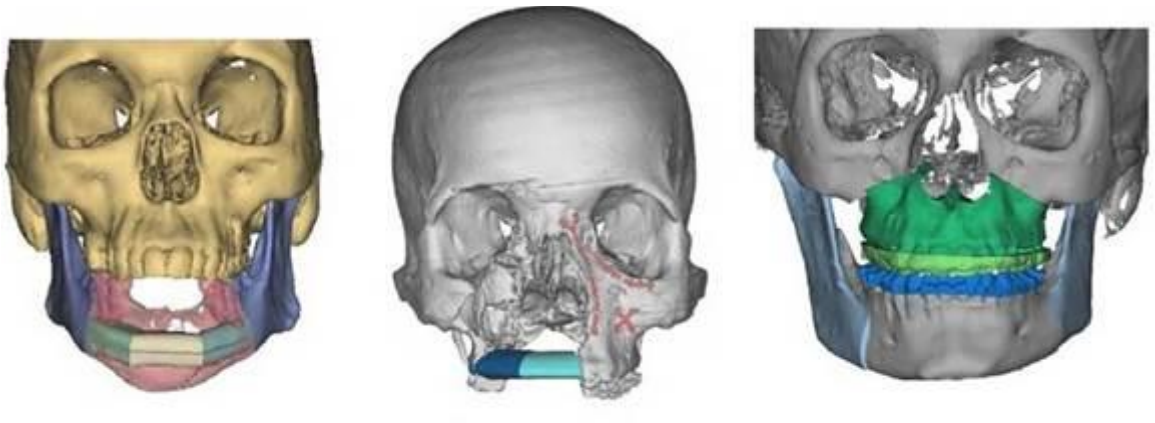
University Hospitals Bristol NHS
NHS Foundation Trust

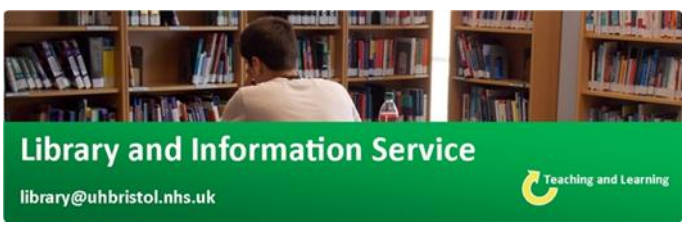
Oral & Maxillofacial Surgery

Current Awareness Newsletter

August 2015



Respecting everyone
Embracing change
Recognising success
Working together
Our hospitals.



Contents

Your Friendly Local Librarian… 2

Current Awareness Database Articles on Oral and Maxillofacial Surgery 5

Oral surgery 5

Bisphosphonate-related osteonecrosis of the jaw 14

Maxillofacial 20

Cleft lip and palate 41

Journal Tables of Contents 46

Head and Neck; Vol. 37, iss. 8, August 2015 46

British Journal of Oral and Maxillofacial Surgery; Vol. 53, iss. 6, July 2015 46

Oral Surgery Oral Medicine Oral Pathology Oral Radiology; Vol. 120, iss. 1, July 2015 46

Oral Surgery; Vol. 8, iss. 3, August 2015 46

The Cleft Palate-Craniofacial Journal; Vol. 52, iss. 4, July 2015 46

New from the Dental Elf 47

Your Friendly Local Librarian…

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

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

Literature searching: We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a 1 to 1 session where we can guide you through the process of creating a well-focused literature research and introduce you to the health databases access via NHS Evidence. Please email requests to library@uhbristol.nhs.uk

Lunchtime Drop-in Sessions

The **Library and Information Service** provides free specialist information skills training for all UHBristol staff and students.

To book a place, email: **library@uhbristol.nhs.uk**

If you're unable to attend we also provide **one-to-one** or **small group** sessions. Contact **library@uhbristol.nhs.uk** to arrange a session.

Literature Searching

An in-depth guide on how to search the evidence base, including an introduction to UpToDate and Anatomy.tv.

Useful for anybody who wants to find the best and quickest way to source articles.

How to understand an article

How to assess the strengths and weaknesses of published articles.

Examining bias and validity.

Medical Statistics

A basic introduction to the key statistics in medical articles.

Giving an overview of statistics that compare risk, test confidence, analyse clinical investigations, and test difference.

August (12pm)

Fri 14th	**Literature Searching**
Tues 18th	**Understanding articles**
Weds 26th	**Statistics**

September (1pm)

Thurs 3rd	**Literature Searching**
Fri 11th	**Understanding articles**
Mon 14th	**Statistics**
Tues 22nd	**Literature Searching**
Weds 30th	**Understanding articles**

October (12pm)

Thurs 8th	**Statistics**
Fri 16th	**Literature Searching**
Mon 19th	**Understanding articles**
Tues 27th	**Statistics**

November (1pm)

Weds 4th	**Literature Searching**
Thurs 12th	**Understanding articles**
Fri 20th	**Statistics**
Mon 23rd	**Literature Searching**

December (12pm)

Tues 1st	**Understanding articles**
Weds 9th	**Statistics**
Thurs 17th	**Literature Searching**

OpenAthens

To access electronic resources you need an NHS Athens username and password

To register, click on the link:
https://openathens.nice.org.uk/

You need to register using an NHS PC and an NHS email address.

Registration is a quick, simple process, and will give you access to a huge range of online subscription resources, including:

UpToDate

Dynamed

NHS Evidence

Anatomy.tv

E-journals

E-books

For more information or help with setting up your Athens account, email:
Library@uhbristol.nhs.uk

Current Awareness Database Articles on Oral and Maxillofacial Surgery

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

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

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

Oral surgery

Title: **Gender trends in authorship in oral and maxillofacial surgery literature: A 30-year analysis**

Citation: Journal of Cranio-Maxillofacial Surgery, July 2015, vol./is. 43/6(913-917)

Author(s): Nkenke E., Seemann R., Vairaktaris E., Schaller H.-G., Rohde M., Stelzle F., Knipfer C.

Abstract: The aim of the present study was to perform a bibliometric analysis of the gender distribution of first and senior authorships in important oral and maxillofacial journals over the 30-year period from 1980 to 2010. Articles published in three representative oral and maxillofacial surgery journals were selected. The years 1980, 1990, 2000, and 2010 were chosen as representative points in time for article selection. Original research, case reports, technical notes, and reviews were included in the analysis. Case reports and technical notes were pooled in one group. For each article, the gender of the first author as well as that of the senior author was determined, based on the inspection of their first name. The type of article was determined and the country of origin of the article was documented. A total 1412 articles were subjected to the data analysis. A significant increase in female authorship in oral and maxillofacial surgery could be identified over the chosen 30-year period. However, the number of publications by male authors was still significantly higher at all points of time, exceeding those of female authors by at least 3.8 fold in 2010. As there is a trend towards feminization of medicine and dentistry, the results of the present study may serve as the basis for further analysis of the current situation, and the identification of necessary actions to accelerate the closure of the gender gap in publishing in oral and maxillofacial surgery.

Title: **Does perioperative nutrition and oral carbohydrate load sustainably preserve muscle mass after bariatric surgery? A randomized control trial**

Citation: Surgery for Obesity and Related Diseases, July 2015, vol./is. 11/4(920-926)

Author(s): Azagury D.E., Ris F., Pichard C., Volonte F., Karsegard L., Huber O.

Abstract: Background Perioperative nutrition and preoperative oral carbohydrate loading (CHL) have a beneficial impact on the outcomes of gastrointestinal oncological surgery. However no data exists on their effect on morbidly obese patients. Objectives Our aim was to establish the short-term and long-term impact of these modalities, notably on metabolically active lean body mass (LBM) - an important factor in maintaining long-term weight loss. Methods Patients undergoing laparoscopic Roux-en-Y gastric bypass were randomized to standard management or intervention: CHL drinks consumed 12 and 2 hours presurgery, and immediate postoperative peripheral parenteral nutrition. The primary outcome measured was LBM, measured by Bioelectrical Impedance Analysis (BIA), one and 12 months postsurgery. Secondary outcomes included excess weight loss (EBWL), 30-day complication rate, and length of stay. Results Of the 203 randomized patients, 198 were included in the analysis. All 101 patients in the control group completed the one-year follow up and 76 completed the BIA. In the intervention group, 93 of 97 patients completed the one-year follow-up and 71 completed the BIA. At one and 12 months follow-up, body composition, LBM, or EBWL were comparable. There was no difference in operative outcomes, complications rates, or length of stay. There was no adverse effect in the intervention group. Conclusions In a highly homogeneous group of morbidly obese patients with one-year follow-up, CHL and short-term parenteral nutrition did not lead to significant or sustained LBM preservation or modification in EBWL. There was no significant decrease in complications or length of stay. Our study confirms the safety of these interventions, even in previously unstudied Type 2 diabetic patients.

Title: **Incorporating Simulation Into Oral and Maxillofacial Surgery Residency Education and Training: Christiana Care's Method.**

Citation: Journal of Oral & Maxillofacial Surgery (02782391), 01 July 2015, vol./is. 73/7(1244-1245)

Author(s): Coffey-Zern, Susan, Calvi, Ryan M D, Vorrasi, John S, Meara, Daniel J

Title: **Incorporating Simulation Into Oral and Maxillofacial Surgery Residency Education and Training: Christiana Care's Method**

Citation: Journal of Oral and Maxillofacial Surgery, July 2015, vol./is. 73/7(1244-1245)

Author(s): Coffey-Zern S., Calvi R.M.D., Vorrasi J.S., Meara D.J.

Title: **The effects of oral atenolol or enalapril premedication on blood loss and hypotensive anesthesia in orthognathic surgery**

Citation: Yonsei Medical Journal, July 2015, vol./is. 56/4(1114-1121

Author(s): Kim N.Y., Yoo Y.-C., Chun D.-H., Lee H.M., Jung Y.-S., Bai S.-J.

Abstract: Purpose: The aim of this study was to evaluate the effects of premedication with oral atenolol or enalapril, in combination with remifentanil under sevoflurane anesthesia, on intraoperative blood loss by achieving adequate deliberate hypotension (DH) during orthognathic surgery. Furthermore, we investigated the impact thereof on the amount of nitroglycerin (NTG) administered as an adjuvant agent. Materials and Methods: Seventy-three patients undergoing orthognathic surgery were randomly allocated into one of three groups: an angiotensin converting enzyme inhibitor group (Group A, n=24) with enalapril 10 mg, a beta blocker group (Group B, n=24) with atenolol 25 mg, or a control group (Group C, n=25) with placebo. All patients were premedicated orally 1 h before the induction of anesthesia. NTG was the only adjuvant agent used to achieve DH when mean arterial blood pressure (MAP) was not controlled, despite the administration of the maximum remifentanil dose (0.3 mug kg⁻¹min⁻¹) with sevoflurane. Results: Seventy-two patients completed the study. Blood loss was significantly reduced in Group A, compared to Group C (adjusted p=0.045). Over the target range of MAP percentage during DH was significantly higher in Group C than in Groups A and B (adjusted p-values=0.007 and 0.006, respectively). The total amount of NTG administered was significantly less in Group A than Group C (adjusted p=0.015). Conclusion: Premedication with enalapril (10 mg) combined with remifentanil under sevoflurane anesthesia attenuated blood loss and achieved satisfactory DH during orthognathic surgery. Furthermore, the amount of NTG was reduced during the surgery.

