching regarding palatal injection for the removal of maxillary teeth dictates the administration of buccal and palatal injections. Recently, some investigators have questioned the necessity of the palatal injection, suggesting that contemporary local anesthetics might diffuse sufficiently across the buccopalatal cortical bone distance. It has been suggested that

because the buccopalatal cortical bone distance increases anteriorly to posteriorly in the maxilla, the success of maxillary extractions with buccal injection only might be related to the anteroposterior position of the tooth. Evidence from clinical trials has only recently become available. Since 2006, 15 clinical trials that examined outcomes of maxillary tooth extractions performed with buccal injection of local anesthetic only have been published. However, there are limited data available on the clinical practice of surgeons. Materials and Methods: An online survey was sent to 276 full members of the Canadian Association of Oral and Maxillofacial Surgeons. Respondents were asked about their use of palatal injection for the removal of maxillary teeth under local anesthesia, including how often they administer a palatal injection for maxillary extractions in each region of the maxilla. Results: Ninety-two responses were received (33%). Most practitioners deliver a palatal injection for every maxillary tooth extraction under local anesthesia. However, there is a substantial number who do not always administer a palatal injection (ie, they give it "most of the time,""occasionally," or "never"). This number decreased in a linear fashion anteriorly to posteriorly in the maxilla (incisors, 17 of 89; canines, 16 of 88; premolars, 13 of 88; first and second molars, 10 of 89; third molars, 10 of 88). Conclusion: Some surgeons who do not always administer a palatal injection for extraction of maxillary teeth under local anesthesia. The number is larger for anterior compared with posterior teeth.

Delayed infection after using bone wax in maxillofacial surgery: A rare complication after reduction mandibuloplasty

Author(s): Choi B.-K.; Yang E.-J.

Source: Wound Medicine; Jun 2017; vol. 17 ; p. 18-23

Publication Type(s): Article

Abstract: Background Although several studies have reported various adverse reactions associated with the use of bone wax in the clinical setting, the incidence of complications after using bone wax during maxillofacial surgery via a transoral approach remains unclear. We aimed to address this scarcity of data and describe the incidence and nature of postoperative infections associated with bone wax treatment during reduction mandibuloplasty. Materials and methods A retrospective chart-review study was conducted among patients who underwent reduction mandibuloplasty performed by the same surgeon between January 2010 and December 2014. Delayed postoperative infection was diagnosed based on clinical manifestations, associated treatment strategy (additional antibiotic treatment with or without revision surgery), and results of microbiological investigation. Patients were divided into 2 groups according to whether or not bone wax had been applied during the reduction mandibuloplasty procedure. Results A total of 355 patients (44 men; average age, 31.0 years; age range, 19-53 years) underwent reduction mandibuloplasty during the study period. Of these, 19 patients (1 men; age, 26.0 +/- 6.62 years) were treated with bone wax applied to the cut surface of the mandibular cancellous bone for controlling bleeding. The infection rate among patients not treated with bone wax was 1.5% (5/336; acute infection), compared to 21.0% (4/19; delayed infection) among patients treated with bone wax. The use of bone wax contributed to an increased risk of developing infection (odds ratio, 14.87 [95% confidence interval, 3.22-68.70], P < 0.003). Conclusion This is the first report describing the incidence of infection associated with the use of bone wax for controlling bleeding from the cancellous bone during maxillofacial surgery via a transoral approach.

Evaluation of donor site morbidity associated with iliac crest bone harvest in oral and maxillofacial, reconstructive surgery

Author(s): Sudhakar K.N.V.; Mohanty R.; Singh V.

Source: Journal of Clinical and Diagnostic Research; Jun 2017; vol. 11 (no. 6)

Publication Type(s): Article

Abstract: Introduction: Iliac crest is the most common donor site for autogenous bone grafting as cortical bone, cancellous bone or combination of both can be harvested in abundance depending upon the need. Ilium provides highest concentration of osteo-component cells and greater quality of bone with less morbidity. Aim: The study was conducted to evaluate the donor site morbidity associated with autogenous iliac crest bone grafting for reconstruction in maxillofacial surgery. Materials and Methods: Around 12 patients, who had undergone iliac crest bone harvesting for various maxillofacial and reconstructive surgical procedures like cleft alveolus repair, malar augmentation, mandibular reconstruction following tumour resection and cyst enucleation and other surgical procedures performed in the Department of Oral and Maxillofacial Surgery, over a span of two years. The donor site was evaluated for the following factors: pain, neuropraxia, abnormal gait and scar evaluation. Results: None of the 12 patients had intraoperative complications like haemorrhage, damage to the muscles/ligaments, fracture of the ilium and damage to the acetabular fossa/femur head. Any major postoperative complications were also not recorded. Minor postoperative complications like pain, contour defect, walking difficulty were present, which gradually got resolved by the time of discharge. Conclusion: Anterior iliac crest provides an adequate harvest of cancellous, corticocancellous or bicortical grafts for reconstruction of various osseous defects in the maxillofacial region with least morbidity and should be considered as a major reservoir of bone for bony reconstructive procedures.

