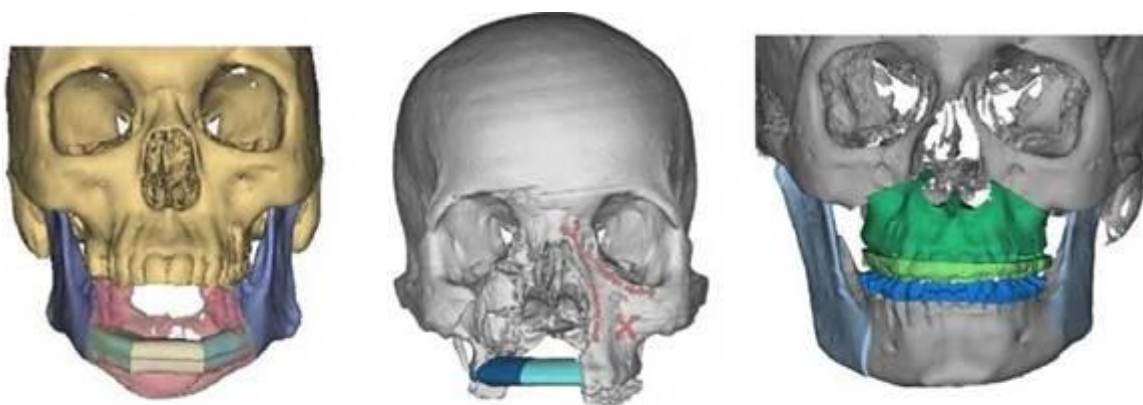


Oral & Maxillofacial Surgery

Current Awareness Newsletter



January/ February 2017

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Lunchtime Drop-in Sessions

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<u>January (13.00)</u>	
Tues 10th	Literature Searching
Wed 18th	Critical Appraisal
Thurs 26th	Statistics
<u>February (12.00)</u>	
Fri 3 rd	Literature Searching
Mon 6 th	Critical Appraisal
Tue 14 th	Statistics
Wed 22 nd	Literature Searching


Your Outreach Librarian- Jo Hooper

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Outreach: Your Outreach Librarian can help facilitate evidence-based practise for all in the oral and maxillofacial surgery team, as well as assisting with academic study and research. We can help with **literature searching, obtaining journal articles and books**, and setting up individual **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

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Latest Evidence

NICE National Institute for
Health and Care Excellence

[Efficacy of the C-terminal telopeptide test in predicting the development of bisphosphonate-related osteonecrosis of the jaw: a systematic review](#)

Source: [PubMed](#) - 19 November 2016

[Efficacy of bisphosphonate as an adjunct to nonsurgical periodontal therapy in the management of periodontal disease: a systematic review](#)

10 November 2016 - Publisher: British Journal of Clinical Pharmacology



[Interventions for managing medication-related osteonecrosis of the jaw \(MRONJ\)](#)

Natalie H Beth-Tasdogan , Benjamin Mayer , Heba Hussein and Oliver Zolk

Online Publication Date: November 2016

UpToDate®

OpenAthens login required. Register here: <https://openathens.nice.org.uk/>

[Risks of bisphosphonate therapy in patients with osteoporosis](#)

Author: Harold N Rosen, MD

Literature review current through: Dec 2016. | **This topic last updated:** Jan 06, 2016.

INTRODUCTION — Osteoporosis is caused by the cumulative effect of bone resorption in excess of bone formation. Bisphosphonates inhibit bone resorption with relatively few side effects. As a result, they are widely used for the prevention and treatment of osteoporosis.

This topic will review the risks of bisphosphonates in patients with osteoporosis. The therapeutic use of bisphosphonates in men and postmenopausal women with osteoporosis, and their side effects in other conditions (such as advanced malignancy), are reviewed separately.

- (See "[The use of bisphosphonates in postmenopausal women with osteoporosis](#)".)
- (See "[Treatment of osteoporosis in men](#)", section on 'Pharmacologic therapy'.)
- (See "[Prevention and treatment of glucocorticoid-induced osteoporosis](#)", section on 'Bisphosphonates'.)
- (See "[Risks of therapy with bone antiresorptive agents in patients with advanced malignancy](#)".)

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:

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Oral surgery

Prevalence of odontogenic sinus tracts among dental patients and its oral surgery management at Bahawal Victoria Hospital & Quaid-e-Azam Medical College Bahawalpur

Author(s): Baig M.S.; Zahid M.; Shaheen J.A.; Bhutto R.A.

Source: Pakistan Journal of Medical and Health Sciences; 2016; vol. 10 (no. 2); p. 603-607

Publication Type(s): Journal: Article

Abstract:Background: It is an established fact, majority of the facial cutaneous discharging sinus and fistulas are of odontogenic origin, which result by the bacteriogenic process of the dental pulp necrosis. It may be sequence of dental caries, dental trauma or due to some local irritating factor of chemical which leads to teeth periapical infection. Aim: To describe prevalence of odontogenic cutaneous sinus tracts, its clinical presentation and oral surgery management among dental patients attending dental outdoor at BV Hospital Bahawalpur Methods: Hospital record base retrospective study from May 2012 to May 2016 at Dept of Oral & Dental Surgery BVH/QMC, Bahawalpur among outdoor patients with clinical history of cutaneous sinus/fistula confirmed with odontogenic origin with the help of dental periapical X-Rays or through panoramic radiographs with location of sinus tracts by gutta purcha points. Results: There were total 48 patients enrolled in this study for the last two years from May 2014-16 with age range from 9 to 46 years with mean age 30 years. There were 17(35.41%) male and 31(64.58%) female most frequent site of the odontogenic cutaneous lesion was observed at mandibular sites at its angle 19(39.58%) and chin 11(22.91%) area. The mean time duration for patients referral was about 6 month with its range from 2.5 months to more than one year. The appropriate treatment as tooth extraction 30(62.5%), teeth restoration via root canal treatment 9(18.75%) followed by apicoectomy 05(10.41%) Conclusion: Our study results put more emphasis on our counterpart medical professionals, for their better understanding of the differential diagnosis of such cutaneous lesions as they are the first to encounter them in our study setting. They

need to be familiar with their odontogenic nature of origin for the early detection of such lesions, for the earliest possible referral and prompt interventions by the oral and dental professionals for patients better treatment planning, for better treatment outcome and prognosis to avoid any future complication.

Traditional versus new oral anticoagulants in clinical practice of oral surgery

Author(s): Cena D.; Milka Z.; Katerina Z.; Lidija P.; Mirjana P.

Source: Research Journal of Pharmaceutical, Biological and Chemical Sciences; 2016; vol. 7 (no. 5); p. 170-177

Publication Type(s): Journal: Article

Abstract:The oral surgeons are frequently asked to manage patients who are receiving oral anticoagulants. The aim of treatment is to minimize the risk of hemorrhage while continuing to protect the patient against thromboembolism formation. The ordinary treatment includes the interruption of anticoagulant therapy before oral surgery interventions to prevent hemorrhage. Aim of this study is to review the evidence of different therapy approach, to highlight the areas of major concern, and to suggest specific oral surgery treatment for patients on new oral anticoagulants. A Medline and extensive hand search were performed on English-language publications beginning in 1960 till now. Several evolving clinical practices in the last years have been detected: anticoagulants are generally not discontinued; oral surgery is performed despite laboratory values showing significant bleeding tendency; new effective local hemostatic modalities are used to prevent bleeding. It is too early to make comments on how to choose among the different new anticoagulants, not only because no head-to-head comparative study has been yet performed, but also because the currently available data are insufficient to make a meaningful choice possible.

Functional swallowing outcomes following treatment for oropharyngeal carcinoma: A systematic review of the evidence comparing trans-oral surgery versus non-surgical management

Author(s): Dawe N.; Patterson J.; O'Hara J.

Source: Clinical Otolaryngology; 2016

Publication Type(s): Journal: Article In Press

Abstract:Background: Trans-oral surgical and non-surgical management options for oropharyngeal squamous cell carcinoma (OPSCC) appear to offer similar survival outcomes. Functional outcomes, in particular swallowing, have become of increasing interest in the debate regarding treatment options. Contemporary reviews on function following treatment frequently include surrogate markers and limit the value of comparative analysis. Objectives of review: A systematic review was performed to establish whether direct comparisons of swallowing outcomes could be made between trans-oral surgical approaches (trans-oral laser microsurgery (TLM)/trans-oral robotic surgery (TORS)) and (chemo)radiotherapy ((C)RT). Type of review: Systematic review. Search strategy: MEDLINE, Embase and Cochrane databases were interrogated using the following MeSH terms: antineoplastic protocols, chemotherapy, radiotherapy, deglutition disorders, swallowing, lasers, and trans-oral surgery. Evaluation method: Two authors performed independent systematic reviews and consensus was sought if opinions differed. The WHO ICF classification was applied to generate analysis based around body functions and structure, activity limitations and participation restriction. Results: Thirty-seven citations were included in the analysis. Twenty-six papers reported the outcomes for OPSCC treatment following primary (C)RT in 1377 patients, and 15 papers following contemporary trans-oral approaches in 768 patients. Meta-analysis was not feasible due to varying methodology and heterogeneity of outcome measures. Instrumental swallowing assessments were presented in 13/26 (C)RT versus 2/15 TLM/TORS papers. However, reporting methods of these studies were not standardised. This variety of outcome measures and the wide-

ranging intentions of authors applying the measures in individual studies limit any practical direct comparisons of the effects of treatment on swallowing outcomes between interventions. Conclusions: From the current evidence, no direct comparisons could be made of swallowing outcomes between the surgical and non-surgical modalities. Swallowing is a multidimensional construct, and the range of assessments utilised by authors reflects the variety of available reporting methods. The MD Anderson Dysphagia Inventory is a subjective measure that allows limited comparison between the currently available heterogeneous data, and is explored in detail. The findings highlight that further research may identify the most appropriate tools for measuring swallowing in patients with OPSCC. Consensus should allow their standardised integration into future studies and randomised control trials. Copyright © 2016 John Wiley & Sons Ltd.

Local hemostatic agents in the management of bleeding in oral surgery

Author(s): Santhosh Kumar M.P.

Source: Asian Journal of Pharmaceutical and Clinical Research; 2016; vol. 9 (no. 3)

Publication Type(s): Journal: Review

Abstract: Bleeding intraoperatively and postoperatively in oral surgery poses a great threat to the patient and can lead to serious untoward consequences if uncontrolled. The dentist should be familiar with the range of hemostatic agents available and their application during different types of bleeding episodes. Bleeding complications can occur in healthy as well as systemically compromised patients. Having a broad knowledge of the management approaches will allow the clinician to know when to apply a particular approach. Unfortunately, some of the most useful preventive measures and management techniques are not utilized because of a lack of understanding of the coagulation process and/or the approaches and materials that are available. The purpose of this article is to review the literature regarding the applications of various local hemostatic agents in the management of bleeding in oral surgery, their mechanism of action, and contraindications. Furthermore, the novel hemostatic agents such as HemCon dental dressing and Quikclot are also discussed. Local hemostatic agents are very useful in controlling bleeding during oral surgical procedures in patients with congenital and acquired bleeding disorders and also in patients who are on antithrombotic medications for their systemic conditions. Copyright © 2016, Innovare Academics Sciences Pvt. Ltd. All rights reserved.

A Review of Patients with Complications following Minor Oral Surgery attending the Hospital Emergency Department, after treatment by different Service Providers

Author(s): Cabral M.; Bhopal R.; Gowrishankar S.; Gallagher J.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: Background: Increasingly, elective dentoalveolar surgery is being commissioned to Specialist Providers in primary care. Often, the only providers who can deal with post-operative complications, twenty-four hours a day, seven days a week, are secondary care providers. Aim: To review patients presenting with post-operative complications following elective minor oral surgery performed in primary care setting versus those performed in a Hospital OMFS Unit. Materials & Methods: Data extracted using the e-auditing tool in Ascribe's SymphonyTM (Emis Health plc) system, of all attendances to the Emergency Department (ED) between Jan 2014 - Dec 2015, with post-operative problems following dentoalveolar surgery and analysed. Results: 83 patients with post-operative complications attended during this time. 56 (67.5%) were treated in primary care and 27 (32.5%), secondary care. Twelve patients required admission, nine from primary care, versus

three from secondary care. 55% of the patients presented during normal working hours (8am - 6pm). Discussion and Conclusion: The hospital OMFS Service generally treats elective patients with more complex medical and surgical problems. The majority of post-operative problems seen in the ED however, arose from procedures undertaken in primary care. Patients also seem to preferentially attend the hospital, rather than the primary care provider, even during normal working hours. We therefore recommend that all OMFS Units monitor such cases, to highlight this essential service we continue to provide 24/7.

A cross-sectional study surveying post-operative patient experience of laser intra-oral surgery

Author(s): Ali T.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Date: Dec 2016

Publication Type(s): Journal: Conference Abstract

Abstract: Background: Laser excision for intra-oral carcinoma is a common oncological procedure. However there is a distinct paucity of published literature reporting patients' post-operative experiences. Feedback from patients will help inform decision-making and allow for better advice related to patient expectations during the post-operative period. The aim of this study is to conduct a cross-sectional survey aimed at investigating patients' perspective following laser excision. Methods: Theatre records, oncology database and pathology records were used to identify patients that had undergone laser excision of their intraoral lesions. A x item questionnaire was sent to 50 consecutive patients treated between 1/1/14 and 1/10/15. The findings from the reminder letters are awaited. Results: 27 patients responded to the first mail out. The modal time of recovery from the operation was between 2-4 weeks. Patient reported difficulties including pain, alterations in eating habits, difficulty with speech and changes in appearance. 55% of respondents described some level of numbness. Only 15% of patients reported any bleeding. 50% of those that responded thought they could have received better information on what to expect as a result of their surgery. Conclusion: Laser excision, although a straightforward day case procedure confers quite a degree of morbidity over the first 2 weeks. Further studies are required to explore the best ways to reduce post-operative symptoms and speed recovery. Also a patient information leaflet that includes the patients' responses needs to be evaluated.

Oral Surgery (OS) specialist list 2016 - What will happen when the grandfathers move on?

Author(s): Magennis P.; Begley A.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: Introduction: The Oral Surgery and Surgical Dentistry specialist lists were founded in 1999 and held by the General Dental Council (GDC). From 1999 until 2003 dental surgeons with appropriate experience were 'grandfathered' onto each of these lists. In 2005 both lists were amalgamated onto one OS list. Since 2003 the only 3 routes onto the OS list were a) completing an OS training programme, b) having a European Union (EU) OS specialist listing, or c) applying to the GDC with a portfolio of evidence. Method: OS specialists are listed on the GDC website. In January 2016 the current OS list was obtained from the GDC. It was analysed in the context of the Oral & Maxillofacial Surgery (OMFS) specialist list as some OMFS surgeons are on both lists. Results: In 2016 there are 723 dentists on the OS list of whom 121 (17%) were also on the OMFS list. By gender 209 (29%) are female. Of 723 on the OS list, 493 (68%) joined before the grandfathering option closed in 2002. Since then the OS list has dropped by between 1% and 5% in most years. Of the current 723,

161 (22%) have joined since 2005 and are not also on the OMFS specialist list. Looking at these 161 in more detail, 50 (31%) had an EU dental qualification, 36 (22%) Overseas Registration Exam or equivalent and 22 of the group have non-UK registration addresses. Conclusion: The geographical location, estimated age of retirement, and likely future numbers will be discussed.