Title: **The 100 most-cited human cleft lip and palate-related articles published in dentistry, oral surgery, and medicine journals**

Citation: Cleft Palate-Craniofacial Journal, July 2015, vol./is. 52/4(437-446)

Author(s): Christou P., Antonarakis G.S.

Abstract: Objective: To identify the 100 most-cited articles pertaining to human cleft lip and palate research published in dentistry, oral surgery, and medicine journals and to identify their principal bibliometric characteristics. Design: Web-based bibliometric analysis. Main Outcome Measure: The Web of Science was searched to identify the 100 most-cited clinical articles related to cleft lip and/or palate. Information was extracted with regard to total number of citations, number of authors, affiliations, year, and journal of publication, Medical Subject Headings, type of study, specific area of study. Trends in citations were assessed. Results: The 100 most-cited articles identified received between 437 and 58 citations. The oldest was published in 1954 and the most recent in 2008. The number of authors ranged from 1 to 12, with an average of three authors per article. Most of the first authors were affiliated with institutions in the United States, with the most prolific institution being the University of Iowa. More than 70% of the studies appeared in The Cleft Palate-Craniofacial Journal. There was a significant negative correlation between average citations per year and time since publication (P< .001); whereas, a significant positive correlation was observed between average citations per year and number of total citations

(P< .001). Conclusions: The 100 most-cited articles in human cleft lip and palate research published in dentistry, oral surgery, and medicine journals are listed and characterized. This can be used as a potential knowledge base for specialists in training or to produce relevant knowledge defining the direction of future research.

Title: **Oral mechanical bowel preparation for colorectal surgery: Systematic review and meta-analysis**

Citation: Diseases of the Colon and Rectum, July 2015, vol./is. 58/7(698-707)

Author(s): Dahabreh I.J., Steele D.W., Shah N., Trikalinos T.A.

Abstract: Oral mechanical bowel preparation is often used before elective colorectal surgery to reduce postoperative complications. OBJECTIVE: The purpose of this study was to synthesize the evidence on the comparative effectiveness and safety of oral mechanical bowel preparation versus no preparation or enema. DATA SOURCES: We searched MEDLINE, the Cochrane Central Register of Controlled Trials, Embase, and CINAHL without any language restrictions (last search on September 6, 2013). We also searched the US Food and Drug Administration Web site and ClinicalTrials.gov and supplemented our searches by asking technical experts and perusing reference lists. STUDY SELECTION: We included English-language, full-text reports of randomized clinical trials and nonrandomized comparative studies of patients undergoing elective colon or rectal surgery. For adverse events we also included single-group cohort studies of at least 200 participants. INTERVENTIONS: Interventions included oral mechanical bowel preparation, oral mechanical bowel preparation plus enema, enema only, and no oral mechanical bowel preparation or enema. MAIN OUTCOME MEASURES: Anastomotic leakage, all-cause mortality, wound infection, peritonitis/intra-abdominal abscess, reoperation, surgical site infection, quality of life, length of stay, and adverse events were measured. We synthesized results across studies qualitatively and with Bayesian random-effects meta-analyses. RESULTS: A total of 18 randomized clinical trials, 7 nonrandomized comparative studies, and 6 single-group cohorts were included. In meta-analyses of randomized clinical trials, the credibility intervals of the summary OR included the null value of 1.0 for comparisons of oral mechanical bowel preparation and either no oral preparation or enema for overall mortality, anastomotic leakage, wound infection, peritonitis, surgical site infection, and reoperation. These results were robust to extensive sensitivity analyses. Evidence on adverse events was sparse. LIMITATIONS: The study was limited by weaknesses in the underlying evidence, such as incomplete reporting of relevant information, exclusion of non-English and relevant unpublished studies, and possible missed indexing of nonrandomized studies. CONCLUSIONS: Our results could not exclude modest beneficial or harmful effects of oral mechanical bowel preparation compared with no preparation or enema.

Title: **Complications with new oral anticoagulants dabigatran and rivaroxaban in cutaneous surgery**

Citation: Dermatologic Surgery, July 2015, vol./is. 41/7(784-793)

Author(s): Chang T.W., Arpey C.J., Baum C.L., Brewer J.D., Hochwalt P.C., Hocker T.L., Roenigk R.K.,

Abstract: BACKGROUND Anticoagulant medications to date are not associated with increased risk of severe lifethreatening complications during cutaneous surgery. Dabigatran and rivaroxaban are new orally administered anticoagulants that do not require laboratory monitoring and have no available specific antidotes, making perioperative management more complex. To the authors' knowledge, published data on the use of dabigatran or rivaroxaban in patients undergoing cutaneous surgery are limited. OBJECTIVE The authors sought to study perioperative complications associated with dabigatran and rivaroxaban during cutaneous surgery. MATERIALS AND METHODS Retrospective chart analysis was performed for all patients who underwent Mohs micrographic surgery or basic excision while taking dabigatran or rivaroxaban between January 1, 2010, and September 1, 2013, at Mayo Clinic, Rochester, MN. RESULTS Twenty-seven patients taking dabigatran underwent 41 cutaneous surgeries, with only 1 mild bleeding complication observed that was remedied with a pressure dressing. Four patients on rivaroxaban underwent 5 cutaneous surgeries without complication. CONCLUSION Because no patients on dabigatran or rivaroxaban experienced severe hemorrhagic complications during cutaneous surgery, a strategy of continuing these medically necessary medications during cutaneous surgery seems reasonable.

Title: **The Effects of Oral Atenolol or Enalapril Premedication on Blood Loss and Hypotensive Anesthesia in Orthognathic Surgery.**

Citation: Yonsei medical journal, Jul 2015, vol. 56, no. 4, p. 1114-1121

Author(s): Kim, Na Young, Yoo, Young-Chul, Chun, Duk-Hee, Lee, Hye Mi, Jung, Young-Soo, Bai,

Abstract: The aim of this study was to evaluate the effects of premedication with oral atenolol or enalapril, in combination with remifentanil under sevoflurane anesthesia, on intraoperative blood loss by achieving adequate deliberate hypotension (DH) during orthognathic surgery. Furthermore, we investigated the impact thereof on the amount of nitroglycerin (NTG) administered as an adjuvant agent. Seventy-three patients undergoing orthognathic surgery were randomly allocated into one of three groups: an angiotensin converting enzyme inhibitor group (Group A, n=24) with enalapril 10 mg, a β blocker group (Group B, n=24) with atenolol 25 mg, or a control group (Group C, n=25) with placebo. All patients were premedicated orally 1 h before the induction of anesthesia. NTG was the only adjuvant agent used to achieve DH when mean arterial blood pressure (MAP) was not controlled, despite the administration of the maximum remifentanil dose (0.3 μg kg−1 min−1) with sevoflurane. Seventy-two patients completed the study. Blood loss was significantly reduced in Group A, compared to Group C (adjusted p=0.045). Over the target range of MAP percentage during DH was significantly higher in Group C than in Groups A and B (adjusted p-values=0.007 and 0.006, respectively). The total amount of NTG administered was significantly less in Group A than Group C (adjusted p=0.015). Premedication with enalapril (10 mg) combined with remifentanil under sevoflurane

anesthesia attenuated blood loss and achieved satisfactory DH during orthognathic surgery. Furthermore, the amount of NTG was reduced during the surgery.

Title: **Incorporating Simulation Into Oral and Maxillofacial Surgery Residency Education and Training: Christiana Care's Method.**

Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Jul 2015, vol. 73, no. 7, p. 1244-1245

Author(s): Coffey-Zern, Susan, Calvi, Ryan M D, Vorrasi, John S, Meara, Daniel J

Title: **Modified Tumor Classification With Inclusion of Tumor Characteristics Improves Discrimination and Prediction Accuracy in Oral and Hypopharyngeal Cancer Patients Who Underwent Surgery.**

Citation: Medicine, Jul 2015, vol. 94, no. 27, p. e1114.

Author(s): Lee, Ching-Chih, Ho, Hsu-Chueh, Su, Yu-Chieh, Yu, Chia-Hui, Yang, Ching-Chieh

Abstract: Several histopathological characteristics have a significant prognostic impact on recurrence and survival rates in head and neck squamous cell carcinoma (HNSCC). We conducted a retrospective study on patients with HNSCC to compare traditional pathological T (pT) classification to a new T classification system that incorporates these histopathological characteristics.Newly diagnosed patients with HNSCC (n = 349) post major surgery were identified from the cancer registry database between 2004 and 2013. The pT and new T classification systems were compared with respect to recurrence-free survival (RFS), disease-specific survival (DSS), and survival rates using the Cox proportional hazards model with adjustments. The discriminatory ability of these 2 classification systems was evaluated using the adjusted hazard ratio (HR) and Akaike information criterion (AIC) in a multivariate regression model. The prediction accuracy was assessed using Harrell's C-statistic.The new T classification, which incorporated tumor size, extent, and location with histopathological features had better discriminatory ability and monotonicity of gradients than did pT classification. The new T4 classification yielded a higher adjusted HR in RFS (HR, 4.11; 95% confidence interval [CI], 7.75-9.65) and in DSS (HR, 4.39; 95% CI, 1.6-12.03), and a lower AIC in recurrence (927 vs 969) and survival rates (791 vs 833).The new T classification system had better discriminatory ability in RFS and DSS compared with the routinely used American Joint Committee on Cancer (AJCC) pT classification system. Therefore, this new T classification system, which includes tumor size, location, extent, and histopathological features, could be used as an alternative to AJCC pT classification for patients with HNSCC.

Title: **Early oral nutrition after major pancreatic surgery. Author response to "Food at will after pancreaticoduodenectomies".**

Citation: Nutrition (Burbank, Los Angeles County, Calif.), Jul 2015, vol. 31, no. 7-8, p. 1058-1059

Author(s): Bozzetti, Federico, Mariani, Luigi

Title: **Gender trends in authorship in oral and maxillofacial surgery literature: A 30-year analysis.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 913-917

Author(s): Nkenke, Emeka, Seemann, Rudolf, Vairaktaris, Elefterios, Schaller, Hans-Günter, Rohde, Maximilian, Stelzle, Florian, Knipfer, Christian

Abstract: The aim of the present study was to perform a bibliometric analysis of the gender distribution of first and senior authorships in important oral and maxillofacial journals over the 30-year period from 1980 to 2010. Articles published in three representative oral and maxillofacial surgery journals were selected. The years 1980, 1990, 2000, and 2010 were chosen as representative points in time for article selection. Original research, case reports, technical notes, and reviews were included in the analysis. Case reports and technical notes were pooled in one group. For each article, the gender of the first author as well as that of the senior author was determined, based on the inspection of their first name. The type of article was determined and the country of origin of the article was documented. A total 1412 articles were subjected to the data analysis. A significant increase in female authorship in oral and maxillofacial surgery could be identified over the chosen 30-year period. However, the number of publications by male authors was still significantly higher at all points of time, exceeding those of female authors by at least 3.8 fold in 2010. As there is a trend towards feminization of medicine and dentistry, the results of the present study may serve as the basis for further analysis of the current situation, and the identification of necessary actions to accelerate the closure of the gender gap in publishing in oral and maxillofacial surgery.