In vitro studies of nanosilver-doped titanium implants for oral and maxillofacial surgery

Author(s): Pokrowiecki R.; Zareba T.; Tyski S.; Szaraniec B.; Palka K.; Mielczarek A.; Menaszek E.

Source: International Journal of Nanomedicine; Jun 2017; vol. 12 ; p. 4285-4297

Publication Type(s): Article

Abstract: The addition of an antibacterial agent to dental implants may provide the opportunity to decrease the percentage of implant failures due to peri-implantitis. For this purpose, in this study, the potential efficacy of nanosilver-doped titanium biomaterials was determined. Titanium disks were incorporated with silver nanoparticles over different time periods by Tollens reaction, which is considered to be an eco-friendly, cheap, and easy-to-perform method. The surface roughness, wettability, and silver release profile of each disc were measured. In addition, the antibacterial activity was also evaluated by using disk diffusion tests for bacteria frequently isolated from the peri-implant biofilm: Streptococcus mutans, Streptococcus mitis, Streptococcus oralis, Streptococcus sanguis, Porphyromonas gingivalis, Staphylococcus aureus, and Escherichia coli. Cytotoxicity was evaluated in vitro in a natural human osteoblasts cell culture. The addition of nanosilver significantly increased the surface roughness and decreased the wettability in a dose-dependent manner. These surfaces were significantly toxic to all the tested bacteria following a 48-hour exposure, regardless of silver doping duration. A concentration of 0.05 ppm was sufficient to inhibit Gram-positive and Gram-negative species, with the latter being significantly more susceptible to silver ions. However, after the exposure of human osteoblasts to 0.1 ppm of silver ions, a significant decrease in cell viability was observed by using ToxiLightTM BioAssay Kit after 72 hours. Data from the present study indicated that the incorporation of nanosilver may influence the surface properties that are important in the implant healing process. The presence of nanosilver on the titanium provides an antibacterial activity related to the bacteria involved in peri-implantitis. Finally, the potential toxicological considerations of nanosilver should further be investigated, as both the antibacterial and cytotoxic properties may be observed at similar concentration ranges.

Re: Cross-cover of oral and maxillofacial surgery out-of-hours: an audit of a new adult treatment clinic

Author(s): Chegini S.; Heliotis M.

Source: British Journal of Oral and Maxillofacial Surgery; Jun 2017; vol. 55 (no. 5); p. 565

Publication Type(s): Letter

Re: Should we consider devolution of "head and neck" surgery from the specialties of oral and maxillofacial surgery; ear, nose and throat surgery; and plastic surgery?

Author(s): Elledge R.; Walton G.; Sandhu R.; Prasad S.; Howe D.

Source: British Journal of Oral and Maxillofacial Surgery; Jun 2017; vol. 55 (no. 5); p. 566

Publication Type(s): Letter

Video see-through augmented reality for oral and maxillofacial surgery

Author(s): Wang J.; Yang L.; Kobayashi E.; Sakuma I.; Suenaga H.

Source: International Journal of Medical Robotics and Computer Assisted Surgery; Jun 2017; vol. 13 (no. 2)

Publication Type(s): Article

Abstract: Background: Oral and maxillofacial surgery has not been benefitting from image guidance techniques owing to the limitations in image registration. Methods: A real-time markerless image registration method is proposed by integrating a shape matching method into a 2D tracking framework. The image registration is performed by matching the patient's teeth model with intraoperative video to obtain its pose. The resulting pose is used to overlay relevant models from the same CT space on the camera video for augmented reality. Results: The proposed system was evaluated on mandible/maxilla phantoms, a volunteer and clinical data. Experimental results show that the target overlay error is about 1 mm, and the frame rate of registration update yields 3-5 frames per second with a 4 K camera. Conclusions: The significance of this work lies in its simplicity in clinical setting and the seamless integration into the current medical procedure with satisfactory response time and overlay accuracy. Copyright © 2016 John Wiley & Sons, Ltd.Copyright © 2016 John Wiley & Sons, Ltd.

Proposal for a new bone marker for maxillofacial surgery

Author(s): Fernandes C.M.S.; Scolozzi P.; Serra M.C.