Is consent for minor oral surgery procedures adequate? Audit of consent from a major teaching hospital

Author(s): Keshtgar A.; Brizman E.; Shakib K.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: **Aims:** The presentation aims to assess whether patients have sufficient information to understand their treatment plan and recovery from local anaesthetic procedures in the Oral and maxillofacial department. Patient communication and clinical governance will be improved by implementation of change gathered from feedback, with second stage data reflecting this. The recommendation from the Royal College of Surgeons 3.5.1 is to 'ensure that the patient has sufficient time and information to make an informed decision' and 'where possible, you should provide written information to patients to enable them to reflect and confirm their decision.' **Methods:** Short patient questionnaires were handed out after each local anaesthetic procedure across a London hospital Trust between October-November 2015. 90 patient responses were collected. Currently, patients give verbal consent at the initial consultation; this is then verified at the next appointment whereby the consent form is signed. Two key questions were assessed: Is there adequate information exchange prior to the procedure? Should we introduce two-stage consent for local anaesthetic procedures? **Results:** 53% of the procedures were extractions and 33% were biopsies. 86% of patients reported they were 'well informed', 8% 'fairly informed', 2% 'uninformed' and 4% 'unanswered'. 52% of patients prefer to have written information leaflets and 69% prefer not to sign the consent form at the initial appointment. **Conclusions:** Patients generally prefer to obtain written information at initial consultation; this will help reduce anxiety. Most patients are happy with the current consent process whereby written consent is given at the second appointment.

Never events in Oral Surgery - Is the WHO checklist enough

Author(s): Sheikh O.; Jabbar S.; Logan G.; Chandegra R.; Visavadia B.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: **Introduction:** Dental extractions are the most common surgical procedure. Extraction of the wrong tooth is considered 'wrong site surgery' and is considered a never event. In 2014 there were 126 'wrong site surgery' never events reported, with the wrong tooth or teeth being removed as the most common. It is clear that the sequence of events leading to patient harm are multifactorial and that wrong site surgery continues to be an issue even with the safeguards already in place. **Methods:** The varied process leading to wrong site surgery was analysed using three separate methods: Root cause analysis, Process mapping, Literature review of current best practice and formulation of a standard and audit. Following the above the authors created a proforma to ascertain current practices and to investigate any improvements that can be made to patient safety. **Results:** The results of the proforma show practices vary in different units in how the WHO checklist and marking systems are implemented. A new marking system was proposed and implemented. **Conclusions/Clinical Relevance:** This new system is now being used when carrying out oral surgery under general anaesthesia in our trusts. Usually marking the patient is performed at the time of consent or marking the board when the patient enters theatre. There are usually a few

minutes between this and actually starting the procedure (sign in, scrubbing and prepping). This new marking will be performed using a sterile pen onto the drape just before the procedure begins adding an extra check to the procedure.

Why are there an increasing number of oral surgery referrals to hospital from practice?

Author(s): Walshe A.; Mcardle L.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract:Introduction: The increase in minor oral surgery referrals to hospitals by GPs is anecdotally attributed to changes in remuneration following the switch to a UDA based NHS contract for dentistry in 2005. Such changes could lead to a deskilled workforce. Other factors include an increase in dentists qualified abroad with varying skills, and the shifting focus to patient centred care has led to a sharp increase in litigation via the GDC leading to more defensive practice. Undergraduate training has also moved away from a requirements based programme and instead focuses on programmes designed produce a "safe beginner" as defined in the GDC's Preparing For Practice document. Results: We introduced oral surgery training sessions in our department for Foundation trainees to increase oral surgery experience. A survey showed 64% felt undergraduate training had not prepared them to carry out oral surgery in practice. Reasons for lack of confidence included 29% reporting lack of support in practice and lack of oral surgery equipment available in practice stated by 86%. 86% of attendees believed these sessions would be a beneficial part of Foundation training. Conclusion: Dental foundation training could be modified to improve oral surgery experience and skill in newly qualified dentists. We propose Foundation trainees should spend time oral surgery departments carrying out simple oral surgery to address the skill deficit. Addressing this deficit may go some way to reduce the overall burden to NHS hospitals for dental services.

Prolonged bleeding in a 34-year-old man following oral surgery

Author(s): Olson N.J.; Shajani-Yi Z.; Cervinski M.A.; Ornstein D.L.

Source: Clinical Chemistry; Dec 2016; vol. 62 (no. 12); p. 1676-1677

Publication Type(s): Journal: Note

Database: EMBASE

Joint Dictionary Learning-based Non-Negative Matrix Factorization for Voice Conversion to Improve Speech Intelligibility After Oral Surgery.

Author(s): Fu, Szu-Wei; Li, Pei-Chun; Lai, Ying-Hui; Yang, Cheng-Chien; Hsieh, Li-Chun; Tsao, Yu

Source: IEEE transactions on bio-medical engineering; Dec 2016

Publication Type(s): Journal Article

Abstract:This paper focuses on machine learning based voice conversion (VC) techniques for improving the speech intelligibility of surgical patients who have had parts of their articulators removed. Because of the removal of parts of the articulator, a patient's speech may be distorted and difficult to understand. To overcome this problem, VC methods can be applied to convert the distorted speech such that it is clear and more intelligible. To design an effective VC method, two key points must be considered: (1) the amount of training data may be limited (because speaking for

a long time is usually difficult for post-operative patients); (2) rapid conversion is desirable (for better communication). We propose a novel joint dictionary learning-based non-negative matrix factorization (JD-NMF) algorithm. Compared to conventional VC techniques, JD-NMF can perform VC efficiently and effectively with only a small amount of training data. The experimental results demonstrate that the proposed JD-NMF method not only achieves notably higher short-time objective intelligibility (STOI) scores (a standardized objective intelligibility evaluation metric) than those obtained using the original unconverted speech but is also significantly more efficient and effective than a conventional exemplar-based NMF VC method. The proposed JD-NMF method may outperform the state-of-the-art exemplar-based NMF VC method in terms of STOI scores under the desired scenario. We confirmed the advantages of the proposed joint training criterion for the NMF-based VC. Moreover, we verified that the proposed JD-NMF can effectively improve the speech intelligibility scores of oral surgery patients.

Dabigatran: A new oral anticoagulant. Guidelines to follow in oral surgery procedures. A systematic review of the literature

Author(s): Munoz-Corcuera M.; Ramirez-Martinez-Acitores L.; Casanas-Gil E.; Lopez-Pintor R.M.;

Source: Medicina Oral, Patologia Oral y Cirugia Bucal; Nov 2016; vol. 21 (no. 6)

Publication Type(s): Journal: Review

Abstract:Background: Dabigatran is a newly commercialized drug that is replacing other anticoagulants in the prevention of venous thromboembolism, stroke and systemic arterial valve embolism. It acts directly on thrombin presenting in a dynamic and predictable way, which does not require monitoring these patients. Therefore, we consider the need to assess whether their use increases the risk of bleeding involved before any dental treatment. Material and Methods: We performed a systematic review with a bibliographic search in PubMed/Medline along with the Cochrane Library. We excluded articles dealing with all anticoagulants other than dabigatran, and works about surgical treatments in anatomical locations other than the oral cavity. Results: We included a total of 13 papers of which 1 was a randomized clinical trial, 9 narrative literature reviews, 1 case series, 2 clinical cases and 1 expert opinion. Because we did not obtain any properly designed clinical trials, we were unable to conduct a meta-analysis. Conclusions: Currently, there is no consensus on the procedure to be followed in patients taking dabigatran. However, all authors agree to treat each case individually in accordance to the risk of embolism, postoperative bleeding and renal function. Also, it is necessary to perform minimally invasive interventions, and take the appropriate local anti-hemolytic measures. Copyright © Medicina Oral S. L. C.I.F. B.

The advantages of carbon dioxide laser applications in paediatric oral surgery. A prospective cohort study

Author(s): Hanna R.; Parker S.

Source: Lasers in Medical Science; Nov 2016; vol. 31 (no. 8); p. 1527-1536

Publication Type(s): Journal: Article

Abstract:The aim of this study is to evaluate and demonstrate the advantages of the carbon dioxide laser in paediatric oral surgery patients in terms of less post-operative complications, healing without scarring, functional benefits, positive patient perception and acceptance of the treatment. One hundred fit and healthy paediatric patients (aged 4-15 years) were recruited to undergo laser surgery for different soft tissue conditions. The outcome of these laser treatments was examined. The Wong-Baker Faces Pain Rating Scale was employed to evaluate the pain before, immediately after laser treatment in the clinic and 1 day after post-operatively at home. Post-operative

complications and patients' perception and satisfaction were self-reported during a review telephone call the day after treatment. The patients were reviewed 2 weeks after surgery. Laser parameter was 1.62 W, measured by power meter, continuous wave mode with 50 % emission cycle. The beam spot size at the target tissue was 0.8 mm. The pain score pre-operative, during and immediately after laser treatment was rated 0. Whilst the pain score 1 day after surgery was rated between 0 and 2, the healing time was measured over 2 weeks. None of the patients reported post-operative complications after surgery. Patients' perception and acceptance were rated very good. Laser dentistry is a promising field in modern minimally invasive dentistry, which enables provision of better care for children and adolescents. In this cohort study, the use of the carbon dioxide laser therapy offers a desirable, acceptable and minimally invasive technique in the surgical management of soft tissues in paediatric oral surgery with minimal post-operative complications. Copyright © 2016, Springer-Verlag London.

Pattern of online communication in teaching a blended oral surgery course.

Author(s): Marei, H F; Al-Khalifa, K S

Source: European journal of dental education : official journal of the Association for Dental Education in Europe; Nov 2016; vol. 20 (no. 4); p. 213-217

Publication Type(s): Journal Article

Abstract: To explore the factors that might affect the patterns of interaction amongst dental students that can be found in asynchronous online discussion fora. It is a qualitative study that involved the participation of 71 dental students (42 male and 29 female) who belong to one academic year. Students were participated in asynchronous online discussion fora as a part of a blended oral surgery course that involved both face-to-face lecture and an online learning environment using the Blackboard learning management system. Qualitative analysis of students' pattern of discussion was performed using Transcript Analysis Tool. The total number of postings was 410. Sixty-seven of 71 students participated in the discussion by writing posts, whereas all of the students had accessed all of the postings. A positive correlation between imposing vertical questions and the number of non-referential and referential statements was observed. Regarding horizontal questions, a positive correlation was observed with the number of referential statements, whilst there was a negative correlation with the number of non-referential statements. Asynchronous online discussion fora that are integrated as a part of a whole pedagogical practice may provide an opportunity for promoting learning, especially when consideration is given to the structure of problems, timely feedback by tutors and supportive strategies within the discussion threads. © 2015 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd.

Role of plasma-rich fibrin in oral surgery

Author(s): Kumar K.R.; Genmorgan K.; Rahman S.M.A.; Rajan M.A.; Kumar T.A.; Prasad V.S.

Source: Journal of Pharmacy and Bioallied Sciences; Oct 2016; vol. 8

Publication Type(s): Journal: Review

Abstract: Platelet-rich fibrin (PRF) is a fibrin meshwork, in which platelet cytokines, growth factors, and cells are entrapped and discharged after a period and can serve as a resorbable film. PRF is the next generation of platelet concentrates equipped to improve arrangement without biochemical blood handling; PRF is an evolution of the fibrin adhesive, which is widely used in the oral surgery. The guidelines of this innovation depend on concentrating platelets and growth factors in a plasma medium, and initiating them in a fibrin gel, keeping in mind the end goal to enhance the healing of wounds. Maxillary bone loss requires numerous regenerative techniques: as a supplement to the

procedures of tissue regeneration, a platelet concentrate called PRF was tested for the 1st time in France by Dr. Choukroun. This article enriches the benefits and role of plasma-rich fibrin in oral surgery. Platelet-concentrate fibrin is an evolution of the fibrin glue, which is widely used in the oral surgery. Copyright © 2016 Journal of Pharmacy and Bioallied Sciences Published by Wolters Kluwer-Medknow.

Oral surgery: Too much information.

Author(s): Shaw, D

Source: British dental journal; Oct 2016; vol. 221 (no. 8); p. 438

Publication Type(s): Journal Article

Topical application of tranexamic acid in anticoagulated patients undergoing minor oral surgery: A systematic review and meta-analysis of randomized clinical trials.

Author(s): de Vasconcellos, Sara Juliana de Abreu; de Santana Santos, Thiago; Reinheimer, Daniele

Source: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery; Oct 2016

Publication Type(s): Journal Article

Abstract: To perform a systematic review and meta-analysis of randomized clinical trials (RCTs) investigating the efficacy and safety of topical tranexamic acid (TXA) to prevent postoperative bleeding in anticoagulated patients undergoing minor oral surgery. We analyzed RCTs comparing the use of topical TXA versus other topical hemostatic agents or placebo solutions for minor oral surgeries. We assessed the risk of bias and strength of evidence according to the Cochrane guidelines and GRADE rating system, respectively. The pooled relative risk (RR) was calculated for the effect of topical application of TXA on postsurgical bleeding. Five RCTs were included in the study. The combined RR for the number of patients receiving TXA in comparison to the control group was 0.13 (95% CI 0.05-0.36; P = 0.01), indicating a protective effect of topical TXA on bleeding after minor oral surgeries. Subgroup analysis revealed that topical TXA was effective in preventing postsurgical bleeding compared to placebo and epsilon-aminocaproic acid. No cases of thromboembolic events were reported. Currently available evidence suggests that surgical site irrigation with TXA followed by mouthwash during the first postoperative week is safe and may reduce the risk of bleeding after minor oral surgeries in anticoagulated patients. Copyright © 2016. Published by Elsevier Ltd.

450 nm Blue Laser and Oral Surgery: Preliminary ex vivo Study.

Author(s): Fornaini, Carlo; Merigo, Elisabetta; Rocca, Jean-Paul; Lagori, Giuseppe; Raybaud, Hélène;

Source: The journal of contemporary dental practice; Oct 2016; vol. 17 (no. 10); p. 795-800

Publication Date: Oct 2016

Publication Type(s): Journal Article

Abstract: Dental diode lasers were started to be used at the end of the 1990s and were shown to possess several important characteristics, such as small size and low cost, as well as the advantage of optic fibers delivering system. Although only two wavelengths (810 and 980 nm) had been the most used dental diode lasers, a wavelength emitting in the blue portion of the spectrum has recently been proposed. The aim of this ex vivo study was to compare the effectiveness of five different

fiber-delivered laser wavelengths (450, 532, 808, 1064, and 1340 nm) in the oral soft tissue ablation. Specimens were surgically collected from the dorsal surface of four bovine tongues and, while deep thermal increase was measured by two thermocouples at 0.5 and 2 mm depth, surface temperature was recorded by an infrared thermometer. Subsequently, specimens were fixed in 10% buffered formalin solution, cut into slices, and embedded in paraffin blocks, and a pathologist made a morphological analysis by optic microscope assigning a score based on the quality of the cut and tissue damage. The analysis showed the best quality of the cut and the lowest temperature increase on the specimens obtained with the shortest laser wavelength (450 nm). Even considering this as preliminary study, the use of 450 nm blue diode laser in oral surgery may be suggested to the clinician in their daily practice. This study opens a new perspective in oral surgery. Blue diode laser has demonstrated a good quality of the cut with a low energy causing a minimal thermal damage to the tissue, promising a better comfort to patients.

Post-operative Instructions for Extractions/Oral Surgery.

Source: Pediatric dentistry; Oct 2016; vol. 38 (no. 6); p. 439

Publication Type(s): Journal Article

Guideline on Management Considerations for Pediatric Oral Surgery and Oral Pathology.