Title: **Painkillers before oral surgery fail to ensure relief.**

Citation: British dental journal, Jul 2015, vol. 219, no. 2, p. 54. (July 24, 2015)

Title: **Complications With New Oral Anticoagulants Dabigatran and Rivaroxaban in Cutaneous Surgery.**

Citation: Dermatologic surgery : official publication for American Society for Dermatologic Surgery [et al.], Jul 2015, vol. 41, no. 7, p. 784-793

Author(s): Chang, Timothy W, Arpey, Christopher J, Baum, Christian L, Brewer, Jerry D,

Abstract: Anticoagulant medications to date are not associated with increased risk of severe life-threatening complications during cutaneous surgery. Dabigatran and rivaroxaban are new orally administered anticoagulants that do not require laboratory monitoring and have no available specific antidotes, making perioperative management more complex. To the authors' knowledge, published data on the use of dabigatran or rivaroxaban in patients undergoing cutaneous surgery are limited. The authors sought to study perioperative complications associated with dabigatran and rivaroxaban during cutaneous surgery.

Retrospective chart analysis was performed for all patients who underwent Mohs micrographic surgery or basic excision while taking dabigatran or rivaroxaban between January 1, 2010, and September 1, 2013, at Mayo Clinic, Rochester, MN. Twenty-seven patients taking dabigatran underwent 41 cutaneous surgeries, with only 1 mild bleeding complication observed that was remedied with a pressure dressing. Four patients on rivaroxaban underwent 5 cutaneous surgeries without complication. Because no patients on dabigatran or rivaroxaban experienced severe hemorrhagic complications during cutaneous surgery, a strategy of continuing these medically necessary medications during cutaneous surgery seems reasonable.

Title: **Oral Mechanical Bowel Preparation for Colorectal Surgery: Systematic Review and Meta-Analysis.**

Citation: Diseases of the colon and rectum, Jul 2015, vol. 58, no. 7, p. 698-707

Author(s): Dahabreh, Issa J, Steele, Dale W, Shah, Nishit, Trikalinos, Thomas A

Abstract: Oral mechanical bowel preparation is often used before elective colorectal surgery to reduce postoperative complications. The purpose of this study was to synthesize the evidence on the comparative effectiveness and safety of oral mechanical bowel preparation versus no preparation or enema. We searched MEDLINE, the Cochrane Central Register of Controlled Trials, Embase, and CINAHL without any language restrictions (last search on September 6, 2013). We also searched the US Food and Drug Administration Web site and ClinicalTrials.gov and supplemented our searches by asking technical experts and perusing reference lists. We included English-language, full-text reports of randomized clinical trials and nonrandomized comparative studies of patients undergoing elective colon or rectal surgery. For adverse events we also included single-group cohort studies of at least 200 participants. Interventions included oral mechanical bowel preparation, oral mechanical bowel preparation plus enema, enema only, and no oral mechanical bowel preparation or enema. Anastomotic leakage, all-cause mortality, wound infection, peritonitis/intra-abdominal abscess, reoperation, surgical site infection, quality of life, length of stay, and adverse events were measured. We synthesized results across studies qualitatively and with Bayesian random-effects meta-analyses. A total of 18 randomized clinical trials, 7 nonrandomized comparative studies, and 6 single-group cohorts were included. In meta-analyses of randomized clinical trials, the credibility intervals of the summary OR included the null value of 1.0 for comparisons of oral mechanical bowel preparation and either no oral preparation or enema for overall mortality, anastomotic leakage, wound infection, peritonitis, surgical site infection, and reoperation. These results were robust to extensive sensitivity analyses. Evidence on adverse events was sparse. The study was limited by weaknesses in the underlying evidence, such as incomplete reporting of relevant information, exclusion of non-English and relevant unpublished studies, and possible missed indexing of nonrandomized studies. Our results could not exclude modest beneficial or harmful effects of oral mechanical bowel preparation compared with no preparation or enema.

Title: **The 100 Most-Cited Human Cleft Lip and Palate-Related Articles Published in Dentistry, Oral Surgery, and Medicine Journals.**

Citation: The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Jul 2015, vol. 52, no. 4, p. 437-446

Author(s): Christou, Panagiotis, Antonarakis, Gregory S

Abstract: To identify the 100 most-cited articles pertaining to human cleft lip and palate research published in dentistry, oral surgery, and medicine journals and to identify their principal bibliometric characteristics. Web-based bibliometric analysis. The Web of Science was searched to identify the 100 most-cited clinical articles related to cleft lip and/or palate. Information was extracted with regard to total number of citations, number of authors, affiliations, year, and journal of publication, Medical Subject Headings, type of study, specific area of study. Trends in citations were assessed. The 100 most-cited articles identified received between 437 and 58 citations. The oldest was published in 1954 and the most recent in 2008. The number of authors ranged from 1 to 12, with an average of three authors per article. Most of the first authors were affiliated with institutions in the United States, with the most prolific institution being the University of Iowa. More than 70% of the studies appeared in The Cleft Palate-Craniofacial Journal. There was a significant negative correlation between average citations per year and time since publication ($P < .001$); whereas, a significant positive correlation was observed between average citations per year and number of total citations ($P < .001$). The 100 most-cited articles in human cleft lip and palate research published in dentistry, oral surgery, and medicine journals are listed and characterized. This can be used as a potential knowledge base for specialists in training or to produce relevant knowledge defining the direction of future research.

Title: **Duplicate publications and related problems in published papers on oral and maxillofacial surgery.**

Citation: The British journal of oral & maxillofacial surgery, Jul 2015, vol. 53, no. 6, p. 546-549 (July 2015)

Author(s): Le, A, Moran, C M P, Bezuhly, M, Hong, P

Abstract: As duplicate publication is unethical, our aim was to find out how common it is among published papers on oral and maxillofacial surgery. We used PubMed to identify index articles published in 2010 in the Journal of Oral and Maxillofacial Surgery, the British Journal of Oral and Maxillofacial Surgery, and the European Journal of Cranio-Maxillo-Facial Surgery, and searched for possible duplicate publications from 2008 to 2012 using the first or second and last authors' names. Suspected duplicates were categorised into "non-duplicate" (no overlap), "duplicate" (identical results and conclusions), or "salami-sliced" publications (part of the index article repeated or continued). Of the 589 index articles, 17 (3%) had some form of duplication, but specifically, we found 3 duplicate, and 15 salami-sliced publications. Most redundant articles originated from China (n=4), followed by Italy, Japan, and Germany (3 from each) and the United States and Denmark (2 each). Of the 18 redundant publications, 9 did not reference the related index article. Duplicate material is still being published, and salami-slicing is relatively common among publications on oral and maxillofacial surgery. Further research is required into the extent and impact of this finding.

Title: **Does perioperative nutrition and oral carbohydrate load sustainably preserve muscle mass after bariatric surgery? A randomized control trial.**

Citation: Surgery for obesity and related diseases : official journal of the American Society for Bariatric Surgery, Jul 2015, vol. 11, no. 4, p. 920-926

Author(s): Azagury, D E, Ris, F, Pichard, C, Volonté, F, Karsegard, L, Huber, O

Abstract: Perioperative nutrition and preoperative oral carbohydrate loading (CHL) have a beneficial impact on the outcomes of gastrointestinal oncological surgery. However no data exists on their effect on morbidly obese patients. Our aim was to establish the short-term and long-term impact of these modalities, notably on metabolically active lean body mass (LBM) - an important factor in maintaining long-term weight loss. Patients undergoing laparoscopic Roux-en-Y gastric bypass were randomized to standard management or intervention: CHL drinks consumed 12 and 2 hours presurgery, and immediate postoperative peripheral parenteral nutrition. The primary outcome measured was LBM, measured by Bioelectrical Impedance Analysis (BIA), one and 12 months postsurgery. Secondary outcomes included excess weight loss (EBWL), 30-day complication rate, and length of stay. Of the 203 randomized patients, 198 were included in the analysis. All 101 patients in the control group completed the one-year follow up and 76 completed the BIA. In the intervention group, 93 of 97 patients completed the one-year follow-up and 71 completed the BIA. At one and 12 months follow-up, body composition, LBM, or EBWL were comparable. There was no difference in operative outcomes, complications rates, or length of stay. There was no adverse effect in the intervention group. In a highly homogeneous group of morbidly obese patients with one-year follow-up, CHL and short-term parenteral nutrition did not lead to significant or sustained LBM preservation or modification in EBWL. There was no significant decrease in complications or length of stay. Our study confirms the safety of these interventions, even in previously unstudied Type 2 diabetic patients.

Bisphosphonate-related osteonecrosis of the jaw

Title: Cytoprotective effects of melatonin on zoledronic acid-treated human mesenchymal stem cells in vitro.

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 855-862

Author(s): Rodríguez-Lozano, Francisco Javier, García-Bernal, David, Ros-Roca, Maria de Los Ángeles, Algueró, Maria Del Carmen, Oñate-Sánchez, Ricardo Elías, Camacho-Alonso, Fabio, Moraleda, Jose María

Abstract: Bisphosphonate-related osteonecrosis of the jaw (BRONJ) is a common clinical complication in patients receiving bisphosphonate therapy. Furthermore, melatonin has been proposed as a therapeutic drug for the oral cavity due to its antioxidant properties. This study aimed to evaluate the cytoprotective effects of melatonin on zoledronic acid (ZA)-

treated human mesenchymal stem cells from periodontal ligament (PDLSCs) and bone marrow (BMMSCs). PDLSCs and BMMSCs were exposed to ZA, melatonin or ZA + melatonin for 72 h. Cell proliferation was measured by a colorimetric assay, whereas their mesenchymal phenotype was analyzed by flow cytometry. Proliferation assays showed that BMMSCs presented higher ZA resistance than PDLSCs, as well as a difference in response to the simultaneous treatment of ZA + melatonin. Using PDLSCs, high doses of melatonin significantly increased their proliferation, whereas lower concentrations were enough to enhance ZA-treated BMMSC proliferation. Moreover, PDLSCs displayed a CD90/CD105 downregulation and CD73 upregulation in response to ZA, which was more pronounced in response to melatonin. Furthermore, ZA or ZA + low doses of melatonin induced a decrease of expression of CD90/CD105/CD73 on BMMSCs, while a higher concentration recovered CD73 levels. These results suggest that melatonin has a cytoprotective effect on ZA-treated PDLSCs and BMMSCs. Thus, it could be used for BRONJ prevention.