Source: British Journal of Oral and Maxillofacial Surgery; Jun 2017; vol. 55 (no. 5); p. 558-559

Publication Type(s): Article

Has the primary care oral surgery service reduced the activity in secondary care oral and maxillofacial units?

Author(s): Chiu G.A.

Source: British Journal of Oral and Maxillofacial Surgery; Jun 2017; vol. 55 (no. 5); p. 533-537

Publication Type(s): Article

Abstract: To find out if the devolution of some dentoalveolar services into primary care in 2007 was having an effect on the workload of oral and maxillofacial units, I reviewed the workload of two units in 2011-13.Copyright © 2017

Risks and benefits of pre-operative dexmedetomidine in oral and maxillofacial surgeries: a systematic review

Author(s): Davoudi A.; Movahedian Attar B.; Shadmehr E.

Source: Expert Opinion on Drug Safety; Jun 2017; vol. 16 (no. 6); p. 711-720

Publication Type(s): Review

Abstract: Introduction: Oral and maxillofacial surgeries might induce anxiety and pain to the patients. Sedative agents are one of the best ways for eliminating such consequences. Dexmedetomidine (DEX) is a recent sedative agent which presents higher sedative quality with greater specificity than other drugs. The aim of present paper is to evaluate the risks and benefits of administrating DEX during oral and maxillofacial surgeries by reviewing high quality released articles. Areas covered: Searches on PubMed, Scopus and Web of Science databases were completed with focus on randomized controlled trials (RCT). Related articles, from 2000 to 2015, were selected based on inclusion criteria and quality assessments factors. Full texts of the selected articles were screened and their significant information were gathered for judgments. Expert opinion: 17 RCTs on a total of 765 patients were screened. Some of the difficulties during reviewing the articles were: different pharmacokinetic and pharmacodynamics of drugs when combined with DEX, different time spots and method of monitoring, including studies on both minor and major surgeries for better data collection. Recent researches are going to focus on application of DEX for in-office procedures because of its desirable properties. Nevertheless, the analgesic and amnesic features of DEX are still questionable.

Bone Regenerative Medicine in Oral and Maxillofacial Region Using a Three-Dimensional Printer

Author(s): Hikita A.; Chung U.-I.; Hoshi K.; Takato T.

Source: Tissue Engineering - Part A; Jun 2017; vol. 23 (no. 11); p. 515-521

Publication Type(s): Article

Abstract: Bone grafts currently used for the treatment of large bone defect or asymmetry in oral and maxillofacial region include autologous, allogeneic, and artificial bones. Although artificial bone is free from the concerns of donor site morbidity, limitation of volume, disease transmission, and ethical issues, it lacks osteogenic and osteoinductive activities. In addition, molding of the artificial bone is an issue especially when it is used for the augmentation of bone as onlay grafts. To solve this problem, additive manufacturing techniques have been applied to fabricate bones which have outer shapes conformed to patients' bones. We developed a custom-made artificial bone called a computed tomography (CT)-bone. Efficacy of CT-bone was proven in a clinical research and clinical trial, showing good manipulability, stability, and patient satisfaction. However, low replacement rate of artificial bones by endogenous bones remain an unsolved issue. Loading of cells and growth factors will improve the bone replacement by inducing osteogenic and osteoinductive activities. In addition, the three-dimensional bioprinting technique will facilitate bone regeneration by placing cells and biological substances into appropriate sites.

Cleft lip and palate

Centre-level variation in dental treatment and oral health and individual- and area-level predictors of oral health in 5-year-old children with non-syndromic unilateral cleft lip and palate: the Cleft Care UK study. Part 3.

Author(s): Smallridge, J; Wills, A K; Mahmoud, O; Chong, A; Clark, V; Collard, M; Sandy, J R; Ness, A R