Source: Pediatric dentistry; Oct 2016; vol. 38 (no. 6); p. 315-324

Publication Type(s): Journal Article

H-classic: a new method to identify classic articles in Implant Dentistry, Periodontics, and Oral Surgery.

Author(s): De la Flor-Martínez, Maria; Galindo-Moreno, Pablo; Sánchez-Fernández, Elena; Piattelli, Adriano; Cobo, Manuel Jesus; Herrera-Viedma, Enrique

Source: Clinical oral implants research; Oct 2016; vol. 27 (no. 10); p. 1317-1330

Abstract: The study of classic papers permits analysis of the past, present, and future of a specific area of knowledge. This type of analysis is becoming more frequent and more sophisticated. Our objective was to use the H-classics method, based on the h-index, to analyze classic papers in Implant Dentistry, Periodontics, and Oral Surgery (ID, P, and OS). First, an electronic search of documents related to ID, P, and OS was conducted in journals indexed in Journal Citation Reports (JCR) 2014 within the category 'Dentistry, Oral Surgery & Medicine'. Second, Web of Knowledge databases were searched using Mesh terms related to ID, P, and OS. Finally, the H-classics method was applied to select the classic articles in these disciplines, collecting data on associated research areas, document type, country, institutions, and authors. Of 267,611 documents related to ID, P, and OS retrieved from JCR journals (2014), 248 were selected as H-classics. They were published in 35 journals between 1953 and 2009, most frequently in the Journal of Clinical Periodontology (18.95%), the Journal of Periodontology (18.54%), International Journal of Oral and Maxillofacial Implants (9.27%), and Clinical Oral Implant Research (6.04%). These classic articles derived from the USA in 49.59% of cases and from Europe in 47.58%, while the most frequent host institution was the University of Gothenburg (17.74%) and the most frequent authors were J. Lindhe (10.48%) and S. Socransky (8.06%). The H-classics approach offers an objective method to identify core knowledge in clinical disciplines such as ID, P, and OS. © 2016 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd.

Biologic and clinical aspects of integration of different bone substitutes in oral surgery: a literature review.

Author(s): Zizzari, Vincenzo Luca; Zara, Susi; Tetè, Giulia; Vinci, Raffaele; Gherlone, Enrico; Cataldi, Amelia

Source: Oral Surgery, Oral Medicine, Oral Pathology & Oral Radiology; Oct 2016; vol. 122 (no. 4); p. 392-402

Publication Type(s): Academic Journal

Abstract: Many bone substitutes have been proposed for bone regeneration, and researchers have focused on the interactions occurring between grafts and host tissue, as the biologic response of host tissue is related to the origin of the biomaterial. Bone substitutes used in oral and maxillofacial surgery could be categorized according to their biologic origin and source as autologous bone graft when obtained from the same individual receiving the graft; homologous bone graft, or allograft, when harvested from an individual other than the one receiving the graft; animal-derived heterologous bone graft, or xenograft, when derived from a species other than human; and alloplastic graft, made of bone substitute of synthetic origin. The aim of this review is to describe the most commonly used bone substitutes, according to their origin, and to focus on the biologic events that ultimately lead to the integration of a biomaterial with the host tissue.

Bisphosphonate-related osteonecrosis of the jaw

Efficacy of the C-terminal telopeptide test in predicting the development of bisphosphonate-related osteonecrosis of the jaw: A systematic review

Author(s): Dal Pra K.J.; Soubhia A.M.P.; Lemos C.A.A.; Pellizzer E.P.; Okamoto R.

Source: International Journal of Oral and Maxillofacial Surgery; 2016

Publication Type(s): Journal: Article In Press

Abstract: This systematic review evaluated the efficacy of the morning fasting serum C-terminal telopeptide (CTX) test in predicting the development of bisphosphonate-related osteonecrosis of the jaw (BRONJ). A comprehensive search of studies published up to March 2016, and listed in the PubMed/MEDLINE, Web of Science, and Cochrane Library databases, was performed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. This review has been registered in the PROSPERO international prospective register of systematic reviews (CRD42016036717). The search identified 542 publications; eight studies were finally deemed eligible for inclusion according to the study criteria. These studies included a total 1442 patients (mean age 66.7 years). The most prescribed drug was alendronate, with osteoporosis being the most frequent indication for the prescription of bisphosphonates. Tooth extraction was the most common trigger for BRONJ. Of all patients evaluated after bisphosphonate treatment, only 24 (1.7%) developed BRONJ. All eight of the selected studies found that CTX levels were not predictive of the development of BRONJ. In conclusion, this systematic review indicates that the CTX test has no predictive value in determining the risk of osteonecrosis in patients taking bisphosphonates. Copyright © 2016 International Association of Oral and Maxillofacial Surgeons.

Severe compromise of preosteoblasts in a surgical mouse model of bisphosphonate-associated osteonecrosis of the jaw

Author(s): Cordova L.A.; Guilbaud F.; Amiaud J.; Battaglia S.; Charrier C.; Lezot F.; Redini F.;

Source: Journal of Cranio-Maxillofacial Surgery; 2016; vol. 44 (no. 9); p. 1387-1394

Publication Type(s): Journal: Article

Abstract: Objectives The effect of amino-bisphosphonates on osteoblastic lineage and its potential contribution to the pathogenesis of bisphosphonate-associated osteonecrosis of the jaw (BONJ) remain controversial. We assessed the effects of zoledronic acid (ZOL) on bone and vascular cells of the alveolar socket using a mouse model of BONJ. Material and methods Thirty-two mice were treated twice a week with either 100 mug/kg of ZOL or saline for 12 weeks. The first left maxillary molar was extracted at the third week. Alveolar sockets were assessed at both 3 weeks (intermediate) and 9 weeks (long-term) after molar extraction by semi-quantitative histomorphometry for empty lacunae, preosteoblasts (Osterix), osteoclasts (TRAP), and pericyte-like cells (CD146). Also, the bone microarchitecture was assessed by micro-CT. Results Osteonecrotic-like lesions were observed in 21% of mice. Moreover, a decreased number of preosteoblasts contrasted with the increased number of osteoclasts at both time points. In addition, osteoclasts display multinucleation and detachment from the endosteal surface. Furthermore, the number of pericyte-like cells increased at the intermediate time point. The alveolar bone mass increased exclusively with long-term ZOL treatment. Conclusion The severe imbalance between bone-forming cells and bone-resorbing cells shown in this study could contribute to the pathogenesis of BONJ. Copyright © 2016 European Association for Cranio-Maxillo-Facial Surgery

IL-36 Induces Bisphosphonate-Related Osteonecrosis of the Jaw-Like Lesions in Mice by Inhibiting TGF-beta-Mediated Collagen Expression

Author(s): Kim S.; Williams D.W.; Lee C.; Kim T.; Arai A.; Shin K.-H.; Kang M.K.; Park N.-H.; Kim R.H.

Source: Journal of Bone and Mineral Research; 2016

Publication Type(s): Journal: Article In Press

Abstract: Long-term administration of nitrogen-containing bisphosphonates can induce detrimental side effects such as bisphosphonate-related osteonecrosis of the jaw (BRONJ) in human. Although inflammation is known to be associated with BRONJ development, the detailed underlying mechanism remains unknown. Here, we report that the pro-inflammatory cytokine IL-36alpha is, in part, responsible for the BRONJ development. We found a notably higher level of IL-36alpha and lower level of collagen in the BRONJ lesions in mice. We also found that IL-36alpha remarkably suppressed TGF-beta-mediated expression of Collalpha1 and alpha-Sma via the activation of Erk signaling pathway in mouse gingival mesenchymal stem cells. When IL-36 signaling was abrogated in vivo, development of BRONJ lesions was ameliorated in mice. Taken together, we showed the pathologic role of IL-36alpha in BRONJ development by inhibiting collagen expression and demonstrated that IL-36alpha could be a potential marker and a therapeutic target for the prevention and treatment of BRONJ. Copyright © 2016 American Society for Bone and Mineral Research.

Conditionally pathogenic microorganisms in patients with bisphosphonate jaw osteonecrosis

Author(s): Ivanyushko T.P.; Polyakov K.A.; Medvedev Y.A.; Shamanaev S.V.; Trofimov D.Y.;

Source: Stomatologiya; 2016; vol. 95 (no. 1); p. 44-48

Publication Type(s): Journal: Article

Abstract:The objective of the study was to define treatment strategy in cases of facial bones bisphosphonate induced osteonecrosis based on the study of the role of conditionally pathogenic oral microorganisms. Three typical clinical cases of bisphosphonate osteonecrosis of the facial bones were analyzed and 15 conditionally pathogenic oral microorganisms were identified in these patients using real-time PCR in saliva, wound and bone samples. A comparative analysis was carried out with purulent-inflammatory diseases of maxillofacial area. The study results proved an important role of conditionally pathogenic microorganisms of the oral cavity in the development of osteonecrosis of the facial bones. Wide range of bacterial species was identified in osteonecrosis of the facial bones patients. While bone tissue is most exposed to microbial communities, surgical treatment results in effective rehabilitation for a long period.

Perceptions of medical doctors on bisphosphonate-related osteonecrosis of the jaw.

Author(s): Kim, Jin-Woo; Jeong, Su-Ra; Kim, Sun-Jong; Kim, YeonSoo

Source: BMC oral health; 2016; vol. 16 (no. 1); p. 92

Publication Type(s): Journal Article

Abstract:This study aimed to investigate medical doctors' awareness of bisphosphonate-related osteonecrosis of the jaw (BRONJ) and the status of dental referrals. Self-administered questionnaires were distributed to medical doctors practicing internal medicine, family medicine, and orthopedics at the 6 tertiary medical centers located in Seoul, Korea. The survey consisted of 22 questions regarding the general characteristics, bisphosphonate therapy, awareness of BRONJ, and implementation of dental referrals. Among 192 medical doctors, 21.9 % had not heard of the disease. Only 8.9 % correctly answered all 5 questions testing BRONJ knowledge. Dental referrals made by medical doctors were implemented in less than 30 % of the total patients. Oncology specialists most often recognized the necessity of dental referrals followed in decreasing order by endocrinology, rheumatology, family medicine, and orthopedic specialists. Given medical doctors' low BRONJ perception and implementation level of dental referrals, enhancing information dissemination on BRONJ and development of a highly accessible educational program recognizing the need for dental referrals are urgent.

Bisphosphonate-related osteonecrosis of the jaw: from the sine qua non condition of bone exposure to a non-exposed BRONJ entity.

Author(s): Koth, Valesca Sander; Figueiredo, Maria Antonia; Salum, Fernanda Gonçalves

Source: Dento maxillo facial radiology; 2016; vol. 45 (no. 7); p. 20160049

Publication Type(s): Journal Article

Abstract:The present work aimed to review the literature focusing on the diagnostic criteria for bisphosphonate-related osteonecrosis of the jaw (BRONJ) and its implications regarding the management of the disease. Since the report of the first cases, BRONJ concepts, diagnostic criteria and guidelines have been changed. The presence of bone exposure in the oral cavity was at first a sine qua non condition for diagnosis. However, it seems that the great concern now is the possibility of occurrence of BRONJ without this feature. Some authors warn that the bone exposure criterion leads to late diagnosis and poor response to treatment. Meanwhile, some radiographic features, such as bone sclerosis, have been postulated as early signs of the disease. Criticisms have also been raised about the clinical staging system of BRONJ. While there is no consensus on the subject, common sense recommends treating symptomatic patients taking bisphosphonate as having BRONJ despite the absence of bone exposure; and asymptomatic patients must be kept under dental follow-up, since all of them are at risk for BRONJ.

Photodynamically dealing with bisphosphonate-related osteonecrosis of the jaw: Successful case reports

Author(s): de Castro M.S.; Ribeiro N.V.; de Carli M.L.; Hanemann J.A.C.; Pereira A.A.C.; Sperandio F.F.

Source: Photodiagnosis and Photodynamic Therapy; Dec 2016; vol. 16 ; p. 72-75

Publication Type(s): Journal: Article

Bisphosphonate-related osteonecrosis of the jaw in metastatic breast cancer patients: a review of 25 cases.

Author(s): Kim, Hong-Joon; Park, Tae-Jun; Ahn, Kang-Min

Source: Maxillofacial plastic and reconstructive surgery; Dec 2016; vol. 38 (no. 1); p. 6

Publication Type(s): Journal Article

Abstract: Intravenous bisphosphonates have been used in metastatic breast cancer patients to reduce pathologic bone fracture and bone pain. However, necrosis of the jaw has been reported in those who received intravenous bisphosphonates. Bisphosphonate-related osteonecrosis of the jaw (BRONJ) is caused by dental extraction, dental implant surgery, and denture wearing; however, it occurs spontaneously. The purpose of this study was to report BRONJ in metastatic breast cancer patients. Consecutive 25 female patients were referred from the Department of Oncology from 2008 to 2014 for jaw bone discomfort. Staging of breast cancer, history of bisphosphonate infusion, etiology of BRONJ, and treatment results were reviewed. Average age of the patients was 55.4 years old (38-74). Twelve maxillae and 16 mandibles were involved. Conservative treatments such as irrigation, antibiotic medication, analgesics, and oral gargle were applied for all patients for the initial treatment. Patients who had sequestrum underwent debridement and primary closure. The etiologies of BRONJ were dental extraction (19 cases), dental implant (2 cases), and endodontic treatment (1 case). However, three patients did not have any risk factors to cause BRONJ. Three patients died of progression of metastasis during follow-up periods. Surgical debridement was performed in 21 patients with success in 18 patients. Three patients showed recurred bone exposure and infection after operation. Prevention of the BRONJ is critical in metastatic breast cancer patients. Conservative treatment to reduce pain, discomfort, and infection is recommended for the initial therapy. However, if there is a sequestrum, surgical debridement and primary closure is the key to treat the BRONJ.

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

Source: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Dec 2016

Publication Type(s): Journal Article

Abstract: To identify the risk factors associated with relapse or treatment failure after surgery for bisphosphonate-related osteonecrosis of the jaw (BRONJ) in patients with osteoporosis. We performed a retrospective cohort study of BRONJ in patients with osteoporosis who had undergone surgical procedures from 2004 to 2016 at the Department of Oral and Maxillofacial Surgery, Seoul National University Dental Hospital. The predictor variables were a set of heterogeneous variables, including demographic (age, gender), anatomic (maxilla or mandible, or both, affected location),

clinical (disease stage, etiology, comorbidities, history of intravenous bisphosphonate intake), time (conservative treatment before surgery, bisphosphonate treatment before the development of BRONJ, discontinuation of the drug before surgery, interval to final follow-up, interval to reoperation in the case of relapse or treatment failure), and perioperative variables (type of anesthesia, type of surgical procedures). The primary outcome variable was relapse after surgery that required reoperation (yes vs no). The descriptive and bivariate statistics were computed to assess the relationships between the study variables and the outcome. To determine the risk factors, we conducted a survival analysis using the Cox model. The final sample included 325 subjects with a median age of 75 years, and 97% were women. After surgery, 30% of patients did not completely recuperate and underwent repeat surgery. The interval from the first surgery to reoperation ranged from 10 days to 5.6 years. Relapse or treatment failure most often occurred immediately after surgery. The type of surgical procedure and mode of anesthesia were the most important factors in the treatment outcome. A drug holiday did not appear to influence the likelihood of relapse after surgery. Treatment of BRONJ in patients with osteoporosis might benefit from more careful and extensive surgical procedures rather than curettage performed with the patient under local anesthesia. Copyright © 2016. Published by Elsevier Inc.

Role of microcracks in the pathogenesis of bisphosphonate-related osteonecrosis of the jaw.