Title: Tooth extraction in patients receiving oral or intravenous bisphosphonate administration: A trigger for BRONJ development?

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 847-854

Author(s): Otto, Sven, Tröltzsch, Matthias, Jambrovic, Vesna, Panya, Sappasith, Probst, Florian, Ristow, Oliver, Ehrenfeld, Michael, Pautke, Christoph

Abstract: Scientific debate outlines tooth extraction as a potential trigger for the onset of bisphosphonate-related osteonecrosis of the jaw (BRONJ). Therefore, the aim of this study was to investigate the outcome of tooth extractions in patients receiving bisphosphonate therapy. A retrospective cohort study was performed on patients with a history of oral or intravenous bisphosphonate administration and tooth extraction between 2007 and 2013 in a single university hospital oral and maxillofacial surgical unit. In all patients, extractions were performed according to the guidelines of the German Society of Oral and Maxillofacial Surgery. The outcome variable was the onset of typical BRONJ signs during postoperative follow-up. In 72 subjects (53 female, 19 male; mean age 67.5 years) receiving oral (n = 27) and/or intravenous (n = 45) bisphosphonates due to malignant tumor (n = 43) or osteoporosis (n = 29), 216 tooth extractions were performed. The mean duration of intake was 36.2 months. In 67 out of 72 patients (93.1%) and 209 out of the 216 extraction sites the postoperative course was uneventful and the wounds healed without complications. Three of the 72 patients (4.2%) developed osteonecrosis of the jaw in four of the 216 extraction sites (1.9%). Duration and route of administration, oral hygiene and steroid intake were identified as potential risk factors for the development of BRONJ. Tooth extraction in patients receiving bisphosphonates can be performed in a safe and predictable way, even in high-risk patients, when performed according to established guidelines. It is not tooth extractions themselves, but rather prevailing infectious conditions that may be a key risk factor for the development of BRONJ.

Title: Surgical Therapy for Bisphosphonate-Related Osteonecrosis of the Jaw: Six-Year Experience of a Single Institution.

Citation: Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons, Jul 2015, vol. 73, no. 7, p. 1288-1295

Author(s): Lopes, Rodrigo Nascimento, Rabelo, Gustavo Davi, Rocha, Andre Caroli, Carvalho, Paulo Andre Gonçalves, Alves, Fabio Abreu

Abstract: Bisphosphonates are drugs commonly used to treat osteoporosis, hypercalcemia of malignancy, and bone metastases. In some cases, its administration has been associated with osteonecrosis of the jaws. The management of medication-related osteonecrosis of the jaw (MRONJ) has not been completely elucidated, and its treatment can vary from no or limited surgery to more extensive surgery. The objective of the present study was to evaluate the efficacy of surgical therapy for patients presenting with MRONJ. A retrospective study was conducted that evaluated all MRONJ cases resulting from bisphosphonate use and treated by surgery from 2006 to 2012. All patients underwent surgery under general anesthesia. A total of 33 patients with 46 MRONJ sites were evaluated. Most of the patients were women, with an age range of 39 to 83 years (mean 65.6 ± 10.6). Complete healing of the MRONJ region was observed in 40 of the 46 sites (87%), with partial improvement (symptom control and reduction of the exposed bone area) observed in 3 sites (6.5%), for a 93.5% clinical benefit rate. Of the remaining regions, 2 showed no significant changes, and 1 presented with a worse aspect compared with the patient's preoperative condition. Such cases were located in the posterior mandible region. The number of applications and type of bisphosphonate did not influence the treatment response. The surgical approach to treating MRONJ showed a high rate of clinical control. Therefore, surgery should be considered as a therapy for some cases of this condition.

Title: Erratum to: Intraoperative detection of viable bone with fluorescence imaging using Visually Enhanced Lesion Scope in patients with bisphosphonate-related osteonecrosis of the jaw: clinical and pathological evaluation.

Citation: Osteoporosis international : a journal established as result of cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA, Jul 2015, vol. 26, no. 7, p. 2007-2012

Author(s): Yoshiga, D, Sasaguri, M, Matsuo, K, Kokuryou, S, Habu, M, Oda, M, Kodama, M, Tsurushima, H, Sakaguchi, O, Sakurai, T, Tanaka, J, Morimoto, Y, Yoshioka, I, Tominaga, K

Title: Intraoperative detection of viable bone with fluorescence imaging using Visually Enhanced Lesion Scope in patients with bisphosphonate-related osteonecrosis of the jaw: clinical and pathological evaluation.

Citation: Osteoporosis international : a journal established as result of cooperation between the European Foundation for Osteoporosis and the National Osteoporosis Foundation of the USA, Jul 2015, vol. 26, no. 7, p. 1997-2006

Author(s): Yoshiga, D, Sasaguri, M, Matsuo, K, Kokuryou, S, Habu, M, Oda, M, Kodama, M, Tsurushima, H, Sakaguchi, O, Sakurai, T, Tanaka, J, Morimoto, Y, Yoshioka, I, Tominaga, K

Abstract: There is no standard surgical protocol of bisphosphonate-related osteonecrosis of the jaws (BRONJ), because of the impossibility to visualize this feature intraoperatively. The aim of this study was to introduce how to provide preoperative labeling of the viable bone with minocycline bone fluorescence technique (MBFT) by using VELscope® and investigate histopathologically. The American Association of Oral and Maxillofacial Surgeons (AAOMS) and the Japanese Society of Oral and Maxillofacial Surgeons (JSOMS) now recommend a more conservative treatment strategy. There is no standard surgical protocol of bisphosphonate-related osteonecrosis of the jaws (BRONJ) because of the impossibility to visualize this feature intraoperatively. The aim of this study was to introduce a mechanism providing preoperative labeling of a viable bone using minocycline bone fluorescence technique (MBFT) with VELscope® and to histopathologically investigate. This report describes a surgical technique used in six patients with BRONJ who underwent jawbone resection under minocycline bone fluorescence imaging using VELscope®. Subsequently, we investigated and compared the clinical findings using VELscope® and histopathological findings. Histopathological examinations showed that the non-fluorescent moiety was consistent with the BRONJ lesions. The surgical treatments that were exactly performed using MBFT with VELscope® offered successful management of BRONJ. This bone fluorescence helped to define the margins of resection, thus improving surgical therapy for extended osteonecrosis.

Title: Comparison of the prognosis of bisphosphonate-related osteonecrosis of the jaw caused by oral and intravenous bisphosphonates.

Citation: International journal of oral and maxillofacial surgery, Jul 2015, vol. 44, no. 7, p. 840-844

Author(s): Shintani, T, Hayashido, Y, Mukasa, H, Akagi, E, Hoshino, M, Ishida, Y, Hamana, T, Okamoto, K, Kanda, T, Koizumi, K, Yoshioka, Y, Tani, R, Toratani, S, Okamoto, T

Abstract: Bisphosphonates (BPs) have been used in medical practice for the treatment of osteoporosis, bone metastasis, and multiple myeloma. Although many studies have been published, the treatment and prognosis of bisphosphonate-related osteonecrosis of the jaw (BRONJ) remain unclear. This study included 59 patients with BRONJ: 29 had taken oral BPs and 30 had taken intravenous (IV) BPs. All received conservative treatments. When separated sequestra were seen, a sequestrectomy was performed. Segmental mandibular resection was performed when pathological fractures were diagnosed. The outcomes of treatments were compared between groups. For patients treated with oral rinses or mandibular resection, the number in whom clinical healing was observed did not differ between the oral BP and IV BP groups. With regard to sequestrectomy, 94% of patients in the oral BP group showed improvement with this treatment compared to 50% in the IV BP group. The number of patients in whom clinical healing of BRONJ was achieved was statistically better in the oral BP group than in the IV BP group after 6 months of treatment ($P<0.001$). The results showed that >90% of patients treated with oral BPs could be cured.

However, 50% of patients treated with IV BPs did not show an improvement. Additional research is needed to further increase the therapeutic efficacy for the resolution of BRONJ.

Title: Periosteal microcirculatory reactions in a zoledronate-induced osteonecrosis model of the jaw in rats.

Citation: Clinical oral investigations, Jul 2015, vol. 19, no. 6, p. 1279-1288

Author(s): Janovszky, Ágnes, Szabó, Andrea, Varga, Renáta, Garab, Dénes, Boros, Mihály, Mester, Csilla, Beretka, Nikolett, Zombori, Tamás, Wiesmann, Hans-Peter, Bernhardt, Ricardo, Ocsovszki, Imre, Balázs, Péter, Piffkó, József

Abstract: Nitrogen-containing bisphosphonates induce osteonecrosis mostly in the jaw and less frequently in other bones. Because of the crucial role of periosteal perfusion in bone repair, we investigated zoledronate-induced microcirculatory reactions in the mandibular periosteum in comparison with those in the tibia in a clinically relevant model of bisphosphonate-induced medication-related osteonecrosis of the jaw (MRONJ). Sprague-Dawley rats were treated with zoledronate (ZOL; 80 i.v. μg/kg/week over 8 weeks) or saline vehicle. The first two right mandibular molar teeth were extracted after 3 weeks. Various systemic and local (periosteal) microcirculatory inflammatory parameters were examined by intravital videomicroscopy after 9 weeks. Gingival healing disorders (∼100 %) and MRONJ developed in 70 % of ZOL-treated cases but not after saline (shown by micro-CT). ZOL induced significantly higher degrees of periosteal leukocyte rolling and adhesion in the mandibular postcapillary venules (at both extraction and intact sites) than at the tibia. Leukocyte NADPH-oxidase activity was reduced; leukocyte CD11b and plasma TNF-alpha levels were unchanged. Chronic ZOL treatment causes a distinct microcirculatory inflammatory reaction in the mandibular periosteum but not in the tibia. The local reaction in the absence of augmented systemic leukocyte inflammatory activity suggests that topically different, endothelium-specific changes may play a critical role in the pathogenesis of MRONJ. This model permits for the first time to explore the microvascular processes in the mandibular periosteum after chronic ZOL treatment. This approach may contribute to a better understanding of the pathomechanism and the development of strategies to counteract bisphosphonate-induced side effects.

Title: Comparison of gene expression between mandibular and iliac bone-derived cells.