Source: Orthodontics & craniofacial research; Jun 2017; vol. 20

Publication Type(s): Journal Article

Abstract:OBJECTIVESTo explore centre-level variation in fluoride treatment and oral health outcomes and to examine the association of individual- and area-level risk factors with dental decay in Cleft Care UK (CCUK).SETTINGTwo hundred and sixty-eight 5-year-old British children with non-syndromic unilateral cleft lip and palate (UCLP).MATERIALS AND METHODSData on caries and developmental defects of enamel (DDE) were collected. The child's history of fluoride ingestion and postcode was used to assess exposure to fluoridated water. Centre-level variation in fluoride exposure and caries was examined using hierarchical regression. Poisson regression was used to estimate the association between individual- and area-level fluoride exposures and outcome.RESULTSChildren had high levels of caries, rampant caries and DDE. There was no evidence of variation between centres in the number of children with caries or rampant decay. There was evidence of variation in prescription of fluoride tablets and varnish and the type of toothpaste used. Area level of deprivation was associated with a higher risk of dental caries-risk ratio (RR) in the lowest quartile versus the rest was 1.43 (95% CI 1.13 to 1.81). Use of fluoride tablets and varnish was associated with higher risk of caries-RR 1.73 (95% CI 1.29 to 2.32) and RR 1.33 (95% CI 1.04 to 1.70), respectively, adjusted for age, sex and deprivation.CONCLUSIONThe association with use of fluoride tablets and varnish probably reflects reverse causality but indicates the need for early preventative interventions in children with UCLP.

Dental age comparison in patients born with unilateral cleft lip and palate to a control sample using Demirjian and Willems methods.

Author(s): Almotairy, Nabeel; Pegelow, Marie

Source: European journal of orthodontics; May 2017

Publication Type(s): Journal Article

Available in full text at European Journal of Orthodontics, The - from Highwire Press

Abstract: ObjectivesTo determine and compare the differences in dental age (DA) and chronological age (CA) of Demirjian and Willems methods in 9- to 11-year-old Caucasian boys and girls born with non-syndromic unilateral cleft lip and palate (NSUCLP) to an age-matched control group. Analysis of the results is undertaken to determine whether there are differences between gender, groups, and methods.Materials and methodsDental panoramic tomograph (DPT) of 108 children with NSUCLP aged from 8.79 to 10.99 years ($\bar{x}$=10.05 ± 0.36) were compared to 107 control children. Age, gender, and group were blinded during examination. The Demirjian and Willems methods were used by both authors to visually examine the radiographs. Differences between DA and CA were determined with a repeated two-way ANOVA.ResultsInter-examiner reliability was good (ICC ≈ 0.75). For each of the methods used, the mean DA/CA difference was greater in the control group than in the NSUCLP group (P = 0.011). The control group's Demirjian mean DA/CA difference was 1.08 years and Willems mean was 0.46 years, compared to the NSUCLP group's Demirjian mean DA/CA difference 0.83 years and Willems mean 0.22 years. Only the Willems method determined a statistically significant gender difference (P = 0.000).ConclusionsThe null hypothesis was rejected. Willem's method as compared to Demirjian's displayed greater accuracy in estimating CA. Both methods overestimated CA but detected DA delay in NSUCLP children compared to the control group. However, the methods were inconsistent in estimating gender CA.

Facial profile and maxillary arch dimensions in unilateral cleft lip and palate children in the mixed dentition stage.

Author(s): Gopinath, Vellore Kannan; Samsudin, Ab Rani; Noor, Siti Noor Fazliah Mohd; Sharab, Hady Youssef Mohamed

Source: European journal of dentistry; 2017; vol. 11 (no. 1); p. 76-82

Publication Type(s): Journal Article

Available in full text at European Journal of Dentistry - from National Library of Medicine

Abstract:OBJECTIVESThe aim of this study was to evaluate the vertical and sagittal facial profile and maxillary arch width, depth, and length of patients with unilateral cleft lip and palate (UCLP) and to compare them with healthy noncleft children in the mixed dentition stage (7-13 years).MATERIALS AND METHODSThis study is conducted at Hospital Universiti Sains Malaysia. UCLP group comprised 48 patients with nonsyndromic UCLP who have had the lip and palate repaired, whereas the control group comprised 48 healthy noncleft cases. The lateral cephalometrics measurements were used to determine the vertical height, sagittal depth of the face, and cranial base length and angle. Maxillary arch dimensions were measured on the study cast including arch width, depth, and length.RESULTSVertical facial height and sagittal depth measurements showed a significant decrease ($P < 0.05$) in the mean growth pattern in UCLP group. The anterior cranial base length (S-N) was shorter in UCLP children ($P < 0.001$), while Ba-N length had no significant difference ($P = 0.639$). Nasion-Sella Tursica-Basion angle was significantly higher in the UCLP group ($P = 0.016$). Dental arch width with reference to canine-to-canine and first premolar-to- first premolar distance was significantly larger in control ($P = 0.001$).CONCLUSIONMean vertical and sagittal facial dimensions in the UCLP children who do not undergo orthodontic treatment are significantly lesser in all directions of growth than healthy noncleft children. The maxillary dental arch had a normal depth but constricted in width and arch length.

A longitudinal study of the presence of dental anomalies in the primary and permanent dentitions of cleft lip and/or palate patients

Author(s): Suzuki A.; Nakano M.; Yoshizaki K.; Yasunaga A.; Haruyama N.; Takahashi I.