Author(s): Kim, Jin-Woo; Landayan, Maria Erika A; Lee, Ju-Young; Tatad, Jacqueline Czar I

Source: Clinical oral investigations; Nov 2016; vol. 20 (no. 8); p. 2251-2258

Publication Type(s): Journal Article

Abstract: The aim of this study was to investigate the potential role of microcrack accumulation in the pathogenesis of bisphosphonate-related osteonecrosis of the jaw (ONJ) through an animal model. Twenty-four ovariectomized rats were randomly divided into a bisphosphonate group (n = 19) and control group (n = 5) and weekly injected with zoledronic acid and normal saline, respectively. After 6 weeks, surgical intervention was performed, and the injections were continued for eight additional weeks. Then, the animals were sacrificed, and ONJ lesions were inspected for the presence of microcracks using scanning electron microscopy. Measurements included bone dimension, number of cracks, crack length, and normalized indices; crack density (Cr.Dn) and crack surface density (Cr.S.Dn) were used for group comparison. Both number of cracks and crack length in the bisphosphonate group were greater than those in the control group ($P < 0.05$). Of the 19 rats injected with bisphosphonates, 13 rats (68.4 %) were classified into the ONJ group. Cr.Dn and Cr.S.Dn were significantly greater in the ONJ group than in the non-ONJ group, indicating accumulation of unrepaired microcracks ($P < 0.05$). Seventy-two percent of microcracks in the ONJ group conformed to the defined length that was considered significant according to a previous literature (30-80 μm); whereas 12 % of microcracks in the non-ONJ group were considered significant ($P < 0.05$). Accumulation of unrepaired microcracks was significantly associated with the development of bisphosphonate-related ONJ. Further research is required to determine the role of microcracks in the pathogenesis of bisphosphonate-related ONJ. Long-term bisphosphonates use may deteriorate the biomechanical and physiological bone integrity, contributing to the pathogenesis of bisphosphonate-related ONJ.

Preexisting Periapical Inflammatory Condition Exacerbates Tooth Extraction-induced Bisphosphonate-related Osteonecrosis of the Jaw Lesions in Mice.

Author(s): Song, Minju; Alshaikh, Abdullah; Kim, Terresa; Kim, Sol; Dang, Michelle

Source: Journal of endodontics; Nov 2016; vol. 42 (no. 11); p. 1641-1646

Publication Type(s): Journal Article

Abstract: Surgical interventions such as tooth extraction increase the chances of developing osteonecrosis of the jaw in patients receiving bisphosphonates (BPs) for the treatment of bone-related diseases. Tooth extraction is often performed to eliminate preexisting pathological inflammatory conditions that make the tooth unsalvageable; however, the role of such conditions on bisphosphonate-related osteonecrosis of the jaw (BRONJ) development after tooth extraction is not clearly defined. Here, we examined the effects of periapical periodontitis on tooth extraction-induced BRONJ development in mice. Periapical periodontitis was induced by exposing the pulp of the maxillary first molar for 3 weeks in C57/BL6 mice that were intravenously administered with BPs. The same tooth was extracted, and after an 3 additional weeks, the mice were harvested for histologic, histomorphometric, and histochemical staining analyses. Pulp exposure induced periapical radiolucency as shown by increased inflammatory cells, tartrate-resistant acid phosphatase-positive osteoclasts, and bone resorption. When BPs were administered, pulp exposure did not induce apical bone resorption despite the presence of inflammatory cells and tartrate-resistant acid phosphatase-positive osteoclasts. Although tooth extraction alone induced BRONJ lesions, pulp exposure further increased tooth extraction-induced BRONJ development as shown by the presence of more bone necrosis. Our study demonstrates that a preexisting pathological inflammatory condition such as periapical periodontitis is a predisposing factor that may exacerbate BRONJ development after tooth extraction. Our study further provides a clinical implication wherein periapical periodontitis should be controlled before performing tooth extraction in BP users in order to reduce the risk of developing BRONJ. Copyright © 2016 American Association of Endodontists. Published by Elsevier Inc. All rights reserved.

The starting point for bisphosphonate-related osteonecrosis of the jaw: Alveolar bone or oral mucosa? A randomized, controlled experimental study

Author(s): Zandi M.; Janbaz P.; Malekzadeh H.; Dehghan A.; Amini P.

Source: Journal of Cranio-Maxillofacial Surgery; Oct 2016

Publication Type(s): Journal: Article In Press

Abstract: Objective: Although over a decade has passed since first introduction of BRONJ, the exact pathophysiology of this disease is still unclear. The present experimental study aimed to determine whether the oral mucosa or alveolar bone serves as the starting point for BRONJ development. Subjects and methods: Sixty male Wistar rats were randomly assigned into study and control groups (each, n = 30), and received intraperitoneal injection of 0.06 mg/kg zoledronate and saline, respectively, once a week for 12 weeks. At the end of the week 4 of the experiment, all 60 rats underwent unilateral mandibular first molar extraction. A 4 mm defect was made in the contralateral canine alveolar mucosa. At the end of the experiment, rats were sacrificed, and the three areas of interest including extraction, soft tissue defect, and the non-intervention (canine area on the same side of extraction) sites were assessed clinically for presence of bone exposure/fistula, and histologically for status of bone remodeling (only at extraction site) and osteonecrosis. Results: In the study group, the frequency of bone exposure/fistula was 80%, 0%, and 0%; and the rate of histological bone necrosis was 83.3%, 20%, and 0%; at the extraction, soft tissue defect, and non-intervention sites, respectively. No clinical and histological sign of bone necrosis was found in the control group. Normal bone remodeling was observed in 0% and 100% of the extraction sockets in the study and control groups, respectively. Conclusion: Injury to alveolar bone was a stronger trigger for BRONJ development compared to oral mucosal damages. Copyright © 2016 European Association for Cranio-Maxillo-Facial Surgery.

Reconstruction of a mandibular defect after bisphosphonate-related osteonecrosis of the jaw

Author(s): Guo Y.-X.; Misra G.; Guo C.-B.; An J.-G.

Source: British Journal of Oral and Maxillofacial Surgery; Oct 2016; vol. 54 (no. 8); p. 962-964

Publication Type(s): Journal: Article

Abstract:We describe the reconstruction of a mandible damaged by bisphosphonate-related osteonecrosis of the jaw (BRONJ) using the simple and safe combination of a reconstruction plate and patching with a submandibular gland. Copyright © 2016 The British Association of Oral and Maxillofacial Surgeons

Search for a reliable model for bisphosphonate-related osteonecrosis of the jaw: establishment of a model in pigs and description of its histomorphometric characteristics

Author(s): Mitsimponas K.T.; Moest T.; Iliopoulos C.; Rueger T.; Mueller C.; Lutz R.; Neukam F.W.

Source: British Journal of Oral and Maxillofacial Surgery; Oct 2016; vol. 54 (no. 8); p. 883-888

Publication Type(s): Journal: Article

Abstract:The pathogenesis of bisphosphonate-related osteonecrosis of the jaw (BRONJ) remains unknown, and the development of a reliable experimental model would help to improve our understanding of it. We used 12 domestic pigs of which 6 made up the experimental group and were treated with zoledronate 4 mg intravenously weekly for 5 weeks, while the control group (n = 6) were given no drugs. On day 60 the right second maxillary and mandibular third molars were extracted. Thirty days later 3 animals in each group were killed; the rest were killed 90 days later. Histopathological specimens from the extraction sites were analysed for bone density, collagen architecture, density of osteons, and the amount of non-mineralised bone. Bone density, amount of non-mineralised bone, and density of osteons differed significantly between the 2 groups ($p < 0.001$ in each case), but the chromatic pattern dictated by the collagen architecture did not. Our results correspond to the observations that have been made in patients with BRONJ, which means that the histomorphometric conditions seen in patients can be reproduced in this experimental setting. Copyright © 2016 The British Association of Oral and Maxillofacial Surgeons

Association of atypical femoral fracture and osteonecrosis of the jaw in bisphosphonate users

Author(s): Correa-Perez A.; Sanchez-Castellano C.; Lozano-Montoya I.; Cruz-Jentoft A.

Source: European Geriatric Medicine; Oct 2016; vol. 7

Publication Type(s): Journal: Conference Abstract

Abstract:Introduction: Treatment with bisphosphonates is associated with two serious adverse drug reactions (ADRs): atypical femoral fracture (AFF) and osteonecrosis of the jaw (OJ). Both complications in the same patient are unusual. Our purpose is to describe some cases of patients diagnosed with AFF and OJ after bisphosphonates treatment and to estimate the prevalence of these ADRs in the population treated with bisphosphonates attending our hospital between 2011 and 2015. Methods: A retrospective search of patients was conducted by combining the terms (in Spanish): atypical fracture, diaphysary fracture, external cortical fracture, femur, jaw, maxilar, osteonecrosis, biphosphonates. In order to make an estimation of the prevalence of both ADRs, the number of patients on bisphosphonates from the hospital catchment area was obtained from the Madrid health authority database. Results: Four women were diagnosed with AFF (mean age 68.3). One of them (25%) had AFF in both femurs. Two of them (50%) were also diagnosed with OJ, whose diagnoses of both conditions were separated by a few days. A fifth patient was diagnosed with OJ

and swollen cortical subcapital fracture (not declared as atypical) of the femur. Out of the total number of patients treated with bisphosphonates (13,666), a prevalence of 0.029% was estimated for AFF and of 0.39% for OJ. Prevalence of both concomitant ADRs was 0.014%. Conclusions: Half of the patients treated with bisphosphonates diagnosed with AFF also presented OJ. Despite the prevalence of AFF and OJ being very low, they are very serious ADRs. Whenever patients are diagnosed with one of these conditions, it seems wise to discontinue bisphosphonate treatment and to start a close follow-up.

Immune cellular profile of bisphosphonate-related osteonecrosis of the jaw

Author(s): de Barros Silva P.G.; de Oliveira C.C.; Sousa F.B.; Mota M.R.L.; Alves A.P.N.N.;

Source: Oral Diseases; Oct 2016; vol. 22 (no. 7); p. 649-657

Publication Type(s): Journal: Article

Abstract: Objectives: Characterize the cell profile and immunostaining of proinflammatory markers in an experimental model of bisphosphonate-related osteonecrosis of the jaw (BRONJ). Materials and Methods: Male Wistar rats (n = 6-7) were treated chronically with saline solution or zoledronic acid (ZA) at 0.04, 0.20, and 1.00 mg kg⁻¹ (1.4 x 10⁻⁷, 6.9 x 10⁻⁶, and 3.4 x 10⁻⁵ mol kg⁻¹), and subsequently, the first left inferior molar was extracted. Were performed counting of viable and empty osteocyte lacunae, viable and apoptotic osteoclasts, polymorphonuclear neutrophil, mast cells (toluidine blue), and the positive presence cells for CD68, tumor necrosis factor-alpha (TNF-alpha), IL (interleukin)-1beta, inducible nitric oxide synthase (iNOS), nuclear factor-kappa B (NF-kB) and IL-18 binding protein (IL-18 bp). Results: BRONJ was showed in ZA treated with 0.20 and 1.00 mg kg⁻¹. There is a dose dependent increase in percentage of empty osteocyte lacunae (P < 0.001) and apoptotic osteoclasts (P < 0.001), counting of total osteoclasts (P = 0.003), polymorphonuclear neutrophil cells (P = 0.009), cytoplasmic-positive cells of CD68 (P < 0.001), TNF-alpha (P = 0.001), IL-1beta (P = 0.001), iNOS (P < 0.001), NF-kB (P = 0.006), and nuclear-positive cells of NF-kB (P = 0.011). Consequently, there is no difference in mast cells (P = 0.957), and IL-18 bp immunostaining decreases dose dependently (P = 0.005). Conclusions: BRONJ is characterized by increases in immunostaining for proinflammatory markers and NF-kB and inversely associated with cells exhibiting IL-18 bp. Copyright © 2016 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd

Histochemical observation of bony reversal lines in bisphosphonate-related osteonecrosis of the jaw.

Author(s): Kim, Soung Min; Eo, Mi Young; Kim, Yeon Sook; Lee, Suk Keun

Source: Oral surgery, oral medicine, oral pathology and oral radiology; Oct 2016

Publication Type(s): Journal Article

Abstract: To contrast the pattern of bony reversal lines in bisphosphonate osteonecrosis of the jaw with infected osteomyelitis derived acute osteonecrosis of the jaw. This study investigated the histochemical characteristics of reversal lines in 50 cases of BP-related osteonecrosis of the jaw (BRONJ) compared with non-BP-involved bones in 20 cases of chronic osteomyelitis of the jaws. Necrotic bones were stained by using the toluidine blue, Safranin O, Giemsa, van Gieson, and Masson's trichrome staining methods. All BP-involved bones in BRONJ were distinguishable from non-BP-involved bones in chronic osteomyelitis of the jaws by multiple thick, irregular, reversal lines, which were strongly stained with toluidine blue, Safranin O, and Giemsa solution. The reversal lines of BP-involved bones (average 31.2 ± 10.85 µm) were thicker than those of osteomyelitic bones (average 11.1 ± 3.76 µm), and they were closely associated with immature bony matrices containing collagenous materials positive for van Gieson and Masson's trichrome staining with statistical

significance ($P = .0212$ in t test statistics). The immature reversal lines of BP-involved bones continuously appeared as thick non-birefringence lines between lamellate structures as observed under a polarizing microscope, whereas the reversal lines of non-BP-involved bones were gradually thinned as their mineralization advanced. BP-involved bones had immature bony matrices outlined by thick reversal lines, which might be crucial to rapid osteonecrosis of BRONJ and also could be hallmarks for the differential diagnosis of BRONJ from chronic osteomyelitis of the jaws.
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Bisphosphonate-Related Osteonecrosis of the Jaw.

Author(s): Yarom, Noam; Goss, Alastair; Lazarovici, Towy Sorel; Elad, Sharon

Source: Journal of the American Dental Association (1939); Oct 2016; vol. 147 (no. 10); p. 776-777

Publication Type(s): Letter

Uncertainty of Current Algorithm for Bisphosphonate-related Osteonecrosis of the Jaw in Population-based Studies: A Systematic Review.

Author(s): Kim, Hye-Yeon; Kim, Jin-Woo; Kim, Sun-Jong; Lee, Sang-Hwa; Lee, Hong-Soo

Source: Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research; Oct 2016

Publication Type(s): Journal Article

Abstract: To assess the relevance of previous epidemiologic studies on bisphosphonate-related osteonecrosis of the jaw (BRONJ), we first conducted a systematic review of large population-based observational studies, and evaluated the validity of claims-based algorithms for the identification of BRONJ. Studies containing primary observational epidemiologic data regarding bisphosphonate exposure and outcomes of osteonecrosis of the jaw were systematically reviewed. Using surrogates for identifying potential BRONJ cases from a population-based hospital registry, validation was performed through medical chart review. Positive predictive value (PPV) was estimated for each diagnostic code, and for the overall algorithm utilized. Various strategies to increase PPV were also performed. Seventeen studies were systematically reviewed and presented with variations in study quality as well as inconsistent findings. Moreover, there was a high level of methodological heterogeneity. A total of 1,920 patients were identified through the ICD-10 algorithm with potential BRONJ, though only 109 cases were confirmed, corresponding to an overall PPV of 5.68% (95% CI, 4.68-6.81). Only K10.2 (inflammatory conditions of the jaw) exhibited a relatively high PPV of 26.18%, which increased to 74.47% after confinement to BP users. Other strategies to increase PPV value were not effective. Our findings showed that the overall PPV for BRONJ identification was very low, indicating low validity of the current algorithm and possible overestimation of ONJ occurrence. There is an urgent need to develop more reliable and specific operational definitions for the identification of BRONJ cases in large population databases. This article is protected by copyright. All rights reserved. This article is protected by copyright. All rights reserved.