Citation: Clinical oral investigations, Jul 2015, vol. 19, no. 6, p. 1223-1233

Author(s): Lee, Jung-Tae, Choi, So-Young, Kim, Hyung-Lak, Kim, Jae-Young, Lee, Heon-Jin, Kwon, Tae-Geon

Abstract: The purpose of this study is to investigate the differences in gene expression between the human mandibular and iliac bone-derived cells (BCs) for better understanding of the site-specific characteristics of bones. Primary cells were obtained from mandibular and iliac bones from six healthy, elderly donors. To investigate site-specific differences, gene expression profile of mandibular and iliac BC from the same donors were compared via

cDNA microarray analysis. A comparison of the gene expression profiles revealed that 82 genes were significantly upregulated and 66 genes were downregulated with 1.5 fold or greater in mandibular versus iliac BCs. The most significantly differentially regulated genes were associated with skeletal system development or morphogenesis (SIX1, MSX1, MSX2, HAND2, PRRX1, OSR2, HOX gene family, PITX2). Especially, upregulated genes in mandibular BC were related with tooth morphogenesis, originated from the ectomesenchyme. Microarray analysis revealed that Msx1 was 2.03-fold and Msx2 was 1.99-fold upregulated in mandibular versus iliac BCs (both $p < 0.01$). Furthermore, in mandibular BCs, all members of the HOX gene family that were analyzed were downregulated ($p < 0.01$) and osteopontin was also downregulated by 2.84-fold ($p < 0.01$). Site-specific differences between jaw and long bones can be explained by the differences in gene expression patterns. Our results suggest that bone cell-derived cells maintain the genetic characteristics of their embryological origin. This study revealed fundamental differences in gene expression between the mandibular and iliac bone in humans. These differences could be important for understanding jaw bone-specific development of bisphosphonate-related osteonecrosis of the jaw.

Title: BRONJ-related jaw bone is associated with increased Dlx-5 and suppressed osteopontin-implication in the site-specific alteration of angiogenesis and bone turnover by bisphosphonates.

Citation: Clinical oral investigations, Jul 2015, vol. 19, no. 6, p. 1289-1298

Author(s): Wehrhan, Falk, Amann, Kerstin, Möbius, Patrick, Weber, Manuel, Preidl, Raimund, Ries, Jutta, Stockmann, Phillip

Abstract: Site-specific suppression of bone remodelling has been implicated in bisphosphonate-(BP)-related osteonecrosis of the jaws (BRONJ). Due to the origin of jaw bone from cranial neural crest, osseous differentiation is regulated specifically by the antagonizing BMP-2-downstream-transcription factors Msx-1 and Dlx-5. Osteopontin has been implicated in bone remodelling and angiogenesis. The osteoblast and osteoclast progenitor proliferation mediating Msx-1 has been demonstrated to be suppressed in BRONJ. In vitro BPs were shown to increase Dlx-5 and to suppress osteopontin expression. This study targeted Dlx-5 and osteopontin in BRONJ-related and BP-exposed jaw bone compared with healthy jaw bone samples at protein- and messenger RNA (mRNA) level, since increased Dlx-5 and suppressed osteopontin might account for impaired bone turnover in BRONJ. Fifteen BRONJ-exposed, 15 BP-exposed and 20 healthy jaw bone samples were processed for real-time reverse transcription polymerase chain reaction (RT-PCR) and for immunohistochemistry. Targeting Dlx-5, osteopontin and glyceraldehyde 3-phosphate dehydrogenase mRNA was extracted, quantified by the LabChip-method, followed by quantitative RT-PCR. For immunohistochemistry, an autostaining-based alkaline phosphatase antialkaline phosphatase (APAPP) staining kit was used. Semiquantitative assessment was performed measuring the ratio of stained cells/total number of cells (labelling index, Bonferroni adjustment). The labelling index was significant decreased for osteopontin ($p < 0.017$) and significantly increased for Dlx-5 ($p < 0.021$) in BRONJ samples. In BRONJ specimens, a significant fivefold decrease in gene expression for osteopontin ($p < 0.015$) and a significant eightfold increase in Dlx-5 expression ($p < 0.012$) were found.

BRONJ-related suppression of bone turnover is consistent with increased Dlx-5 expression and with suppression of osteopontin. The BP-related impaired BMP-2-Msx-1-Dlx-5 axis might explain the jaw bone specific alteration by BP. The findings of this study help to explain the restriction of RONJ to craniofacial bones. BRONJ might serve as a model of disease elucidating the specific signal transduction of neural crest cell-derived bone structures in health and disease.

Title: Zoledronate but not denosumab suppresses macrophagic differentiation of THP-1 cells. An aetiologic model of bisphosphonate-related osteonecrosis of the jaw (BRONJ).

Citation: Clinical oral investigations, Jul 2015, vol. 19, no. 6, p. 1307-1318

Author(s): Hoefert, Sebastian, Hoefert, Claudia Sade, Albert, Marc, Munz, Adelheid, Grimm, Martin, Northoff, Hinnak, Reinert, Siegmar, Alexander, Dorothea

Abstract: Bisphosphonates and denosumab are antiresorptive drugs used for the treatment of osteoporosis and oncological tumors. A severe side effect is osteonecrosis of the jaw. Monocyte/macrophage dysfunction is considered to play a distinct role in osteonecrosis. THP-1 monocytic cells were used in this study to elucidate the influence of zoledronate and denosumab on phorbol-12-myrisate-13-acetate (PMA)-induced macrophage differentiation and function in real-time. Macrophagic differentiation of the THP-1 suspension cells was measured by cell adherence in the presence or absence of different concentrations of zoledronate (0.5, 5, 50 µM) and denosumab (1, 10, 20, 40 µg/mL) using the real-time xCELLigence system. Additionally, a live/dead staining was performed by fluorescence microscopy. THP-1 cells demonstrated a regular initial PMA-induced differentiation to macrophages by live measurements of cell adherence and by an increase in CD68 surface expression as detected by flow cytometry. The addition of zoledronate led to cell detachment of the THP-1-derived macrophages in a dose-dependent manner in contrast to denosumab. Cell detachment was based on cell death as confirmed by live/dead staining, revealing elevated numbers of dead cells following addition of high zoledronate concentrations. However, denosumab did not deteriorate THP-1 cell viability. Our results demonstrate that zoledronate but not denosumab suppresses monocytic THP-1 cell viability after macrophagic differentiation dose-dependently. This is the first real-time study providing evidence for a dose-dependent immunosuppressive effect of zoledronate in contrast to denosumab on local macrophages.

Maxillofacial

Title: **Systematic review of "filling" procedures for lip augmentation regarding types of material, outcomes and complications.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 883-906

Author(s): San Miguel Moragas, Joan, Reddy, Rajgopal R, Hernández Alfaro, Federico, Mommaerts,

Abstract: The ideal lip augmentation technique provides the longest period of efficacy, lowest complication rate, and best aesthetic results. A myriad of techniques have been described for lip augmentation, but the optimal approach has not yet been established. This systematic review with meta-regression will focus on the various filling procedures for lip augmentation (FPLA), with the goal of determining the optimal approach. A systematic search for all English, French, Spanish, German, Italian, Portuguese and Dutch language studies involving FPLA was performed using these databases: Elsevier Science Direct, PubMed, Highwire Press, Springer Standard Collection, SAGE, DOAJ, Sweetswise, Free E-Journals, Ovid Lippincott Williams & Wilkins, Willey Online Library Journals, and Cochrane Plus. The reference section of every study selected through this database search was subsequently examined to identify additional relevant studies. The database search yielded 29 studies. Nine more studies were retrieved from the reference sections of these 29 studies. The level of evidence ratings of these 38 studies were as follows: level Ib, four studies; level IIb, four studies; level IIIb, one study; and level IV, 29 studies. Ten studies were prospective. This systematic review sought to highlight all the quality data currently available regarding FPLA. Because of the considerable diversity of procedures, no definitive comparisons or conclusions were possible. Additional prospective studies and clinical trials are required to more conclusively determine the most appropriate approach for this procedure. IV.

Title: **Three-dimensional virtual planning in orthognathic surgery enhances the accuracy of soft tissue prediction.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 918-925

Author(s): Van Hemelen, Geert, Van Genechten, Maarten, Renier, Lieven, Desmedt, Maria, Verbruggen, Elric, Nadjmi, Nasser

Abstract: Throughout the history of computing, shortening the gap between the physical and digital world behind the screen has always been strived for. Recent advances in three-dimensional (3D) virtual surgery programs have reduced this gap significantly. Although 3D assisted surgery is now widely available for orthognathic surgery, one might still argue whether a 3D virtual planning approach is a better alternative to a conventional two-dimensional (2D) planning technique. The purpose of this study was to compare the accuracy of a traditional 2D technique and a 3D computer-aided prediction method. A double blind randomised prospective study was performed to compare the prediction accuracy of a traditional 2D planning technique versus a 3D computer-aided planning approach. The accuracy of the hard and soft tissue profile predictions using both planning methods was investigated. There was a statistically significant difference between 2D and 3D soft tissue planning ($p < 0.05$). The statistically significant difference found between 2D and 3D planning and the actual soft tissue outcome was not confirmed by a statistically significant difference between methods. The 3D planning approach provides more accurate soft tissue planning. However, the 2D orthognathic planning is comparable to 3D planning

when it comes to hard tissue planning. This study provides relevant results for choosing between 3D and 2D planning in clinical practice.

Title: **Gender trends in authorship in oral and maxillofacial surgery literature: A 30-year analysis.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 913-917

Author(s): Nkenke, Emeka, Seemann, Rudolf, Vairaktaris, Elefterios, Schaller, Hans-Günter, Rohde, Maximilian, Stelzle, Florian, Knipfer, Christian

Abstract: The aim of the present study was to perform a bibliometric analysis of the gender distribution of first and senior authorships in important oral and maxillofacial journals over the 30-year period from 1980 to 2010. Articles published in three representative oral and maxillofacial surgery journals were selected. The years 1980, 1990, 2000, and 2010 were chosen as representative points in time for article selection. Original research, case reports, technical notes, and reviews were included in the analysis. Case reports and technical notes were pooled in one group. For each article, the gender of the first author as well as that of the senior author was determined, based on the inspection of their first name. The type of article was determined and the country of origin of the article was documented. A total 1412 articles were subjected to the data analysis. A significant increase in female authorship in oral and maxillofacial surgery could be identified over the chosen 30-year period. However, the number of publications by male authors was still significantly higher at all points of time, exceeding those of female authors by at least 3.8 fold in 2010. As there is a trend towards feminization of medicine and dentistry, the results of the present study may serve as the basis for further analysis of the current situation, and the identification of necessary actions to accelerate the closure of the gender gap in publishing in oral and maxillofacial surgery.