Source: Cleft Palate-Craniofacial Journal; May 2017; vol. 54 (no. 3); p. 309-320

Publication Type(s): Article

Abstract: Objective: The aim is to survey primary and permanent dental anomalies: hypodontia, microdontia, a supernumerary tooth, and fused teeth in patients with cleft lip and/or palate. Design: Retrospective longitudinal study Subjects: The subjects were selected from all 1724 patients with cleft lip and/or palate who were registered at the orthodontic clinic of Kyushu University Hospital, Fukuoka, Japan, from 1970 to 2009. Finally, 994 subjects were evaluated for primary dentition, 1352 for permanent dentition, and 871 for the longitudinal changes from primary to permanent dentition. Methods: The prevalence of dental anomalies was compared for each tooth type, among various cleft types, between males and females, and between the alveolar cleft area and the noncleft area. Results: The prevalence of hypodontia was 16.2% for primary dentition and 52.7% for permanent dentition in the subjects with cleft lip and/or palate. Hypodontia increased with the severity of the cleft type. Multiple hypodontia was found more frequently in the subjects with bilateral cleft lip and palate and the subjects with unilateral cleft lip and palate. Microformed lateral incisors were found in 22.7% of permanent lateral incisors but not in primary dentition. Supernumerary teeth were found in 17.7% of the subjects with cleft lip and/or palate for primary maxillary dentition and in 5.7% for permanent maxillary dentition. Conclusion: The prevalence of hypodontia was greater in permanent dentition than in primary dentition; although, it was not much different between males and females or between the right and left sides. The prevalence of dental anomalies was significantly different among four groups by cleft type: cleft lip, cleft lip and alveolus, cleft lip and palate, and cleft palate.

Tooth abnormalities and occlusal disorders in individuals with frontonasal dysplasia

Author(s): Dainezi V.B.; Das Neves L.T.; Da Silva Dalben G.; Gomide M.R.

Source: Cleft Palate-Craniofacial Journal; May 2017; vol. 54 (no. 3); p. 304-308

Publication Type(s): Article

Abstract: Objective: Frontonasal dysplasia is a rare developmental defect of the midface, and little is known about the dental involvement in individuals with this condition. This study investigated tooth abnormalities and occlusal disorders in individuals with frontonasal dysplasia. Design: Cross-sectional. Setting: Hospital for Rehabilitation of Craniofacial Anomalies, University of Sao Paulo, Bauru, Brazil. Interventions: Clinical oral examination, analysis of patient records, and panoramic radiographs. Participants: A total of 20 individuals with frontonasal dysplasia aged 7 to 17 years. Main Outcome Measures: Prevalence of the several tooth abnormalities and occlusal disorders analyzed. Results: A total of 19 individuals presented at least one tooth abnormality, with highly variable findings. In radiographs, 20% of individuals (all presenting oral clefts) presented agenesis of lateral incisors and second premolars. No supernumerary teeth were observed; 65% of individuals exhibited occlusal alterations, especially anterior open bite in the two individuals with median cleft lip. Conclusions: Variable clinical and radiographic alterations were observed, probably due to the large variety of phenotypic characteristics. No specific dental alteration could be related with frontonasal dysplasia.© Copyright 2017 American Cleft Palate-Craniofacial Association.

The effect of various factors on the dental arch relationship in non-syndromic unilateral cleft lip and palate children assessed by new approach: A retrospective study

Author(s): Haque S.; Alam M.K.; Khamis M.F.

Source: BMC Pediatrics; May 2017; vol. 17 (no. 1)

Publication Type(s): Article

Available in full text at BMC Pediatrics - from BioMed Central

Abstract: Background: Cleft lip and palate (CLP) is one of the most common birth defects. Multiple factors are believed to be responsible for an unfavorable dental arch relationship in CLP. Facial growth (maxillary) retardation, which results in class III malocclusion, is the primary challenge that CLP patients face. Phenotype factors and postnatal treatment factors influence treatment outcomes in unilateral cleft lip and palate (UCLP) children, which has led to a great diversity in protocols and surgical techniques by various cleft groups worldwide. The aim of this study was to illustrate the dental arch relationship (DAR) and palatal morphology (PM) of UCLP in Bangladeshi children and to explore the various factors that are responsible for poor DAR and PM. Methods: Dental models of 84 subjects were taken before orthodontic treatment and alveolar bone grafting. The mean age was 7.69 (SD 2.46) years. The DAR and PM were assessed blindly by five raters using the EUROCRAN index (EI). Kappa statistics was used to evaluate the intra- and inter-examiner agreement, chi square was used to assess the associations, and logistic regression analysis was used to explore the responsible factors that affect DAR and PM. Results: The mean EUROCRAN scores were 2.44 and 1.93 for DAR and PM, respectively. Intra- and inter-examiner agreement was moderate to very good. Using crude and stepwise backward regression analyses, significant associations were found between the modified Millard technique (P = 0.047, P = 0.034 respectively) of cheiloplasty and unfavorable DAR. Complete UCLP (P = 0.017) was also significantly correlated with unfavorable DAR. The PM showed a significant association with the type of cleft, type of cheiloplasty and type of palatoplasty. Conclusion: This multivariate study determined that the complete type of UCLP and the modified Millard technique of cheiloplasty had significantly unfavorable effects on both the DAR and PM.Copyright © 2017 The Author(s).