Maxillofacial

Clinical Pathway Implementation Improves Efficiency of Care in a Maxillofacial Head and Neck Surgery Unit.

Author(s): Yetzer, Jacob G.; Pirgousis, Phillip; Li, Zhuo; Fernandes, Rui

Source: Journal of Oral & Maxillofacial Surgery (02782391); Jan 2017; vol. 75 (no. 1); p. 190-196

Publication Type(s): Academic Journal

Abstract: Purpose: Clinical pathways have become an important and simple method of improving patient outcomes and decreasing health care resource usage. The purpose of this study was to evaluate early outcomes associated with the implementation of a clinical pathway in a maxillofacial head and neck surgery unit. Materials and Methods: This investigation is a retrospective cohort study of patients who underwent microvascular reconstruction of the head and neck from January 1, 2014 through December 31, 2014. Continuous variables were compared among 4 groups using analysis of variance or Kruskal-Wallis test, and categorical variables were compared using χ^2 test or Fisher exact test where appropriate. The primary predictor variable was use of the clinical pathway. Groups included patients treated by surgeon A during periods before and after implementation of a postoperative clinical pathway. Two groups treated by surgeon B also were evaluated during the same periods and served as external controls. Each period covered a span of 6 months. Outcome variables across groups were evaluated, including length-of-stay metrics, infection rates, transfers to the intensive care unit, and unplanned return to the operating room. Results: Sixty-six patients who underwent microvascular head and neck reconstruction were included. There was a significant decrease in the average length of stay ($P = .0364$) and an increase in the rate of discharge within 7 days ($P = .0416$) in the group treated with the clinical pathway. Other outcomes, including infection rate, transfer to the intensive care unit, and unanticipated return to the operating room, showed no relevant difference among groups. Conclusions: The results of this study suggest that implementation of a clinical pathway can be beneficial for efficient management of postoperative care in the setting of microvascular head and neck reconstruction. More predictable and shorter lengths of stay are achievable and the clinical pathway serves as a valuable means of improving communication of the clinical care team.

Use of platelet concentrates in oral and maxillofacial surgery: an overview.

Author(s): Mihaylova, Zornitsa; Mitev, Vanyo; Stanimirov, Pavel; Isaeva, Antonia; Gateva, Natalia; Ishkitiev, Nikolay

Source: Acta odontologica Scandinavica; Jan 2017; vol. 75 (no. 1); p. 1-11

Publication Type(s): Journal Article

Abstract: To describe and provide a comprehensive overview on the development, use and efficacy of autologous platelet concentrates in different in vitro and in vivo studies focusing on oral and maxillofacial pathologies. Present work employs an extensive critical overview of the literature on the development and application of platelet concentrates. Platelet concentrates are innovative endogenous therapeutic agents which gained a lot of interest in different medical and dental disciplines due to their potential ability to stimulate and increase regeneration of soft and hard tissues. The effect of platelet-derived products is considered to be a result of the high number of platelets which contain a wide range of growth factors. They are not just therapeutic products but autologous blood concentrates containing active molecules. The quality of platelet concentrates may vary according to the individual physical state of donors making it difficult to compare the

outcomes of their application. Although, there are many studies analyzing the properties of these biomaterials both in vivo and in vitro, a consensus regarding their efficacy still has to be reached. Evidences described in the literature on the efficacy of platelet concentrates in procedures in oral and maxillofacial region are controversial and limited. In order to clarify the real advantages and priorities for the patients, when the blood-derived products are applied, further in vitro and in vivo research about the activity of PRP and PRF on the dental cells biology should be conducted.

Venous thromboembolism after oral and maxillofacial oncologic surgery: Report and analysis of 14 cases in Chinese population.

Author(s): Wang, Y; Liu, J; Yin, X; Hu, J; Kalfarentzos, E; Zhang, C; Xu, L

Source: Medicina oral, patologia oral y cirugia bucal; Jan 2017; vol. 22 (no. 1); p. e115

Publication Type(s): Journal Article

Abstract: Venous thromboembolism (VTE) including deep vein thrombosis (DVT) and pulmonary embolism (PE) is a leading cause of death in cancer patients. The aim of this study was to explore the potential risk factor of VTE in oral and maxillofacial oncological surgery. The data of patients who received operation in our institution were gathered in this retrospective study. A diagnosis of VTE was screened and confirmed by computer tomography angiography (CTA) of pulmonary artery or ultrasonography examination of lower extremity. Medical history and all perioperative details were analyzed. 14 patients were diagnosed as VTE, including 6 cases of PE, 7 cases of DVT, 1 case of DVT and PE. The mean age of these patients was 62.07 years. Reconstruction was performed in 12 patients of these cases, most of which were diagnosed as malignance. Mean length of surgery was 8.74 hours, and lower extremity deep venous cannula (DVC) was performed in all these patients. We analyzed several characters of oral and maxillofacial surgery and suggested pay attention to lower extremity DVC which had a high correlation with DVT according to our data.

Benefit of Leukocyte- and Platelet-Rich Plasma in Operative Wound Closure in Oral and Maxillofacial Surgery.

Author(s): Cieřlik-Bielecka, Agata; Glik, Justyna; Skowroński, Rafał; Bielecki, Tomasz

Source: BioMed Research International; Dec 2016 ; p. 1-5

Publication Type(s): Academic Journal

Botulinum toxin related research in maxillofacial plastic and reconstructive surgery.

Author(s): Kwon, Tae-Geon

Source: Maxillofacial plastic and reconstructive surgery; Dec 2016; vol. 38 (no. 1); p. 34

Publication Type(s): Editorial

Application of preoperative registration and automatic tracking technique for image-guided maxillofacial surgery.

Author(s): Zhang, Wenbin; Wang, Xudong; Zhang, Jianfei; Shen, Guofang

Source: Computer assisted surgery (Abingdon, England); Dec 2016; vol. 21 (no. 1); p. 137-142

Publication Type(s): Journal Article

Abstract:To investigate the practicality of preoperative registration technique in navigational surgery of facial skeleton. Five cases were underwent navigational surgery with the preoperative registration technique. The accuracy of registration process was determined, and the deviation between planning model and postoperative computed tomography (CT) model was detected. In each case, the preoperative registration was successful for navigational surgery. Preoperative registration and automatic tracking enabled registration free in the operation procedure. The registration precision measured by the system was less than 0.8 mm. The deviation between the intraoperative anatomy and the CT image was less than 1.5 mm. Preoperative registration technique demonstrates the potential for improved workflow and accuracy in navigational surgery procedures. This technique was found to be particularly advantageous in cases of mandible navigational surgery in which the dynamic reference frame's hard to be fixed.

Modified Heavy Wire Twister as an Efficient Screw Holder and Screw Driver in Maxillofacial Surgery.

Author(s): Pandurangan, Harikrishnan; Ilangovan, Madivanan

Source: The Journal of craniofacial surgery; Dec 2016

Publication Type(s): Journal Article

Gene Therapy for Bone Defects in Oral and Maxillofacial Surgery: A Systematic Review and Meta-Analysis of Animal Studies.

Author(s): Fliefel, Riham; Kühnisch, Jan; Ehrenfeld, Michael; Otto, Sven

Source: Stem cells and development; Dec 2016

Publication Type(s): Journal Article

Abstract:Craniofacial bone defects are challenging problems for maxillofacial surgeons over the years. With the development of cell and molecular biology, gene therapy is a breaking new technology with the aim of regenerating tissues by acting as a delivery system for therapeutic genes in the craniofacial region rather than treating genetic disorders. A systematic review was conducted summarizing the articles reporting gene therapy in maxillofacial surgery to answer the question: Was gene therapy successfully applied to regenerate bone in the maxillofacial region? Electronic searching of online databases was performed in addition to hand searching of the references of included articles. No language or time restrictions were enforced. Meta-analysis was done to assess significant bone formation after delivery of gene material in the surgically induced maxillofacial defects. The search identified 2081 articles, of which 57 were included with 1726 animals. Bone morphogenetic proteins were commonly used proteins for gene therapy. Viral vectors were the universally used vectors. Sprague-Dawley rats were the frequently used animal model in experimental studies. The quality of the articles ranged from excellent to average. Meta-analysis results performed on 21 articles showed that defects favored bone formation by gene therapy. Funnel plot showed symmetry with the absence of publication bias. Gene therapy is on the top list of innovative strategies that developed in the last 10 years with the hope of developing a simple chair-side protocol in the near future, combining improvement of gene delivery as well as knowledge of the molecular basis of oral and maxillofacial structures.

Molecular, Cellular and Pharmaceutical Aspects of Biomaterials in Dentistry and Oral and Maxillofacial Surgery. An Internationalization of Higher Education and Research Perspective.

Author(s): Wisniewska, Lidia M; Ehrenfest, David M Dohan; Galindo-Moreno, Pablo; Segovia, Jesús Domingo; Inchingolo, Francesco; Wang, Hom-Lay; Fernández-Cruz, Manuel

Source: Current pharmaceutical biotechnology; Dec 2016

Publication Type(s): Journal Article

Abstract: In dentistry and oral and maxillofacial surgery, the development of implantable biomaterials and the understanding of their molecular, cellular and pharmaceutical aspects are currently major fields of research and education, with a considerable impact on the daily clinical practice and the evolution of therapeutic strategies. In the era of globalized economy of knowledge and science, this scientific domain needs the development of global cooperation and a paradigm evolution in the organizational culture of the dental sciences and related dental industry. Despite political pressure and theoretical efforts, the internationalization of higher education and research today in dentistry and biomaterials remains in general quite superficial and mostly dependent on the efforts of a few leaders of internationalization working through their personal networks, as it was assessed through the FAST scores (Fast Assessment Screening Test) calculated in various dental schools and groups worldwide through the ISAIAS program (Intercultural Sensitivity Academic Index & Advanced Standards). Cooperation in a multipolar multicultural community requires the development of strong intercultural competences, and this process remains limited in most institutions. These limits of international scientific cooperation can be observed through different markers, particularly the difficult and limited production of ISO standards (International Organization for Standardization) and the relatively low SCIENTI scores (Scientific Cooperation Internationalization Effort & Network Test & Index) of the specialized dental literature, particularly in comparison to the most significant medical literature. However, as an analytical tool to assess the scientific international cooperation effort between fields and periods, the SCIENTI screening system also highlighted a significant increase of the internationalization effort in the last years in the best dental biomaterials publications. Finally, an internationalization of higher education and research perspective is a very important approach to assess the evolution of the dental biomaterial science and highlights very clearly the future endeavors of this field, particularly the impact and interferences of private entities and companies in the development of this corpus of knowledge. It also reveals that the concept of independent not-for-profit Cooperation Internationalization Effort Literature (CIEL), in the various informal forms that can be found worldwide around diverse leaderships, is the best perspective for a better science and understanding of molecular, cellular and pharmaceutical aspects of biomaterials in dentistry and oral and maxillofacial surgery.

A study to assess the management of patients with spreading infections of dental origin admitted under Oral and Maxillofacial Surgery (OMFS) to the Ulster Hospital over a 6 month period 01/08/2014-31/01/2015

Author(s): Gregory M.; Ramsay-Baggs P.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: A significant number of patients are admitted to the Ulster Hospital with spreading infections of dental origin. Their management includes IV antibiotics, dental extractions, incision and drainage- intra-oral and or extra-oral. It's important patients are managed as effectively as possible. My aims were to determine the number of such patients admitted, their average length of admission and proportion receiving different treatments. Also to determine if diabetic patients have longer hospital stays. I retrospectively evaluated all such patients admitted in this period. I used electronic records and patient notes to obtain the data which included patient details, length of stay and details of treatments performed. A total of 74 such patients were admitted in this period, 73

received IV antibiotics. 80% had dental cause of infection insitu, of these 78% were willing to have it removed. 51%(38) of these patients went to theatre. Of those who did not go to theatre 69%(25) had treatment under LA. 1 patient returned to theatre for extra-oral incision and drainage. 58%(43) patients had Intra-oral incision and drainage performed. 14(19%) patients had Extra-oral incision and drainage performed. The length of hospital stay ranged from 0.5-14 days. The mean stay was 3 days. 5 patients were diabetic and 2 had raised blood glucose levels. All but 3 of these patients (2 diabetic and 1 with raised blood glucose levels) stayed longer than 3 days. I concluded that these patients are managed effectively so as to enable a timely recovery. Also diabetic patients have longer hospital stays.

Tomorrow's World: 3D Printing in oral and maxillofacial surgery

Author(s): Visholm T.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: 3D printing, a process of the production of a three-dimensional object from a digital file, has been hailed as the start of the third industrial revolution. A complex process also known as additive manufacturing has come to encompass various techniques such as stereolithography, fuse deposition modelling and selective laser sintering to name a few. From aerospace technology to clothing to firearms this exciting technology is being developed in most fields but how can this be applied to Oral and Maxillofacial surgery (OMFS)? In the subspecialties of trauma, craniofacial and orthognathic it is easy to imagine the use of custom implants, prosthetics, cutting and drill guides. The first 3D printed mandible was produced by a Belgian team in 2012. Preoperative planning using 3D models to illustrate to the patient and team the location of osteotomy cuts and plate placement may provide valuable training opportunities and reduce surgical time. This technology remains in its infancy at present however, it remains clear 3D printing technology is here to stay and has an exciting role to play in OMFS.

Non technical skills and simulation training in oral and maxillofacial surgery

Author(s): Bhandari R.; Bridle C.; Millwaters M.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: Introduction: Surgical training in the modern era has seen many changes. Trainees and trainers have had to adapt to new working practices and enhanced technology in delivering surgical training. Two of the biggest areas of development in the delivery of training are simulation and Non-technical skills. Both of these areas of the surgical syllabus share some common themes. They allow trainers to develop structured frameworks and apply them to trainees in a safe environment. In addition as NHS practice becomes more complex and litigious and the division between training and service provision becomes narrower, simulation suites and NOTSS syllabus allows for control of the training environment and delivery of broad content. The authors have embraced these ideas and have developed a program for all levels of trainees. Method: The authors present the evolution of a simulation-based teaching program for core dental trainees and higher surgical trainees in OMFS. We believe that this is the first such program developed specifically for OMFS. We show how utilising the NOTTS framework enhances the development of situational awareness, leadership, team working, communication and stress management. These skills are practiced in the simulation suite in a way that is relevant to clinical/training environments. Conclusion: Using feedback from the trainees who have taken part in this pioneering training program we demonstrate the success and confidence

this delivers to trainees. We show how the program has developed. We propose that these methods should be adopted nationally for training in OMFS and that regional faculties should be developed.

Simulation for dentists in oral and maxillofacial surgery

Author(s): Gallacher L.; Sood V.; Paton C.; Dunn T.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract:Background: Core trainees in dentistry contribute to a significant portion of the management of Oral and Maxillofacial Surgery (OMFS) in-patients. They provide care for emergency and elective admissions, including the provision of an out-of-hours service. Dental Foundation training provides minimal experience of managing medical and surgical emergencies; therefore the prospect of managing acute emergencies can be daunting. Aims: To develop a regional course to consolidate the skills acquired during an established induction course. To provide candidates with increased confidence and knowledge in the assessment and management of the deteriorating patient. Methods: We piloted a course using tutorial-based learning and immersive simulation, consisting of two 3.5 hour sessions. The programme started with an introductory tutorial on initial assessment, followed by 2 simulated scenarios including: odontogenic sepsis; obstructed tracheostomy; bleeding neck; trauma. Results: Learners were asked to evaluate the sessions using Likert scores and free text. Most found the course to be very useful, with a weighted average of 9.50 (1 = not useful at all; 10 = very useful.) The majority of learners felt well prepared to manage the scenarios experienced following participation in the course. Many of the learners commented on the usefulness of debriefing. Conclusions: Overall, learners found the course to be useful as preparation for dealing with emergency situations. As we develop this course further, we aim to provide a safe environment for new OMFS trainees to improve their clinical skills and gain experience in the management of medical emergencies, with the over-arching aim of improving patient safety.