Title: **Can we use serum copeptin levels as a biomarker in obstructive sleep apnea syndrome?**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 879-882

Author(s): Selcuk, Omer Tarık, Eyigor, Mete, Renda, Levent, Osma, Ustun, Eyigor, Hulya, Selcuk, Nursel Turkoglu, Yılmaz, Mustafa Deniz, Demirkıran, Cansu, Unlu, Hande, Gültekin, Meral

Abstract: The aim of this study was to compare serum copeptin levels in patients with obstructive sleep apnea syndrome (OSA) and simple snorers without sleep apnea; and to investigate relationships between copeptin levels and polysomnographic parameters. Serum copeptin levels were determined using enzyme-linked immunosorbent assay in 47 patients with OSA and 12 patients without OSA (control group). Full-night polysomnography was performed in each patient. Patients with OSA were divided into three groups according to their Apnea Hypopnea Index (AHI) scores: mild OSA (5 < AHI < 15), moderate OSA (15 < AHI

< 30), and severe OSA (AHI > 30). A total of 59 patients were included in the study. There were 23 female (39.0 %) and 36 male (61.0 %) subjects. The range of ages of study subjects was between 27 and 63 (mean 44.75 ± 9.64) years. According to the AHI values, patients were classified into four groups: simple snoring (n = 13), mild OSA (n = 10), moderate OSA (n = 15), and severe OSA (n = 21). Statistically significant differences between AHI groups in terms of age, Epworth score, and neck circumference. According to multiple comparison results for age, the difference between simple snoring and moderate OSA was statistically significant. According to multiple comparison results for Epworth score, the difference between simple snoring and severe OSA was statistically significant. According to multiple comparison results for neck circumference, a similar result was found like Epworth Sleepiness Scale score. The difference between AHI groups by gender was tested by a Pearson $\chi(2)$ test and was found to be statistically significant. There was no statistically significant difference among AHI groups in terms of copeptin. There was a statistically significant correlation of copeptin with AHI during rapid eye movement (REM) sleep; however, the correlation coefficient was not sufficiently large. Increased serum copeptin concentration may reflect a response to stress in some diseases. This is well documented especially in cardiovascular diseases; however, we could not find any difference in OSA groups in terms of copeptin levels.

Title: **Cytoprotective effects of melatonin on zoledronic acid-treated human mesenchymal stem cells in vitro.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 855-862

Author(s): Rodríguez-Lozano, Francisco Javier, García-Bernal, David, Ros-Roca, Maria de Los Ángeles, Algueró, Maria Del Carmen, Oñate-Sánchez, Ricardo Elías, Camacho-Alonso, Fabio, Moraleda, Jose María

Abstract: Bisphosphonate-related osteonecrosis of the jaw (BRONJ) is a common clinical complication in patients receiving bisphosphonate therapy. Furthermore, melatonin has been proposed as a therapeutic drug for the oral cavity due to its antioxidant properties. This study aimed to evaluate the cytoprotective effects of melatonin on zoledronic acid (ZA)-treated human mesenchymal stem cells from periodontal ligament (PDLSCs) and bone marrow (BMMSCs). PDLSCs and BMMSCs were exposed to ZA, melatonin or ZA + melatonin for 72 h. Cell proliferation was measured by a colorimetric assay, whereas their mesenchymal phenotype was analyzed by flow cytometry. Proliferation assays showed that BMMSCs presented higher ZA resistance than PDLSCs, as well as a difference in response to the simultaneous treatment of ZA + melatonin. Using PDLSCs, high doses of melatonin significantly increased their proliferation, whereas lower concentrations were enough to enhance ZA-treated BMMSC proliferation. Moreover, PDLSCs displayed a CD90/CD105 downregulation and CD73 upregulation in response to ZA, which was more pronounced in response to melatonin. Furthermore, ZA or ZA + low doses of melatonin induced a decrease of expression of CD90/CD105/CD73 on BMMSCs, while a higher concentration recovered CD73 levels. These results suggest that melatonin has a cytoprotective effect on ZA-treated PDLSCs and BMMSCs. Thus, it could be used for BRONJ prevention.

Title: **Tooth extraction in patients receiving oral or intravenous bisphosphonate administration: A trigger for BRONJ development?**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 847-854

Author(s): Otto, Sven, Tröltzsch, Matthias, Jambrovic, Vesna, Panya, Sappasith, Probst, Florian, Ristow, Oliver, Ehrenfeld, Michael, Pautke, Christoph

Abstract: Scientific debate outlines tooth extraction as a potential trigger for the onset of bisphosphonate-related osteonecrosis of the jaw (BRONJ). Therefore, the aim of this study was to investigate the outcome of tooth extractions in patients receiving bisphosphonate therapy. A retrospective cohort study was performed on patients with a history of oral or intravenous bisphosphonate administration and tooth extraction between 2007 and 2013 in a single university hospital oral and maxillofacial surgical unit. In all patients, extractions were performed according to the guidelines of the German Society of Oral and Maxillofacial Surgery. The outcome variable was the onset of typical BRONJ signs during postoperative follow-up. In 72 subjects (53 female, 19 male; mean age 67.5 years) receiving oral (n = 27) and/or intravenous (n = 45) bisphosphonates due to malignant tumor (n = 43) or osteoporosis (n = 29), 216 tooth extractions were performed. The mean duration of intake was 36.2 months. In 67 out of 72 patients (93.1%) and 209 out of the 216 extraction sites the postoperative course was uneventful and the wounds healed without complications. Three of the 72 patients (4.2%) developed osteonecrosis of the jaw in four of the 216 extraction sites (1.9%). Duration and route of administration, oral hygiene and steroid intake were identified as potential risk factors for the development of BRONJ. Tooth extraction in patients receiving bisphosphonates can be performed in a safe and predictable way, even in high-risk patients, when performed according to established guidelines. It is not tooth extractions themselves, but rather prevailing infectious conditions that may be a key risk factor for the development of BRONJ.

Title: **Impact of the lower third molar presence and position on the fragility of mandibular angle and condyle: A Three-dimensional finite element study.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 870-878

Author(s): Antic, Svetlana, Vukicevic, Arso M, Milasinovic, Marko, Saveljic, Igor, Jovicic, Gordana, Filipovic, Nenad, Rakocevic, Zoran, Djuric, Marija

Abstract: The aim of the present study was to investigate the influences of the presence and position of a lower third molar (M3) on the fragility of mandibular angle and condyle, using finite element analysis. From computed tomographic scans of a human mandible with normally erupted M3, two additional virtual models were generated: a mandibular model with partially impacted M3 and a model without M3. Two cases of impact were considered: a frontal and a lateral blow. The results are based on the chromatic analysis of the distributed von Mises and principal stresses, and calculation of their failure indices. In the frontal blow, the angle region showed the highest stress in the case with partially impacted

M3, and the condylar region in the case without M3. Compressive stresses were dominant but caused no failure. Tensile stresses were recorded in the retromolar areas, but caused failure only in the case with partially impacted M3. In the lateral blow, the stress concentrated at the point of impact, in the ipsilateral and contralateral angle and condylar regions. The highest stresses were recorded in the case with partially impacted M3. Tensile stresses caused the failure on the ipsilateral side, whereas compressive stresses on the contralateral side.

Title: **Bisphosphonates enhance bacterial adhesion and biofilm formation on bone hydroxyapatite.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 863-869

Author(s): Kos, Marcin, Junka, Adam, Smutnicka, Danuta, Szymczyk, Patrycja, Gluza, Karolina, Bartoszewicz, Marzenna

Abstract: Because of the suspicion that bisphosphonates enhance bacterial colonization, this study evaluated adhesion and biofilm formation by Streptococcus mutans 25175, Staphylococcus aureus 6538, and Pseudomonas aeruginosa 14454 reference strains on hydroxyapatite coated with clodronate, pamidronate, or zoledronate. Bacterial strains were cultured on bisphosphonate-coated and noncoated hydroxyapatite discs. After incubation, nonadhered bacteria were removed by centrifugation. Biofilm formation was confirmed by scanning electron microscopy. Bacterial colonization was estimated using quantitative cultures compared by means with Kruskal-Wallis and post-hoc Student-Newman-Keuls tests. Modeling of the interactions between bisphosphonates and hydroxyapatite was performed using the Density Functional Theory method. Bacterial colonization of the hydroxyapatite discs was significantly higher for all tested strains in the presence of bisphosphonates vs. Adherence in the presence of pamidronate was higher than with other bisphosphonates. Density Functional Theory analysis showed that the protonated amine group of pamidronate, which are not present in clodronate or zoledronate, forms two additional hydrogen bonds with hydroxyapatite. Moreover, the reactive cationic amino group of pamidronate may attract bacteria by direct electrostatic interaction. Increased bacterial adhesion and biofilm formation can promote osteomyelitis, cause failure of dental implants or bisphosphonate-coated joint prostheses, and complicate bone surgery in patients on bisphosphonates..

Title: **Outcomes of temporomandibular joint arthroscopy in patients with painful but otherwise normal joints.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 940-943

Author(s): Dimitroulis, George

Abstract: The aim of this retrospective clinical study was to assess the clinical outcomes of temporomandibular joint (TMJ) arthroscopy in patients who presented with category 1

normal joints. The null hypothesis being tested was that patients with normal joints do not respond to TMJ arthroscopy. The clinical records of 116 patients who had undergone TMJ arthroscopy by the author from 2010 to 2013 were retrieved and individually analysed for inclusion in this retrospective, cohort clinical study. The inclusion criteria used to select patients for this study were those who had arthroscopically proven category 1 normal joints, free of intra-articular pathology. Of the 14 patients who were found to have normal joints, only 10 could be contacted for a follow-up survey. Despite the fact that all patients were informed that no joint pathology was found, six out of the 10 patients reported improvement in their temporomandibular disorder (TMD) symptoms that lasted for more than 6 months following TMJ arthroscopy. The results of this investigation indicate that we can reject the null hypothesis, and that patients with normal TMJs do indeed respond to TMJ arthroscopy. What this limited study has highlighted is the pervasive effects of the placebo that all surgeons need to keep in mind when formulating treatment plans for patients with TMD.

Title: **Endocultivation: Histomorphological effects of repetitive rhBMP-2 application into prefabricated hydroxyapatite scaffolds at extraskeletal sites.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 981-988 (July 2015)

Author(s): Beck-Broichsitter, Benedicta E, Becker, Stephan T, Seitz, Hermann, Wiltfang,

Abstract: The timing of application of recombinant human bone morphogenic protein-2 (rhBMP-2) may be important in determining the final outcome of engineered bone tissue. This study investigates the impact of repetitive rhBMP-2 application on hard and soft tissue morphology in endocultivation. A 3D-printed scaffold was implanted into a pouch in the latissimus dorsi muscle in 40 Lewis rats. RhBMP-2 was injected at defined time points and animals received a total of 200 µg each. Control groups received either rhBMP-2 simultaneously with scaffold implantation, or solely a scaffold with no rhBMP-2. Fluorescence markers were injected after operation. CT-scans and histological examination were performed after 8 weeks. Multiple comparisons revealed significant differences of bone density between the groups who received delayed injections at two separate time points in time compared to those who had simultaneous rhBMP-2 application ($p = 0.0038$; $p = 0.0063$) and the control group ($p = 0.017$, $p = 0.0284$). The blood vessel count was significantly higher in groups with repetitive injections compared with both control groups. Two soft tissue types were identified and found to have different distributions in the different study groups. Fluorescence labeling showed active new bone formation after 4-5 weeks in all groups where rhBMP-2 was administered. Multiple repetitive injections were more effective than simultaneous application regarding bone density indicating time-dependent effects of rhBMP-2. Bone formation processes were detectable several weeks after rhBMP-2 application indicating long-term effects.