Long-term follow-up study of patients with a unilateral complete cleft of lip, alveolus, and palate following the Utrecht treatment protocol: Dental arch relationships

Author(s): Kappen I.F.P.M.; Mink van der Molen A.B.; Breugem C.C.; Bittermann G.K.P.; Bitterman D.; Shaw W.

Source: Journal of Cranio-Maxillofacial Surgery; May 2017; vol. 45 (no. 5); p. 649-654

Publication Type(s): Article

Abstract: Objective This study sought to evaluate long-term dental arch relationships in adults with a unilateral complete cleft lip and palate (UCLP) treated by the Utrecht protocol and to compare results with the centers from the Eurocleft study. Materials and methods Retrospective analysis of UCLP patients age 17 or older, treated by two-stage palate closure at the Wilhelmina Children's Hospital, a tertiary center for cleft surgery in Utrecht, the Netherlands. Patients were invited to the clinic for a long-term evaluation. Casts were obtained on the day of follow-up and assessed by the modified Goslon Yardstick for permanent dentition. Dental casts were scored twice by 3 different examiners. Results Intra-rater agreement varied from 0.743 to 0.844, the inter-rater agreement from 0.552 to 0.718. The mean Goslon Yardstick score was 3.3. Thirty-three percent of the patients had a Goslon score of 1 or 2, 45% had a score of 4 or 5. Conclusions The present study found unfavourable results regarding dental arch relationships after delayed hard palate closure at 3 years old. The mean Goslon Yardstick score was 3.3 (SD 1.4) and 45% of the casts were allocated to group 4 or 5 despite extensive orthodontic treatment. We observed a high number of secondary surgical interventions but no evident benefit regarding dental occlusion following the Utrecht treatment protocol, which includes a two-stage palatoplasty. Other factors than the timing of palate closure are likely of influence.

Multidisciplinary management of a patient with van der Woude syndrome: A case report

Author(s): Tehranchi A.; Behnia H.; Nadjmi N.; Yassaee V.R.; Ravesh Z.; Mina M.

Source: International Journal of Surgery Case Reports; 2017; vol. 30 ; p. 142-147

Publication Type(s): Article

Abstract: Introduction Van der Woude syndrome (VWS) is the most frequent form of syndromic cleft lip and palate (SCLP) accounting for 2% of all patients with CLP. Case presentation We describe the orthodontic treatment of a girl diagnosed with VWS referred by her family dentist for her cosmetic concerns. Discussion Comprehensive orthodontic treatment, secondary bone graft, distraction osteogenesis (for a deficient maxilla), secondary palatoplasty and excision of lower lip pits, as well as orthodontic and prosthetic procedures may provide a satisfactory outcome. Genetic testing showed a known putative splice site mutation (c.174 + 1 G/A) as the prime cause of VWS in our patient and her family. Conclusion SCLP has significant effects on facial aesthetics and the psychosocial status. Parents should be assessed and counseled appropriately. This condition is treatable in the absence of life threatening systemic anomalies. An interdisciplinary team approach is advocated.

Factors Responsible for Unfavorable Dental Arch Relationship in non Syndromic Unilateral Cleft Lip and Palate Children.