National safety standards invasive procedures (NatSSIPs): Its relevance to oral and maxillofacial surgery

Author(s): Bhandari R.; Tahim A.; Bhatti N.; Bridle C.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract:Introduction: National Safety Standards for Invasive Procedures (NatSSIPs) is a document authored by NHS England patient safety domain. The publication date was September 2015 and distributed to all NHS Trusts. This document restates the core foundations and the purpose of the NHS. It states patient's safety lies at the core of everything we do on a daily basis. Using the existing frameworks already in place WHO checklists, teamwork, human factors and Non technical skills, local plans can be drawn up for invasive procedures to improve safety. The document drew up the need for procedural teams to undergo MDT and human factors training. The overall goal is to harmonise pathways for patients undergoing invasive procedures to prevent never events. Method: Using the spirit of this document in conjunction with our clinical governance framework we identified two invasive procedures where patient pathways could be made more robust. The pathways involved mapping skin lesion more accurately in cutaneous malignancy and postoperative monitoring for orbital floor fractures. We demonstrate how these simple measures have made the pathways safer and are easily adaptable in everyday practice by the MDT. Conclusion: Patient safety is at the centre all invasive procedures carried out in the NHS. This document highlights all the areas that have only recently being taught to MDT and trainees. By bring these factors to centre of thinking

for all teams involved in invasive procedures. This will empower them to advance patient pathways and may even lead to change in national practice.

Urgent or Not? Analysis of referrals to Oral and Maxillofacial Surgery in NHS Lanarkshire in a 1 month period

Author(s): Clark A.; Sood V.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Date: Dec 2016

Publication Type(s): Journal: Conference Abstract

Abstract:Background: New patient referrals are largely from GPs and GDPs and at times are inappropriate in content or nature (marked urgent unnecessarily). Whilst vital some patients are seen urgently, others must be seen routinely for time management and fairness. Aim: To analyse all new patient referrals appointed over 1 month in NHS Lanarkshire, examining referrer, nature and type of referral and outcome. Standard: Sign 90 guidelines recommend urgent referral of patients suspected of H+N cancer. SDCEP provide guidance on referral for other clinical issues. Method: Clinic lists from May 2015 from 3 sites were viewed using the online clinical system. Referrals of all new patients appointed were examined and key pieces of information extracted. A second round of data collection undertaken following changes. Results: 306 new patients were appointed in May 2015. Referrals were from GDPs (69%), GPs (15%), A+E (8%) and other specialties, 14% (44) failed to attend. 15% were referred as urgent, 5% as soon, the remainder routine/unspecified. Reason for urgent referral included; suspicion of cancer (19%), pain (19%) and time limiting injury (51%). 14% were appointed as urgent. Conclusion: Education of referrers regarding nature of referrals and amendments to referral screening was clearly required to improve service provision and efficiency. This was undertaken and a second round of data collection was carried out to demonstrate any changes achieved following this (results pending).

Ability of oral and maxillofacial surgery residents in diagnosing jaw cysts: A retrospective 20 years study

Author(s): Mohajerani H.; Esmaeelinejad M.; Mofidian R.

Source: Journal of Clinical and Diagnostic Research; Dec 2016; vol. 10 (no. 12)

Publication Date: Dec 2016

Abstract:Introduction: Diagnosis of odontogenic cysts despite of their benign nature is a critical and challenging problem especially among undergraduate and postgraduate students. Aim: This study aimed to evaluate the capability of oral and maxillofacial surgery residents in diagnosing odontogenic cysts. Materials and Methods: This cross-sectional study was executed on 312 patient records over the past 20 years since October 1995 till December 2014 in Taleghani Hospital, Tehran, Iran. All recorded data was based on 2005 World Health Organization (WHO) classifications. The differential diagnosis was made by 65 residents based on clinical and paraclinical evaluations established in the charts. Differential diagnoses made by the residents were compared to the histopathological examination as the gold standard for identifying the nature of the cysts. Weighted kappa test was used to show the degree of agreement. Results: Data extracted from 312 records were analyzed. The mean age of examined patients was 27.6 years. The accuracy of diagnosis among the residents was moderate (kw=0.5). The diagnosis made by the residents was significantly related to the radiographic view of the cysts (p<0.05). The residents were able to identify odontogenic keratocysts and dentigerous cysts in most cases. Conclusion: There are several factors associated with the occurrence of pathologic odontogenic cysts which could help either the clinician or the

pathologist in diagnosing the odontogenic cysts of the jaws. The surgeons should consider these related factors before the final diagnosis and choosing the appropriate treatment plan. Copyright © 2016, Journal of Clinical and Diagnostic Research. All rights reserved.

Computer-aided design and manufacturing of a novel maxillofacial surgery instrument: Application in the sagittal split osteotomy

Author(s): Cansiz E.; Turan F.; Arslan Y.Z.

Source: Journal of Medical Devices, Transactions of the ASME; Dec 2016; vol. 10 (no. 4)

Publication Type(s): Journal: Article

Abstract: Mandibular sagittal split osteotomy (SSO) is an operation performed for the correction of mandibular deformities. In this operation, sharp rotary tools are used during osteotomies and this can induce some complications. For example, if the inferior alveolar nerve is damaged, paralysis of the teeth, the lateral side of the tongue, and the corner of the lip can occur. To decrease the occurrence of such possible complications, we designed and manufactured a novel computer-assisted, patient-specific SSO guide and soft tissue retractor in our previous study. And, we first tested this apparatus on a cadaveric bone in vitro. Now, in this study, a surgical application of the instrument, which was designed and manufactured according to the requirements of the mandibular sagittal split osteotomies, was performed. This paper gives and discusses the results obtained from in vivo application of the apparatus. Copyright © 2016 by ASME.

Physician Assistants Improve Efficiency and Decrease Costs in Outpatient Oral and Maxillofacial Surgery.

Author(s): Resnick, Cory M.; Daniels, Kimberly M.; Flath-Sporn, Susan J.; Doyle, Michael; Heald, Ronald; Padwa, Bonnie L.

Source: Journal of Oral & Maxillofacial Surgery (02782391); Nov 2016; vol. 74 (no. 11); p. 2128-2135

Publication Type(s): Academic Journal

Abstract: Purpose: To determine the effects on time, cost, and complication rates of integrating physician assistants (PAs) into the procedural components of an outpatient oral and maxillofacial surgery practice. Materials and Methods: This is a prospective cohort study of patients from the Department of Plastic and Oral Surgery at Boston Children's Hospital who underwent removal of 4 impacted third molars with intravenous sedation in our outpatient facility. Patients were separated into the "no PA group" and PA group. Process maps were created to capture all activities from room preparation to patient discharge, and all activities were timed for each case. A time-driven activity-based costing method was used to calculate the average times and costs from the provider's perspective for each group. Complication rates were calculated during the periods for both groups. Descriptive statistics were calculated, and significance was set at $P < .05$. Results: The total process time did not differ significantly between groups, but the average total procedure cost decreased by \$75.08 after the introduction of PAs ($P < .001$). The time that the oral and maxillofacial surgeon was directly involved in the procedure decreased by an average of 19.2 minutes after the introduction of PAs ($P < .001$). No significant differences in postoperative complications were found. Conclusions: The addition of PAs into the procedural components of an outpatient oral and maxillofacial surgery practice resulted in decreased costs whereas complication rates remained constant. The increased availability of the oral and maxillofacial surgeon after the incorporation of PAs allows for more patients to be seen during a clinic session, which has the potential to further increase efficiency and revenue.

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): Islam, S

Source: The British journal of oral & maxillofacial surgery; Nov 2016; vol. 54 (no. 9); p. 976-979

Publication Type(s): Editorial

Platelet Abnormalities in the Oral Maxillofacial Surgery Patient.

Author(s): Bruno, Ehlie K; Bennett, Jeffrey D

Source: Oral and maxillofacial surgery clinics of North America; Nov 2016; vol. 28 (no. 4); p. 473-480

Publication Type(s): Journal Article Review

Abstract:Platelet abnormalities result from a wide range of congenital and acquired conditions, which may be known or unknown to patients presenting for oral maxillofacial surgery. It is critical to obtain a thorough history, including discussion of any episodes of bleeding or easy bruising, to potentially discern patients with an underlying platelet disorder. If patients indicate a positive history, preoperative laboratory studies are indicated, with potential referral or consultation with a hematologist. Appropriate preoperative planning may reduce the risk of bleeding associated with platelet dysfunction, potentially avoiding serious perioperative and postoperative complications. Published by Elsevier Inc.

Scheduling terminology for oral and maxillofacial surgery. Are we speaking a universal language?

Author(s): Howe, T E; Varley, I; Allen, J E; Glossop, A; McKechnie, A

Source: The British journal of oral & maxillofacial surgery; Nov 2016

Publication Type(s): Journal Article

Abstract:Use of a universal vocabulary to assist with the scheduling of operations has been shown to considerably reduce delays and improve the use of theatre resources. Within the UK the National Confidential Enquiry into Patient Outcome and Death (NCEPOD) has established a classification to assist with the triage of both emergency and non-emergency operating lists. We completed a survey to assess the uptake and understanding of this classification when scheduling maxillofacial operations. From a list of eight scheduling terms, respondents had to choose one each for 20 different clinical situations (that represented equally) immediate, urgent, expedited, and elective operations as defined by them. A total of 50 surveys were collated. Only 65% of answers selected represented NCEPOD terms. 25% of answers represented a term higher and 18% a term lower, on the scale of intervention for the same category of situation. Current NCEPOD terms do not seem to be used universally and are poorly understood. Considerable variation in terminology exists when scheduling maxillofacial operations. Copyright © 2016 The British Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.

Temporomandibular Joint Disorder Management in Oral and Maxillofacial Surgery.

Author(s): Mercuri, Louis G

Source: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Nov 2016

Publication Type(s): Journal Article

Abstract:This article discusses why the management of temporomandibular joint disorder (TMD) cases leads to some oral and maxillofacial surgeons to actively avoid attracting such patients to their

practices, offers some evidence-based explanations, and provides recommendations for resolution that will benefit not only the specialty, but more importantly the patients it serves. A review of the reasons some surgeons state they do not wish to manage TMD cases is presented, followed by an updated review of the TMD and orthopedic literature discussing not only the importance of a proper diagnosis but also the impact of comorbid conditions, genetics, clinical experience, and patient expectations important to achieving good TMD management outcomes. The literature shows that the frustration clinicians and TMD and orthopedic patients have had in the past are related to initial misdiagnosis leading to multiple failed procedures, failed materials and devices, failure to understand the impact of comorbid conditions and genetic features on outcomes, clinicians' experience in complex cases, and unrealistic outcomes expectations by the clinician and the patient. Although it is not reasonable to believe that every graduate of an oral and maxillofacial surgery residency will have an interest in management of TMD cases in their future practices, those who will must understand the importance of the issues of proper diagnosis, the relation of TMD patient comorbidities and prior management to final outcomes, honest awareness of their experience and ancillary support to manage complex cases, and how essential a realistic prognosis is to a successful outcome for the clinician and the patient. Copyright © 2016 American Association of Oral and Maxillofacial Surgeons. Published by Elsevier Inc. All rights reserved.

A review of computer-aided oral and maxillofacial surgery: planning, simulation and navigation.

Author(s): Chen, Xiaojun; Xu, Lu; Sun, Yi; Politis, Constantinus

Source: Expert review of medical devices; Nov 2016; vol. 13 (no. 11); p. 1043-1051

Publication Type(s): Journal Article

Abstract:Currently, oral and maxillofacial surgery (OMFS) still poses a significant challenge for surgeons due to the anatomic complexity and limited field of view of the oral cavity. With the great development of computer technologies, the computer-aided surgery has been widely used for minimizing the risks and improving the precision of surgery. Areas covered: The major goal of this paper is to provide a comprehensive reference source of current and future development of computer-aided OMFS including surgical planning, simulation and navigation for relevant researchers. Expert commentary: Compared with the traditional OMFS, computer-aided OMFS overcomes the disadvantage that the treatment on the region of anatomically complex maxillofacial depends almost exclusively on the experience of the surgeon.

Factors associated to post-operative nausea and vomiting following oral and maxillofacial surgery: a prospective study.

Author(s): Albuquerque, Assis Filipe Medeiros; Queiroz, Salomão Israel Monteiro Lourenço; Germano, Adriano Rocha; da Silva, José Sandro Pereira

Source: Oral and maxillofacial surgery; Nov 2016

Publication Type(s): Journal Article

Abstract:This study aims to address and assess possible factors associated with nausea and vomiting (NV) following oral and maxillofacial surgery. A prospective study was carried out in the period from December 2013 to January 2016 targeting all attended cases in that period. For statistical analysis, Pearson chi-square and Fisher tests were used to verify association and ANOVA and Student's t tests to test for significant difference, p was defined as ≤ 0.05 . The sample group consisted of 207 patients with an average age of 33.56 years (± 13.23), and 70.5% of subjects were male. Calculations based on the predictive model showed that a female patient with prior history of nausea and vomiting who used opioids and had intra-oral surgical access would have a 96% chance

of experiencing a nausea and vomiting episode. Other factors like age, being overweight, anesthesia, surgery duration, and duration of hospital stay also contribute so that these aspects must be paid careful attention prior to surgery to ensure a suitably orientated treatment that will avoid disturbances caused by post-operative nausea and vomiting. The occurrence of post-operative nausea and vomiting after oral and maxillofacial surgery was found to be more higher incidence associated to female patients who used opioids, who had a prior history of NV, whose surgery involved intra-oral access, who were in the second or third decades of their lives, who have above average weight, and who have long anesthesia when undergoing surgery, resulting in a long hospital stays.

Tattoos: could they be used to advantage as a medical alert in oral and maxillofacial surgery?

Author(s): Kluger, N

Source: The British journal of oral & maxillofacial surgery; Nov 2016

Publication Type(s): Letter

Antibiotic release from Calcium Phosphate Materials in oral and maxillofacial surgery: Molecular, Cellular and Pharmaceutical Aspects.

Author(s): Manchon, Angel; Prados-Frutos, Juan Carlos; Rodriguez, Carmen Rueda; Goodier, Carmen Salinas; Alkhraisat, Mohammad Hadman; Rojo, Rosa; Gonzalez, Arantza Rodriguez; Berlanga, Ana; Cabarcos, Enrique Lopez

Source: Current pharmaceutical biotechnology; Nov 2016

Abstract: Calcium phosphate materials (CPM) are widely used in dentistry and maxillofacial surgery. The presence of microbial biofilms and external infections are responsible for the failure of many procedures of dental implants and bone grafts. In an attempt to reduce the percentage of these infectious processes antibiotics have been associated with CPM improving certain conditions. For instance antibiotics administered orally or intravenously have less effect and the blood flow in relation to this is poor near implants and grafts. Tissue engineering (TE) has employed CPM as a local drug delivery vehicle to be more effective and efficient in bone infections. This review is presented to describe current antibiotics used and the physical and chemical properties of scaffolds.