Title: **Surgical management of upgaze diplopia in patients after posttraumatic orbital floor reconstruction.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 976-980

Author(s): Loba, Piotr, Kozakiewicz, Marcin, Broniarczyk-Loba, Anna

Abstract: The most common complication of otherwise successful reconstructive surgery of a fractured orbital floor is persistent diplopia. For patients with troublesome double vision in upgaze, a reasonable solution is offered by strabismus surgery. The aim of our study is to examine the results of extraocular muscle surgery in cases of diplopia that persisted in upgaze after posttraumatic orbital floor reconstruction. In this study we present a retrospective series of 24 patients with troublesome vertical diplopia in upgaze. In all cases, the surgery consisted of a posterior fixation suture placement on the contralateral superior rectus muscle with or without its recession. Full orthoptic examination was conducted before and 3 months after the surgery. Postoperatively 19 patients (79%) were diplopia free and 6 (21%) had vertical diplopia in extreme upgaze. The field of binocular single vision improved threefold. None of the patients reported diplopia in the primary position or in any position other than upgaze. Vertical incomitant strabismus and diplopia in upgaze persisting after orbital reconstructive surgery may be corrected surgically. Contralateral posterior fixation of the superior rectus muscle, with or without its recession, appears to be an effective procedure for use in these patients.

Title: **Human tissue regeneration in maxillo-facial area: From stem cells to micrografts**

Citation: Current Tissue Engineering, July 2015, vol./is. 4/1(36-40)

Author(s): Rodriguez y Baena R., D'Aquino R., Trovato L., Graziano A.

Abstract: Human tissue regeneration, especially the bone, today is one of the most important challenges for medicine and the need for this is particularly evident in the maxillo-facial area where it can be estimated that 1,500,000 patients in Europe undergo craniofacial reconstruction each year. Autologous bone is considered as the gold standard of bone graft materials, however, this approach is very limited. Recent research of non-embryonic stem cells provides new possibilities for no invasively obtaining new autologous bone from stem cells provided by various tissues from the same patient. Furthermore, in the literature, there are limited long-term data available mainly on the safe and efficacy of the prolonged use of stem cells. In this review, we will summarize the studies conducted on the regeneration, repair and rebuilding of craniofacial tissues using stem cells both in the presence or the absence of implantable biocompatible materials and the use of new micro-graft technologies, obtained through the Rigeneracons medical device.

Title: **Duplicate publications and related problems in published papers on oral and maxillofacial surgery.**

Citation: The British journal of oral & maxillofacial surgery, Jul 2015, vol. 53, no. 6, p. 546-549

Author(s): Le, A, Moran, C M P, Bezuhly, M, Hong, P

Abstract: As duplicate publication is unethical, our aim was to find out how common it is among published papers on oral and maxillofacial surgery. We used PubMed to identify index articles published in 2010 in the Journal of Oral and Maxillofacial Surgery, the British Journal of Oral and Maxillofacial Surgery, and the European Journal of Cranio-Maxillo-Facial Surgery, and searched for possible duplicate publications from 2008 to 2012 using the first or second and last authors' names. Suspected duplicates were categorised into "non-duplicate" (no overlap), "duplicate" (identical results and conclusions), or "salami-sliced" publications (part of the index article repeated or continued). Of the 589 index articles, 17 (3%) had some form of duplication, but specifically, we found 3 duplicate, and 15 salami-sliced publications. Most redundant articles originated from China (n=4), followed by Italy, Japan, and Germany (3 from each) and the United States and Denmark (2 each). Of the 18 redundant publications, 9 did not reference the related index article. Duplicate material is still being published, and salami-slicing is relatively common among publications on oral and maxillofacial surgery. Further research is required into the extent and impact of this finding.

Title: **The use of anatomically drop-shaped bioactive glass S53P4 implants in the reconstruction of orbital floor fractures-A prospective long-term follow-up study.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 969-975

Author(s): Stoor, P, Mesimäki, Karri, Lindqvist, Christian, Kontio, Risto

Abstract: An isolated fracture of the orbital floor needs reconstruction if there is a clear herniation of adipose tissue or of the rectus inferior muscle into the maxillary sinus. A prospective study was carried out treating 20 patients with an isolated blow-out fracture of the orbital floor or with a combined zygomatico-orbito-maxillary complex fracture, using a newly designed anatomically drop-shaped implants made of bioactive glass (BAG) S53P4. Computed tomography (CT) was performed immediately postoperatively to confirm the correct position of the plate. The patients were followed up for an average of 32 months clinically and radiologically with magnetic resonance imaging (MRI) for an average of 31 months. None of the patients had any signs of complications related to the implant and the clinical outcome was very good. None of the patients had persisting diplopia. The level of the pupillas was normal in 15 of 20 patients. Minor hypo-ophthalmos ranging from 0.5 to 1.0 mm was observed in three patients, and moderate hypo-ophthalmos of 2.0 mm was seen in one patient. Hyperophthalmos of 1.0 mm was seen in one patient. Minor enophthalmos on the operated side ranging from 0.5 to 1.0 mm was seen in eight patients. Mild to moderate paraesthesia of the infraorbital nerve was observed in six patients. The immediate postoperative CT and the long term follow-up MRI revealed that the drop-shaped BAG implants retained their correct position in the orbital floor and did not show any evidence of losing their original shape or material resorption. No adverse tissue reaction was associated with the material. Due to the anatomical drop shape, the implants could successfully maintain the orbital volume and compensate for the retrobulbar adipose tissue atrophy.

Title: **Osseous and dental outcomes of primary gingivoperiosteoplasty with iliac bone graft: A radiological evaluation.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 950-955

Author(s): Touzet-Roumazeille, Sandrine, Vi-Fane, Brigitte, Kadlub, Natacha, Genin, Michaël, Dissaux, Caroline, Raoul, Gwenaël, Ferri, Joël, Vazquez, Marie-Paule, Picard, Arnaud

Abstract: Primary alveolar cleft repair has two main purposes: to restore normal morphology and normal function. Gingivoperiosteoplasty with bone grafting in mixed dentition has been a well-established procedure. We hypothesized that 1) performance of this surgery in deciduous dentition would provide favorable bone graft osseointegration, and 2) would improve the support of incisor teeth eruption, thereby avoiding maxillary growth disturbances. We conducted a retrospective study of clinical and tridimensional radiological data for 73 patients with alveolar clefts (with or without lip and palate clefts) who underwent gingivoperiosteoplasty with iliac bone graft in deciduous dentition. Pre- and post-operative Cone Beam Computed Tomography (CBCT) comparison allowed evaluation of the ratio between bone graft volume and initial cleft volume (BGV/ICV ratio), and measurement of central incisor teeth movements. This series of 73 patients included 44 males and 29 females, with a mean age of 5.5 years. Few complications were observed. Post-operative CBCT was performed at 7.4 months. The mean BGV/ICV ratio was 0.62. Axial rotation was significantly improved post-operatively ($p = 0.004$). Gingivoperiosteoplasty with iliac bone graft is safe when performed in deciduous dentition and results in a sufficient bone graft volume to support lateral incisor eruption and upper central incisor tooth position improvement.

Title: **Surgical treatment of mandibular condyle fractures using the retromandibular anterior transparotid approach and a triangular-positioned double miniplate osteosynthesis technique: A clinical and radiological evaluation of 124 fractures.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 944-949

Author(s): Dalla Torre, Daniel, Burtscher, Doris, Widmann, Gerlig, Pichler, Albina, Rasse, Michael, Puelacher, Wolfgang

Abstract: Different modalities have been described regarding the treatment of mandibular condyle fractures. The most advantageous and safest one is still a topic of discussion. The present analysis describes the combination of a retromandibular, transparotideal approach combined to a triangular-positioned double-miniplate osteosynthesis, with a special regard for the patients' long term outcomes. Clinical data of 102 patients with 124 condyle fractures treated with the mentioned surgical procedure were evaluated. Functional parameters such as the maximal interincisal distance, deviations/deflections, facial nerve function, occlusion as well as complications regarding the parotid gland, osteosynthesis, and esthetics were evaluated 1 week, 2 weeks, 3 months, and 6 months postoperatively. The mean maximal interincisal distance ranged from 38 mm after 1 week to 45 mm after 6

months. Deviations/deflections were seen in 22.5% of the cases 1 week postoperatively and decreased to 2% at 6 months postoperatively. A temporary facial palsy was diagnosed in 3.9% during the first follow-up, whereas no impairment was recorded after 3 or 6 months. At the same time, no patient had occlusional disturbances or complications regarding the parotid gland or the osteosynthesis 6 months postoperatively. Direct fracture visualization and a stable three-dimensional fracture stabilization are the main advantages of the presented combination of a surgical approach and osteosynthesis technique. Additionally, the absence of long-term complications confirms the safety of the procedure. Therefore, it may be considered as a successful treatment option for mandibular condyle fractures.

Title: **MicroCT-based evaluation of the trabecular bone quality of different implant anchorage sites for masticatory rehabilitation of the maxilla.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 961-968

Author(s): Bertl, Kristina, Heimel, Patrick, Rökl-Riegler, Michaela, Hirtler, Lena, Ulm, Christian, Zechner, Werner

Abstract: In the severely atrophied maxilla, implant anchorage in the zygomatic bone is considered a viable alternative to conventional dental implants with preceding bone augmentation procedures. The present microCT-based study compared the trabecular bone quality of the maxilla and zygomatic bone. MicroCT scanning was conducted in 12 halves of cadaver heads (5 male, 7 female) with edentulous, atrophied maxillae. Relevant trabecular bone quality parameters were determined in the anterior and posterior maxilla and in the zygomatic bone and compared by region and sex. Any difference in mean values between the anterior maxilla and the zygomatic bone was insignificant. Comparison of both with the posterior maxilla presented significantly higher values for bone volume fraction, surface density, and trabecular thickness and number, and significantly lower values for specific bone surface, structure model index, and trabecular separation. A significant sex-specific difference was not detected. The present microCT-based analysis is, to the best of our knowledge, the first intra-individual comparison of different implant anchorage sites for masticatory rehabilitation of the maxilla. The trabecular compartment of the zygomatic bone offered bone quality and, thus, an implant bed comparable with those of the anterior maxilla, and both were superior to the posterior maxilla.