Author(s): Haque, Sanjida; Alam, Mohammad Khursheed; Khamis, Mohd Fadhli

Source: The Journal of clinical pediatric dentistry; 2017; vol. 41 (no. 3); p. 236-242

Publication Type(s): Journal Article

Abstract:OBJECTIVESMultiple factors are whispered to be crucial cause of unfavourable dental arch relationship in cleft lip and palate (CLP).This study aims to evaluate the dental arch relationship of Bangladeshi children with non syndromic unilateral cleft lip and palate (UCLP) following cheiloplasty and palatoplasty. Also to explore the various congenital (UCLP type, UCLP side, family history of cleft,

family history of class III) and environmental (cheiloplasty, palatoplasty) factors that affects dental arch relationship of UCLP patients.STUDY DESIGNThis was a retrospective study where 84 dental models were taken before orthodontic treatment and alveolar bone grafting. The mean age was 7.69± 2.46 (mean± SD). The dental arch relationship was assessed by GOSLON (Great Ormond Street, London and Oslo) Yardstick. According to GOSLON Yardstick, five categories are rated; named- 1: excellent; 2: good; 3: fair; 4: poor; 5: very poor. Also the groups have been dichotomized into favorable (category ratings 1-3) and unfavorable (category ratings 4 and 5) groups. Kappa statistics was used to evaluate the intra- and inter-examiner agreements and logistic regression analysis was used to explore the responsible factors that affect dental arch relationship.RESULTSTotal 37 subjects (44% of all subjects) were categorized into unfavourable group (category rating 4 and 5) using GOSLON yardstick. Intra- and inter-examiner agreements were very good. The mean GOSLON score was 3.238. Using crude and stepwise backward regression analysis, significant association was found between family history of skeletal class III malocclusion ($p = 0.015$ and $p = 0.014$ respectively) and unfavourable dental arch relationship. Complete UCLP ($p = 0.054$) and left sided UCLP ($p = 0.053$) also seemed to be correlated but not significant with unfavourable dental arch relationship using crude and stepwise backward regression analysis respectively.CONCLUSIONThis analysis suggested that family history of skeletal class III was significantly correlated with unfavourable dental arch relationship of Bangladeshi UCLP children.

3D analysis of effects of primary surgeries in cleft lip/palate children during the first two years of life.

Author(s): Sakoda, Karine Laskos; Jorge, Paula Karine; Carrara, Cleide Felício Carvalho; Machado, Maria Aparecida de Andrade Moreira; Valarelli, Fabrício Pinelli; Pinzan, Arnaldo; Oliveira, Thais Marchini

Source: Brazilian oral research; Jun 2017; vol. 31 ; p. e46

Publication Type(s): Journal Article

Abstract: This study aimed at monitoring the maxillary growth of children with cleft lip/palate in the first two years of life, and to evaluate the effects of primary surgeries on dental arch dimensions. The sample consisted of the three-dimensional digital models of 25 subjects with unilateral complete cleft lip and palate (UCLP) and 29 subjects with isolated cleft palate (CP). Maxillary arch dimensions were measured at 3 months (before lip repair), 1 year (before palate repair), and at 2 years of age. Student's ttest was used for comparison between the groups. Repeated measures ANOVA followed by Tukey's test was used to compare different treatment phases in the UCLP group. Paired ttest was used to compare different treatment phases in the CP group. $P<0.05$ was considered statistically significant. Decreased intercanine distance and anterior arch length were observed after lip repair in UCLP. After palate repair, maxillary dimensions increased significantly, except for the intercanine distance in UCLP and the intertuberosity distance in both groups. At the time of palate repair and at two years of age, the maxillary dimensions were very similar in both groups. It can be concluded that the maxillary arches of children with UCLP and CP changed as a result of primary surgery.

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British Journal of Oral and Maxillofacial Surgery