Administration of Coagulation-Altering Therapy in the Patient Presenting for Oral Health and Maxillofacial Surgery.

Author(s): Halaszynski, Thomas M

Source: Oral and maxillofacial surgery clinics of North America; Nov 2016; vol. 28 (no. 4); p. 443-460

Publication Date: Nov 2016

Publication Type(s): Journal Article Review

Abstract: Oral health care providers are concerned with how to manage patients prescribed coagulation-altering therapy during the perioperative/periprocedural period for dental and oral surgery interventions. Management and recommendation can be based on medication pharmacology and the clinical relevance of coagulation factor levels/deficiencies. Caution should be used with concurrent use of medications that affect other components of the clotting mechanisms; prompt diagnosis and any necessary intervention to optimize outcome is warranted. However, evidence-based data on management of anticoagulation therapy during oral and maxillofacial surgery/interventions is lacking. Therefore, clinical understanding and judgment are needed along

with appropriate guidelines matching patient- and intervention-specific recommendations.
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Can Submandibular Tracheal Intubation Be an Alternative to Tracheotomy During Surgery for Major Maxillofacial Fractures?

Author(s): Hassanein, Ahmed Gaber; Abdel Mabood, Ahmed M A

Source: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons; Nov 2016

Publication Type(s): Journal Article

Abstract: During surgery for major maxillofacial fractures, orotracheal intubation can interfere with some surgical procedures and nasal intubation can be contraindicated or impossible. That is why tracheotomy is presented as a solution, although it carries a relatively high incidence of complications. In this study, the use of submandibular tracheal intubation is basically evaluated as an alternative to tracheotomy in such circumstances. This prospective study was performed in patients undergoing surgery for major maxillofacial fractures in which oral intubation and/or nasal intubation have been unsuitable, impossible, or contraindicated. The technique of submandibular intubation was assessed intraoperatively and in the postoperative period. The outcomes and complications are presented. The study included 26 patients aged between 14 and 57 years. All patients had mandibular fractures, with 19 midface fractures (73.1%), 11 nasal bone fractures (42.3%), 10 zygomatic bone fractures (38.5%), 9 naso-orbito-ethmoidal fractures (34.6%), and 9 frontobasilar fractures (34.6%). The procedure time ranged from 5 to 12 minutes (mean, 7 minutes 4.6 seconds). Delayed extubation was performed in 15 cases (57.7%) in which the tube was left in place for a period ranging from 8 to 50 hours (mean, 30 hours 24 minutes). The technique has proved to be straightforward and satisfactory. A postoperative superficial infection occurred in 2 patients, whereas hypertrophic scars occurred in another 2 patients. Submandibular endotracheal intubation is straightforward, safe, and quick to carry out. It can be an alternative to tracheotomy as it allows operative techniques and postoperative airway protection without the risks and side effects of tracheotomy. Copyright © 2016 American Association of Oral and Maxillofacial Surgeons. Published by Elsevier Inc. All rights reserved.

Occupational exposure to bodily fluids in oral and maxillofacial surgery: an evaluation of reporting practices and attitudes among staff at a major teaching hospital in the UK.

Author(s): Leavy, P; Siddique, I; Mohammed-Ali, R

Source: The British journal of oral & maxillofacial surgery; Nov 2016

Publication Type(s): Journal Article

Abstract: Our aim was to evaluate experience, practice, and beliefs about reporting of occupational exposures to blood and other body fluids among a sample of 88 healthcare providers working in oral and maxillofacial surgery at Sheffield Teaching Hospitals. We used a cross-sectional survey to evaluate awareness of the Trust's policy for reporting occupational exposure, recent incidence of exposure, and current reporting practices. Beliefs were measured using questions derived from the theory of planned behaviour. Fifty-five people responded, 14 of whom had been exposed to bodily fluids in the previous 12 months. Of those, 10 did not report it. Fifty-three respondents were certain that the Trust had a protocol in place for reporting sharps injuries to staff. Most (n=51) said the Trust had a protocol for reporting mucocutaneous exposure to blood. Respondents placed equal importance on reporting exposures that affected both themselves and patients, but intention to report exposure of patients was significantly higher than for themselves (z score -3.18, p<0.0001).

We conclude that OMFS healthcare workers generally think that occupational exposures should be reported, but there are shortcomings in practice. Copyright © 2016 The British Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.

Loading dose of Dexdor® and optimal sedation during oral and maxillofacial ambulatory surgery procedures: An observational study.

Author(s): Martinez-Simon, A; Cacho-Asenjo, E; Hernando, B; Honorato-Cia, C; Naval, L; Panadero, A; Nuñez-Cordoba, J M

Source: Revista española de anestesiología y reanimación; Nov 2016

Publication Type(s): Journal Article

Abstract: Dexdor® do not include the possibility of loading dose, which could increase time to achieve adequate sedation for ambulatory procedures. The objective of this study was to evaluate the effect of several loading dose of dexmedetomidine in the time to achieve and maintain an optimal level of sedation and its clinical hemodynamic repercussion. The IRB approved this observational study for patients that underwent oral and maxillofacial ambulatory surgery under dexmedetomidine at the University of Navarra Clinic from February 2013 to November 2014. According to the loading dose the patients were grouped into 3 categories: 0.5µg/kg. Optimal level of sedation was defined as bispectral index 0.5µg/kg loading dose categories for achieving a bispectral index 0.5µg/kg showed greater risk of requiring atropine compared with the group 0.5µg/kg appears minimize the time to achieve and maintain an optimal level of sedation during the first 60min of procedure. Further investigation to elucidate the association between loading dose of dexmedetomidine and subsequent atropine requirements may be warranted. Copyright © 2016 Sociedad Española de Anestesiología, Reanimación y Terapéutica del Dolor. Publicado por Elsevier España, S.L.U. All rights reserved.

Cleft lip and palate

A 10-year review of alveolar cleft bone grafting in South Wales - focusing on the pre-operative pathway

Author(s): Jones J.; Davies H.; Drake D.; Sugar A.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: Introduction: Alveolar cleft bone grafting (ABG) plays an integral role in the oral rehabilitation of the cleft lip and palate patient. However there remains no national consensus on pre-operative blood testing before surgery. This study is a 10-year review of 153 consecutive cases of alveolar cleft bone grafting performed in South Wales focusing on the pre-operative pathway, especially the requirement for pre-operative blood tests. The outcomes graded as good radiographically (Bergland 1 or 2) were 97% (58% in the CSAG study, 1998). Methods: A retrospective review was performed on 153 consecutive cases of ABG by two Consultant Cleft Surgeons over a 10-year period. Demographic details, type of cleft repair and pre-operative blood tests undertaken were reviewed. Blood bank details of all cases, including the need for blood products and adverse blood reactions were also recorded. Results: There were 54 female (36%) and 99 male (64%) patients. 88 ABGs were left sided (57%), 42 were right sided (28%) and 23 (15%) were bilateral. Average age of

repair was 8.4 years. The average Haemoglobin (Hb) pre-operatively was 12.6 g/dl with a range 10.8-15.1 g/dl. No cases were cancelled due to previously undiagnosed anaemia (Hb < 10). There were no blood transfusions required and consequently no transfusion related reactions over 10-year period. Conclusions: The findings of this study reinforces that pre-operative blood testing for ABG repairs should only be targeted at those with a positive family history of bleeding or if a clinical indication is perceived for testing.

Does the degree of maxillary advancement in LeFort 1 procedures predict post-operative changes to velopharyngeal function in patients with cleft lip and palate?

Author(s): Moran I.; Sulh J.D.; Sharp I.; Hunter C.; Underwood I.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: Introduction: Surgical correction of maxillary hypoplasia in cleft lip and palate patients advances the maxilla and soft tissue attachments associated with the velopharyngeal port. There is conflicting evidence whether the degree of maxillary advancement affects velopharyngeal function (VPF). Aim: The aim of this study is to investigate whether the degree of maxillary advancement in a LeFort 1 procedure can predict the post-operative changes to VPF in patients with cleft lip and palate. Method: A retrospective study of all non-syndromic cleft lip and palate patients with maxillary hypoplasia treated surgically in a tertiary referral centre with a LeFort 1 osteotomy and maxillary advancement. All cases were performed by a single oral and maxillofacial surgery consultant between 2007-2015 using conventional osteotomy and distraction osteogenesis techniques. Each patient received a speech and language assessment 1-2 months prior to surgery and a year post-operatively. Results: 34 patients satisfied the inclusion criteria. Maxillary advancements ranged from 2.0mm-14.0 mm (22 conventional osteotomies, 12 distraction osteogenesis). Post-operative VPF remained unchanged in 23 patients (68%), 11 (32%) had evidence of reduced function, no cases demonstrated improvement. 7 of the cases with reduced VPF were performed conventionally (range 3.0mm-9.5 mm), 2 via internal distraction (range 4.0mm-10.0 mm) and 2 via external distraction (range 6.0mm-11.5 mm). There was no clear association between either the method or degree of maxillary advancement and post-operative changes to VPF. Conclusions: The degree of maxillary advancement in a LeFort 1 procedure cannot be used to accurately predict post-operative changes to VPF in cleft lip and palate patients.

Readability assessment of patient information resources from the British association of oral and maxillofacial surgery website

Author(s): Khan H.; Malik B.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: Introduction: The internet is a widely-used resource for patients who seek surgical information. Many patients have wrong expectations of treatment options due to low quality surgical information online. Previous research has stated that the content of patient information materials should not surpass a reading level of 12-13 years old. Thus, we undertook a comparative readability analysis of patient-centred information leaflets on the British Association of Oral and Maxillofacial Surgery website (BAOMS). Method: All 48 information leaflets were downloaded from the BAOMS website in January 2016. The text was processed and formatted in Microsoft Word. Specific medical terms were excluded to limit bias. A readability assessment was undertaken on the remaining text using 6 quantitative formulas: Automated Readability Index, Coleman-Liau Index,

SMOG Index, Gunning-Fog score, Flesch-Kincaid Grade level and FleschKincaid Reading Ease using the Readability Studio program. Results: The edited and original texts had identical mean readability scores. The section with the highest mean readability score was cleft lip and palate (12.9 +/- 2), whereas the section with the lowest score was about dental injury (8.3 +/- 2). ANOVA analysis demonstrated a statistical difference between the scores when comparing different information leaflets ($p < 0.05$). The mean Flesch-Kincaid Reading Ease score was 64.6, which compares to a reading level of 13-15 years olds. The mean overall readability score was 9.5, which compares to a reading level of 15 years old. Conclusion: The mean readability score of patient resources are higher than the recommended levels. Simpler and clearer materials would be more suitable to the general public.

Post-operative complications following LeFort 1 maxillary advancement surgery in cleft lip and palate patients: A 5-year retrospective study

Author(s): Moran I.; Virdee S.; Sulh J.; Sharp I.

Source: British Journal of Oral and Maxillofacial Surgery; Dec 2016; vol. 54 (no. 10)

Publication Type(s): Journal: Conference Abstract

Abstract: Introduction: LeFort 1 maxillary advancement surgery in cleft lip and palate (CL/P) patients is undertaken to improve function and aesthetics but may be associated with significant post-operative complications. Current research on the frequency of complications is based on series with limited patient numbers. Aim: This study aims to establish the nature and frequency of post-operative complications associated with LeFort 1 maxillary advancement surgery in CL/P patients. Method: A retrospective case note review of all CL/P patients with maxillary hypoplasia treated surgically with a LeFort 1 osteotomy and maxillary advancement in a regional cleft centre. All cases were performed by a single maxillofacial consultant between 2010-2015. Results: 91 patients met the inclusion criteria. Maxillary advancements ranged from 2.0mm-18.0 mm. 13 post-operative complications were identified. Temporary paraesthesia of the infraorbital nerve (ION) was the most common complication (42%) followed by speech deterioration (36%). Other complications included infection (7%), maxillary instability (5%), bony dehiscence (4%), nasal obstruction (4%), tooth mobility (3%), permanent paraesthesia of the ION (3%), persistent sinusitis (3%), temporomandibular joint pain (3%), partial maxillary necrosis (1%) and loss of tooth vitality (1%). Discussion: The findings of this study will be discussed in the context of the adult cleft patient pathway and compared with the benefits, which are gained, by this type of intervention in dealing with residual adult stigmata of clefting. Conclusions: LeFort 1 maxillary advancement surgery in CL/P is associated with a wide range of post-operative complications, most commonly temporary paraesthesia of the ION. Informative consent is essential prior to surgery.

Database: EMBASE

Cleft Palate Repair, Gingivoperiosteoplasty, and Alveolar Bone Grafting

Author(s): Dao A.M.; Goudy S.L.

Source: Facial Plastic Surgery Clinics of North America; Nov 2016; vol. 24 (no. 4); p. 467-476

Publication Type(s): Journal: Review

Abstract: Repair of the cleft palate intends to establish the division between the oral and nasal cavity, thereby improving feeding, speech, and eustachian tube dysfunction all while minimizing the negative impact on maxillary growth. Before palate repair candidacy, timing and surgical method of repair is dependent on comorbid conditions, particularly cardiac disease, mandibular length, and palate width. Additionally, management of the alveolar cleft and the indications for

gingivoperiosteoplasty versus secondary alveolar bone grafting is a controversial topic that weighs the risks and benefits of potentially sparing the patient an additional surgery against iatrogenic restriction of facial growth and malocclusion. Copyright © 2016 Elsevier Inc.

Acquired palatal fistula in patients with submucous and incomplete cleft palate before surgery

Author(s): Park I.H.; Chung J.H.; Choi T.H.; Kim S.W.; Han J.

Source: Archives of Plastic Surgery; Nov 2016; vol. 43 (no. 6); p. 582-585

Publication Type(s): Journal: Article

Abstract:It is uncommon for a palatal fistula to be detected in individuals who have not undergone surgery, and only sporadic cases have been reported. It is even more difficult to find cases of acquired palatal fistula in patients with submucous or incomplete cleft palate. Herein, we present 2 rare cases of this phenomenon. Case 1 was a patient with submucous cleft palate who acquired a palatal fistula after suffering from oral candidiasis at the age of 5 months. Case 2 was a patient with incomplete cleft palate who spontaneously, without trauma or infection, presented with a palatal fistula at the age of 9 months. Copyright © 2016 The Korean Society of Plastic and Reconstructive Surgeons.

Oral health-related quality of life in youth receiving cleft-related surgery: self-report and proxy ratings

Author(s): Broder H.L.; Sischo L.; Wilson-Genderson M.

Source: Quality of Life Research; Oct 2016 ; p. 1-9

Publication Type(s): Journal: Article In Press

Abstract:Purpose: This paper evaluated the impact of cleft-related surgery on the oral health-related quality of life (OHRQoL) of youth with cleft over time. Methods: Data were derived from a 5-year, multi-center, prospective, longitudinal study of 1196 youth with cleft lip and/or palate and their caregivers. Eligible youth were between 7.5 and 18.5 years old, spoke English or Spanish, and were non-syndromic. During each observational period, which included baseline, and 1- and 2-year post-baseline follow-up visits, youths and their caregivers completed the Child Oral Health Impact Profile, a validated measure of OHRQoL. Multilevel mixed-effects models were used to analyze the effects of receipt of craniofacial surgery on OHRQoL over time. Results: During the course of this study a total of 516 patients (43 %) received at least one surgery. Youth in the surgery recommendation group had lower self- (beta = -2.18, $p < 0.05$) and proxy-rated (beta = -2.92, $p < 0.02$) OHRQoL when compared to non-surgical self- and proxy-rated OHRQoL at baseline. Both surgical and non-surgical youth (beta = 3.73, $p < 0.001$) and caregiver (beta = 1.91, $p < 0.05$) ratings of OHRQoL improved over time. There was significant incremental improvement (time x surgery interaction) in self-reported OHRQoL for youth postsurgery (beta = 1.04, $p < 0.05$), but this postsurgery increment was not seen in the caregiver proxy ratings. Conclusions: Surgical intervention impacts OHRQoL among youth with cleft. Youth who were surgical candidates had lower baseline self- and caregiver-rated OHRQoL when compared to non-surgical youth. Youth who underwent cleft-related surgery had significant incremental improvements in self-rated but not caregiver (proxy)-rated OHRQoL after surgery. Copyright © 2016 Springer International Publishing Switzerland

Innate lymphoid cells: a paradigm for low SSI in cleft lip repair

Author(s): Simmerman E.; Qin X.; Cai L.; Wang T.; Yu J.; Baban B.; Marshall B.; Perry L.; Akbari O.

Source: Journal of Surgical Research; Oct 2016; vol. 205 (no. 2); p. 312-317

Publication Type(s): Journal: Article

Abstract:Background Cleft lip and palate reconstructions demonstrate significantly lower surgical site infection rates compared with clean-contaminated cases, prompting investigation into the pathophysiology causing this discrepancy. Recent studies have identified a new group of innate lymphocytes called innate lymphoid cells (ILCs), located in barrier surfaces of the skin, airways, and intestine. Our objectives were to explore for the first time the presence of ILCs in the vermilion of neonates and young children undergoing cleft lip reconstruction and characterize their composition by measuring the three classes of ILCs. Materials and methods Lip tissue samples were collected from 13 subjects undergoing vermilion resection during cleft lip reconstructive surgery. Preparative, transmission electron microscopy, and analytical flow cytometry were performed. The functionality of ILCs was tested in terms of their capacity to produce type 1 (IFN-gamma/TNF-alpha), type 2 (IL-5/IL-13), and type 3 (IL-17/IL-22) cytokines. Data were analyzed using Student t test or the analysis of variance to establish significance ($P < 0.05$) among groups for all other data. Results All three classes of ILCs were detected and visualized in the tissue samples. In all samples, the level of ILC2 subset was significantly higher than the other two ILC subsets ($P < 0.01$), followed by the ILC1 subset, which was present in significantly higher levels than the ILC3 subset ($P < 0.05$). Conclusions Our data place ILCs for the first time in the interface of oral mucosal immunity, tissue microenvironment, and homeostasis during and after tissue development, possibly explaining lower infection rates in cleft lip or palate reconstructions. Copyright © 2016 Elsevier Inc.

Clinical performance of cuffed versus uncuffed preformed endotracheal tube in pediatric patients undergoing cleft palate surgery

Author(s): Mukhopadhyay S.; Bhattacharya D.; Bandyopadhyay B.K.; Mukherjee M.; Ganguly R.

Source: Saudi Journal of Anaesthesia; 2016; vol. 10 (no. 2); p. 202-207

Publication Type(s): Journal: Article

Abstract:Background: Uncuffed endotracheal tubes are commonly used in children but due to several decade preferred in paediatric oral surgery. Due to lack of conclusive evidences in this regard, we have conducted this study to compare post-operative morbidity following use of cuffed and uncuffed endotracheal tubes in paediatric patients undergoing cleft lip-palate surgery. Methods: This randomised controlled trial was conducted on children aged 2 to 12 years. 110 patients were allocated in two parallel groups using computer generated list of random numbers. Post operative extubation stridor, sore throat, time to first oral intake and regaining of normal voice were compared between two groups. Results: The incidence of sore throat was significantly more (P value > 0.005) in patients of uncuffed group compared to cuffed group. The time to first oral intake and time to regain normal voice were significantly earlier in cuffed group compared to the other. Conclusion: With standard care, preformed cuffed ET tube has shown reduced incidence of post operative sore throat. Cuffed group has earlier oral intake and normal voice regain compared to uncuffed group. Copyright © 2016 Saudi Journal of Anesthesia.

Evaluation and Implementation of a High-Fidelity Cleft Palate Simulator.

Author(s): Podolsky, Dale J; Fisher, David M; Wong, Karen W; Looi, Thomas; Drake, James M; Forrest, Christopher R

Source: Plastic and reconstructive surgery; Jan 2017; vol. 139 (no. 1); p. 85e

Publication Type(s): Journal Article

Abstract: Cleft palate repair is a challenging procedure to learn because of the delicate tissue handling required and the small confines of the infant oral cavity. As a result, cleft palate simulators have previously been described to augment cleft palate repair training. Although valuable, they lack the fidelity for this complex procedure. A high-fidelity cleft palate simulator was evaluated by staff and fellows in pediatric plastic surgery who provided feedback on its realism, anatomical accuracy, and effectiveness as a training tool. The simulator was implemented within a training workshop following a didactic session on cleft palate repair and anatomy. A test was administered to each participant before and immediately after the workshop to assess knowledge transfer. Perceived confidence of performing a repair following the workshop was also assessed, as was the workshop's effectiveness. Overall, participants agreed that the simulator is anatomically accurate and realistic and strongly agreed that the simulator is a valuable training tool. The average test score increased from 25 percent before the workshop to 77.27 percent after the workshop. Overall, participants of the workshop felt more confident performing a repair and strongly agreed that the workshop was valuable and effective. A high-fidelity cleft palate simulator has been evaluated as realistic, anatomically accurate, and valuable as a training tool. The simulator was successfully integrated into a training workshop, which resulted in significant knowledge increase on anatomy and the procedure and perceived confidence and comfort in performing a cleft palate repair.

Long-term follow-up of early cleft maxillary distraction.

Author(s): Park, Young-Wook; Kwon, Kwang-Jun; Kim, Min-Keun

Source: Maxillofacial plastic and reconstructive surgery; Dec 2016; vol. 38 (no. 1); p. 20

Publication Type(s): Journal Article

Abstract: Most of cleft lip and palate patients have the esthetic and functional problems of midfacial deficiencies due to innate developmental tendency and scar tissues from repeated operations. In these cases, maxillary protraction is required for the harmonious facial esthetics and functional occlusion. A 7-year old boy had been diagnosed as severe maxillary constriction due to unilateral complete cleft lip and palate. The author tried to correct the secondary deformity by early distraction osteogenesis with the aim of avoiding marked psychological impact from peers of elementary school. From 1999 to 2006, repeated treatments, which consisted of Le Fort I osteotomy and face mask distraction, and complementary maxillary protraction using miniplates were performed including orthodontics. But, final facial profile was not satisfactory, which needs compromising surgery. The result of this study suggests that if early distraction treatment is performed before facial skeletal growth is completed, an orthognathic surgery or additional distraction may be needed later. Maxillofacial plastic and reconstructive surgeons should notify this point when they plan early distraction treatment for cleft maxillary deformity.

Skeletal stability of maxillary advancement with and without a mandibular reduction in the cleft lip and palate patient.

Author(s): Wong, F X; Heggie, A A; Shand, J M; Schneider, P M

Source: International journal of oral and maxillofacial surgery; Dec 2016; vol. 45 (no. 12); p. 1501-1507

Publication Type(s): Journal Article

Abstract: The stability of surgical maxillary advancement in a consecutive series of patients with cleft lip and palate who underwent Le Fort I osteotomy with and without simultaneous mandibular setback surgery was evaluated. Preoperative, postoperative, and follow-up lateral cephalograms of 21 patients were assessed to compare differences in surgical movement and postoperative relapse

between two groups: those who underwent maxillary surgery alone and those who underwent bimaxillary surgery. Differences in the number of patients who experienced relapse of 4mm between the groups were also compared. Mean advancement of the cleft maxilla was 5.5mm in the maxilla only group and 3.6mm in the bimaxillary group, with a mean horizontal relapse of 0.8mm and 0.2mm, respectively. Mean surgical movement in the vertical dimension was comparable in the two groups and the magnitude of vertical relapse was less than 0.4mm overall. Approximately 80% of patients in both groups experienced horizontal relapse of less than 2mm. There was no significant difference in the degree of postoperative relapse between those who had single-jaw surgery and those who had two-jaw surgery. Copyright © 2016 International Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.

MMPs and TIMPs expression in facial tissue of children with cleft lip and palate.

Author(s): Smane-Filipova, Liene; Pilmane, Mara; Akota, Ilze

Source: Biomedical papers of the Medical Faculty of the University Palacky, Olomouc, Czechoslovakia; Dec 2016; vol. 160 (no. 4); p. 538-542

Publication Type(s): Journal Article

Abstract: Morphogenesis of the upper lip and palate is a complex process involving highly regulated interactions between epithelial and mesenchymal cells. Genetic evidence in humans and mice indicates the involvement of matrix metalloproteinases (MMPs) and their endogenous tissue inhibitors (TIMPs) in cleft lip palate (CLP) aetiology. This study investigated whether expression of MMP-2, MMP-8, MMP-9, TIMP-2, and TIMP-4, which are essential for the upper lip and palate fusion, is dysregulated in children with CLP. Oral mucosa tissue samples were obtained from patients with complete unilateral (CU) CLP (n = 25) and complete bilateral (CB) CLP (n = 19) during corrective plastic surgery and in unaffected control subjects (n = 10). MMPs and TIMPs expression was assessed by immunohistochemistry, and the data were analyzed using the Kruskal - Wallis test with the Bonferroni correction. In CLP patients, MMP-2, TIMP-2 immunoreactivity in the oral mucosa was seen to have a few to abundant structures, but the overall number of MMP-2, TIMP-2-positive structures was greater than that in controls (P < 0.01). The total number of TIMP-4, MMP-9-positive cells showed a significant decrease in the CBCLP compared with that of CUCLP (P < 0.001). MMP-8 expression trends in the CLP group were similar to those of the control group. The results suggest that TIMP-4 and MMP-9 are the main ECM remodeling regulatory proteins expressed in CUCLP affected tissues of the oral mucosa. The increased expression of MMP-2 and TIMP-2 in CLP tissues implicates these factors in the regulation of cell migration during ECM turnover independently of different types of clefts. Investigation of MMP and TIMP expression in tissue samples from patients with CLP appears to be a promising approach to the etiopathogenesis of CLP.

Syngnathia Between the Palate and Mouth Floor, Cleft Palate, and Funnel Chest.

Author(s): Wang, Xi-Qian; Zhang, Wen-Feng; Wang, Yong-Gong; Bu, Lin-Lin; Hou, Ming

Source: The Journal of craniofacial surgery; Nov 2016; vol. 27 (no. 8); p. e762

Publication Type(s): Journal Article

Abstract: Syngnathia is a rare malformation involving soft tissue and/or bony adhesions between the maxilla and mandible. Less than 40 patients have been reported in the literature. Here the authors report a 6-month-old infant diagnosed as syngnathia of the palate and mouth floor combined with cleft palate and funnel chest in the Department of Oral and Maxillofacial Surgery at Henan Provincial People's Hospital in January 2015. The authors discussed and evaluated the diagnostic and treatment difficulties on surgical and anesthetic procedure. There is no standard treatment protocol,

but early treatment is necessary to improve airway functions and infant feeding, and to support proper nutrition for the growth of maxillofacial region.

Cleft relapse and oronasal fistula after Furlow palatoplasty in infants with cleft palate: incidence and risk factors.

Author(s): Li, F; Wang, H-T; Chen, Y-Y; Wu, W-L; Liu, J-Y; Hao, J-S; Luo, D-Y

Source: International journal of oral and maxillofacial surgery; Oct 2016

Publication Type(s): Journal Article

Abstract: This study was performed to investigate the incidence of and risk factors for postoperative cleft relapse and oronasal fistula after Furlow palatoplasty in infants. Sixty-two infants with cleft palate, aged 6-12 months (mean 8.25 months), who underwent cleft repair by Furlow double opposing Z-plasty between March 2012 and August 2014, were enrolled in the study. Risk factors for postoperative cleft relapse and oronasal fistula after Furlow palatoplasty were identified by logistic regression analysis. The incidence rates of cleft relapse at 1 week and oronasal fistula at 3 months after surgery were 24.2% (15/62) and 9.7% (6/62), respectively. Among all of the variables screened, only the width of the cleft was significantly associated with the incidence of postoperative cleft relapse ($P=0.001$) and oronasal fistula ($P=0.011$); the incidence rates were positively correlated with the width of the cleft when it exceeded 6.8mm and 7.5mm, respectively. Based on these findings, in order to reduce the incidence of postoperative cleft relapse and oronasal fistula, Furlow repair is not recommended for patients with wide clefts. An appropriate angle between the Z-flap incision and the central axis, use of a bilateral relaxation incision, and postoperative nursing care can help reduce the incidence of postoperative cleft relapse. Copyright © 2016 International Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.

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January 2017; Volume 39, Issue 1

Oral Surgery

November 2016; Volume 9, Issue 4

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January 2017; Volume 123, Issue 1

The Cleft Palate-Craniofacial Journal

November 2016; Volume 53, Issue 6

Exercise: Systematic Reviews

There are 7 key steps that need to be taken when carrying out a Systematic Review. Can you put them in order?

A. Quality assessment

B. Study selection

C. Synthesis

D. Data extraction

E. Define the question

F. Literature search

G. Writing up

*For assistance with carrying out a **systematic review search** or a **literature search**, please email library@uhbristol.nhs.uk.*

Answers: 1E; 2F; 3B; 4D; 5A; 6C; 7G



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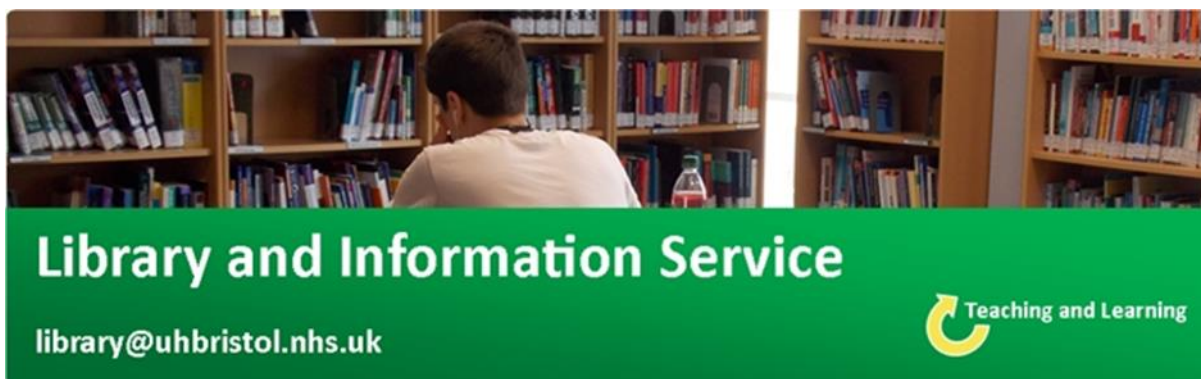
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I have forgotten my Athens Username / Password. How can I reset it?

Password: If you are on a Trust PC, follow the link to https://register.athensams.net/nhs/forgotten_password.php.

Username and password: You should email athens.sdht@nhs.net with your full name, full work address, work telephone number and the email address you used to register for the account. In the email subject line put 'Forgotten username and password'. It may take up to five working days to receive your username and a reset password.



Library Opening Times

Staffed hours: 8am-5pm, Mon-Fri

Swipe-card access: 7am-11pm 7 days a week

Level 5, Education and Research Centre

University Hospitals Bristol

Contact your Outreach Librarian:

Jo Hooper

UH Bristol Library Service

library@uhbristol.nhs.uk

Ext. 20105