July 2017; Volume 55, Issue 6

Head and Neck

July 2017; Volume 39, Issue 7

Oral Surgery

May 2017; Volume 10, Issue 2

Oral Surgery Oral Medicine Oral Pathology Oral Radiology

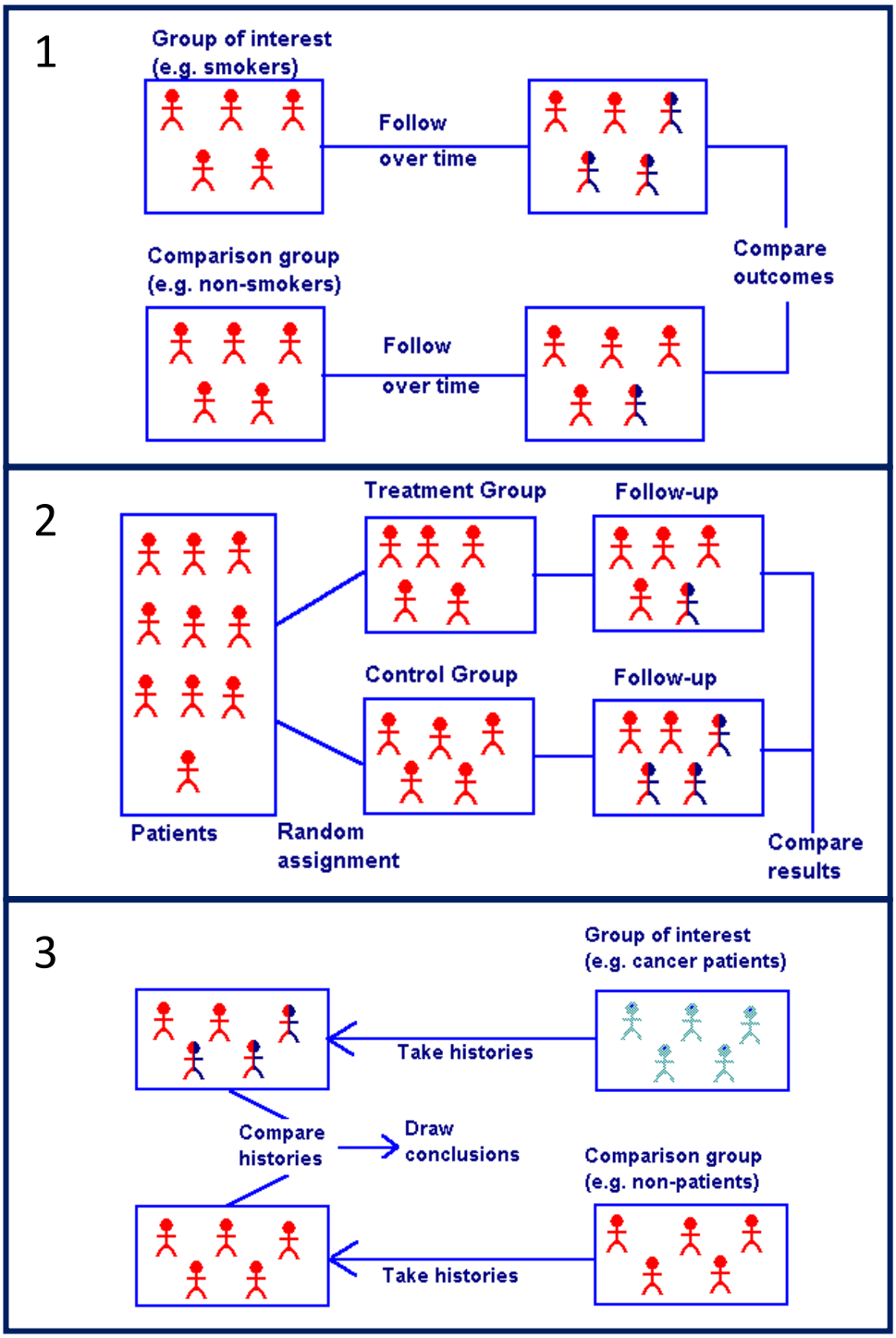
July 2017; Volume 124, Issue 1

The Cleft Palate-Craniofacial Journal

May 2017; Volume 54, Issue 3

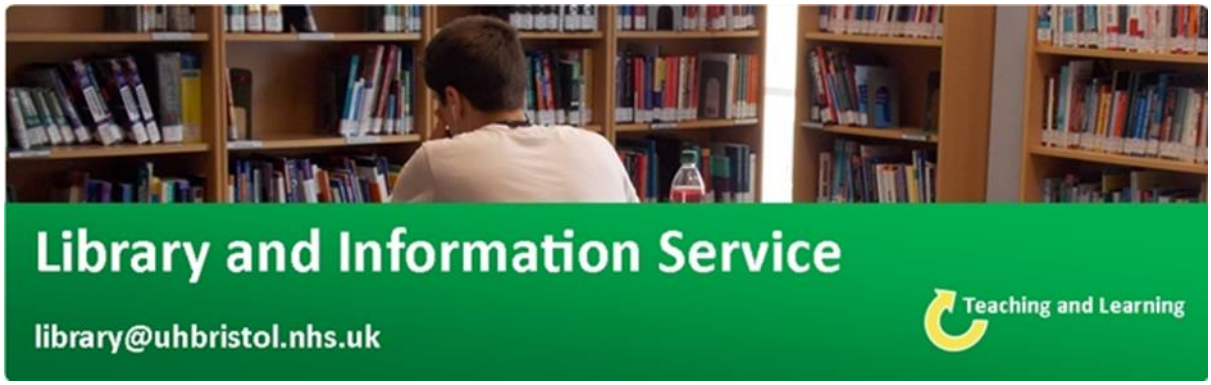
Exercise: Research Designs

Match the diagrams to the corresponding research designs.



A: Randomised Controlled Trial
B: Cohort Study
C: Case-control Study

Answers: 1B; 2A; 3C



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