Title: **Long-term retrospective evaluation of the peri-implant bone level in onlay grafted patients with iliac bone from the anterior superior iliac crest.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 956-960

Author(s): Fretwurst, T, Nack, C, Al-Ghrairi, M, Raguse, J D, Stricker, A, Schmelzeisen, R, Nelson, K,

Abstract: The purpose of the present study was to evaluate crestal bone level changes around dental implants after iliac bone augmentation in the long term. A total of 32 partially

edentulous/edentulous patients (mean age, 52 years; range, 22-70 years) and a remaining bone volume of less than 5 mm of the alveolar ridge underwent maxillary or mandibular iliac bone graft augmentation. All patients received spaced standardized radiological examination for evaluation of peri-implant crestal bone loss. The grafting procedure was successfully performed in all patients. A total of 150 implants were placed. The mean observation period was 69 months (range, 12-165 months; success rate for maxilla, 96%; success rate for mandible, 92%). The mean amount of crestal bone loss after 10 years was 1.8 mm. A significant difference between gender and crestal bone loss was shown, but no influence was found regarding the implant system, diameter of implant, and age of the patients. In patients with atrophic jaws, a sufficient long-term reconstruction can be achieved with the combination of iliac onlay grafting and dental implants. The results demonstrate high success rates and a stable peri-implant bone level in the long term.

Title: **Higher positive lymph node ratio indicates poorer distant metastasis-free survival in adenoid cystic carcinoma patients with nodal involvement.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 751-757

Author(s): Liu, Zhonglong, Fang, Zao, Dai, Tianguo, Zhang, Chenping, Sun, Jian, He, Yue

Abstract: Extensive studies have been conducted to analyze adenoid cystic carcinoma (ACC) in the head and neck region. No research has been published focusing on ACC patients with cervical lymph node (LN) metastasis. The aims of current investigation were to summarize the clinical characteristics of ACC patients with LN metastasis (ACC-LNM) and to identify prognostic factors for tumor-related outcomes. A retrospective review was conducted with respect to ACC patients with nodal involvement between 2000 and 2013. The clinical variables and outcomes of these special cases were recorded and further analyzed. Metastasis-free survival and overall survival rate were calculated using the Kaplan-Meier method, and the log-rank test and Cox regression analysis were applied to identify the prognostic factors. A total of 47 patients (34 male and 13 female) 32-77 years of age (mean: 54.6 years; median: 54 years) were analyzed in the current protocol. The recurrence-free survival (RFS), distant metastasis-free survival (MFS), and overall survival (OS) rate in all patients were 90.1%, 55.6%, and 60.1%, respectively. In univariate analysis, T stage, positive LN ratio, LN-involved section, and extracapsular spread were strongly associated with poorer MFS rate. The predictive roles of LN-involved section and surgical margin on the OS rate were also identified. In multivariate analysis, positive LN ratio and surgical margin were predictors for MFS and OS rate, respectively. Positive LN ratio was strongly associated with distant metastasis. Comprehensive treatment should be performed in ACC patients with higher positive LN ratios. In addition, ideal surgical margin should be achieved to acquire better overall survival rate.

Title: **Case series and review of glandular odontogenic cyst with emphasis on treatment modalities.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 746-750

Author(s): Momeni Roochi, Mehrnoush, Tavakoli, Iman, Ghazi, Fatemeh Mojgan, Tavakoli, Ali

Abstract: Glandular odontogenic cyst is a newly determined jaw entity with aggressive behavior and a high rate of recurrence. There is histopathologic resemblance to other lesions of the jaw such as intraosseous mucoepidermoid carcinoma. Although enucleation and curettage are not the treatment of choice for this cystic lesion, they comprise the most common method. On the other hand, filling the defect is a controversial matter, especially in lesions with large size. We introduce 4 cases of GOC, of which 2 are cases of recurrence. We applied bone material substitutes in 3 of these cases with success.

Title: **The validity of surgical clips as radiographic markers for the tumour resection cavity in head and neck cancer treatment.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 758-762

Author(s): Bittermann, Gido, Voss, Pit, Duttenhoefer, Fabian, Zimmerer, Ruediger, Vach, Kirstin, Metzger, Marc C

Abstract: A prerequisite of irradiation after advanced head and neck tumour resection is the accurate localization of the tumour resection margin. The purpose of the following study is to evaluate the use of surgical clips placed in the tumour resection margins for use as radiographic markers to facilitate focussed adjuvant radiation therapy. To evaluate whether the clips remain predictive for the resection margin, we analysed the deviation of each clip in two postoperative CT scans on different days. Bone registration points were used to fuse the two CT scans in the region of the primary tumour and the distances between corresponding clips were measured. The tumour resection margins were labelled with an average of 18 titanium clips. In total 282 clips were evaluated. Metric analysis of clip deviation between the two postoperative CT scans found a mean distance of 4.5 mm±2.5 mm with a range of 0.5-11.8 mm. No significant statistical relationship of the clip differences as a function of time, the method of reconstruction or administered radiotherapy could be demonstrated. Placement of surgical clips in the cavity walls after complete tumour resection provides an easy and inexpensive approach for defining resection margins and allows for increased accuracy of adjuvant treatment. Clinical trial number DRKS00007534.

Title: **Extranodal extension and thickness of metastatic lymph node as a significant prognostic marker of recurrence and survival in head and neck squamous cell carcinoma.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 769-778

Author(s): Kwon, Minsu, Roh, Jong-Lyel, Lee, Jungbok, Cho, Kyung-Ja, Choi, Seung-Ho, Nam, Soon Yuhl, Kim, Sang Yoon

Abstract: We examined the effect of extranodal extension (ENE) and its thickness (ENET) of metastatic lymph node (LN) on the disease course of patients with head and neck squamous cell carcinoma. Data from 438 patients who were initially treated surgically at our center was retrospectively analyzed. ENE presence and ENET were examined in metastatic LN from each patient. Clinicopathologic characteristics, recurrence, and survival were then compared. Of 438 patients, 219 (50%) showed positive nodal status, and ENE was identified in 84 (19.6%). Forty-five of 219 (20.5%) node-positive patients were classified with ENET ≥ 2 mm, which was associated with an increase in both the size and number of positive LN, bilateral cervical involvement, and a higher LN ratio. ENE-positive patients had a higher risk of recurrence and a lower overall survival rate; however, multivariate analysis failed to identify a significant difference in cancer-specific survival (CSS) between those with and those without ENE. On the contrary, ENET ≥2 mm was significantly associated with a poor CSS, even in multivariate analysis. ENET ≥2 mm might be a complementary prognostic marker in CSS estimation for ENE positivity.

Title: **Laser evaporation versus laser excision of oral leukoplakia: A retrospective study with long-term follow-up.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 763-768 (July 2015)

Author(s): Del Corso, Giacomo, Gissi, Davide Bartolomeo, Tarsitano, Achille, Costabile, Enrico, Marchetti, Claudio, Montebugnoli, Lucio, Foschini, Maria Pia

Abstract: The study makes a comparison between two surgical approaches for the treatment of oral leukoplakia (OL) in terms of recurrence in a well-defined cohort of patients with a long-term follow-up period. The cohort consisted of 77 OL patients divided into 2 groups. Group 1: 47 patients treated with laser evaporation using a Nd:YAG laser. Group 2: 30 patients treated with a CO2 laser for excision. Clinical and histological examinations were performed for the diagnosis of OL before treatment. We included OLs with or without dysplasia. The mean follow-up period was 60 ± 32.49 months. Of the 77 patients, 22 (28.5%) showed recurrence during the follow-up period. No significant difference was found between the two treatments ($\chi(2) = 2.6$; $p = 0.2$). However, CO2 laser excision resulted in better results than the Nd:YAG laser evaporation, considering the non-homogeneous OLs ($\chi(2) = 3.9$; $p = 0.04$) and OLs with mild dysplasia ($\chi(2) = 4.6$; $p = 0.03$). The study makes a comparison between our results and articles from the literature, and suggests when each of the two surgical approaches is most appropriate.

Title: **Changes in the location of the human mandibular foramen as a function of growth and vertical facial type.**

Citation: Acta odontologica Scandinavica, Jul 2015, vol. 73, no. 5, p. 375-379

Author(s): Epars, Jean-François, Mavropoulos, Anestis, Kiliaridis, Stavros

Abstract: A previous cross-sectional investigation showed that the mandibular foramen location depends on the age and the vertical facial pattern of growing individuals. The aim

of the present longitudinal study was to explain how these factors influence the distance between the foramen and the occlusal plane. It is known that a certain distance is necessary for a successful inferior alveolar nerve block in clinical dentistry. This distance, as well as another four cephalometric variables, were measured on both pre-treatment and 10-year post-treatment lateral cephalometric radiographs collected from 50 patients who underwent orthodontic treatment. The changes between these two sets of measurements were also calculated. A multiple regression analysis was performed using the pre-treatment age, the pre-treatment inter-maxillary angle, the rotation of the occlusal plane and the change in mandibular ramus height as independent variables and the change of foramen-occlusal plane distance as a dependent variable. The independent variables under investigation were found to account for more than half of the variability of the foramen-occlusal plane distance ($r = 0.732$; $p < 0.001$). In very young individuals the mandibular foramen is located approximately at the level of the occlusal plane. With age it moves upwards relative to the occlusal plane and more so for those individuals with a low anterior facial height (short-face vertical facial type). These observations are, at least, partially explained by the differential growth of the various elements of the maxillo-mandibular complex and the change of the inclination of the occlusal plane.

Title: **Modified surgical techniques for total alloplastic temporomandibular joint replacement: One institution's experience.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 934-939

Author(s): ShanYong, Zhang, Liu, Huan, Yang, Chi, Zhang, XiaoHu, Abdelrehem, Ahmed, Zheng, JiSi, Jiao, ZiXian, Chen, MinJie, Qiu, YaTing

Abstract: To present three modified techniques of total alloplastic temporomandibular joint replacement (TMJ TJR) and to evaluate the outcomes regarding prosthesis stability and heterotopic bone formation. A total of 15 patients (19 joints), treated with the Biomet stock prosthesis from May 2006 to May 2013, were retrospectively analyzed. Surgical procedures were performed with the following three modifications: bone grafting of the glenoid fossa; salvage of TMJ discs; and harvesting of retro-mandibular subcutaneous fats. The glenoid fossa depth was measured preoperatively by Surgicase 5.0 software. All patients were evaluated by radiographic examination and surgical observation. The fossa was grafted with an autogenous bone in 15 joints (78.9%). In 4 joints (21.1%), only bone repair was performed. Radiographic evaluation revealed a good integration between the autogenous and host bones. All patients showed postoperative occlusal stability. In 5 joints (26.3%), the discs were salvaged. Both bleeding and operation time were reduced. Fat grafts were harvested in 17 joints (89.5%), in which there were no abnormalities in the periprosthetic bone structure. In 2 joints (10.5%), with no fat grafting, heterotopic bone formation was found. The modified techniques of TJR help to improve prostheses stability, reducing heterotopic bone formation and avoiding additional scars..

Title: **ANATOMICAL VARIATIONS OF THE GREATER PALATINE NERVE IN THE GREATER PALATINE CANAL.**

Citation: Journal (Canadian Dental Association), Jul 2015, vol. 81, p. f14.

Author(s): Galil, Khadry A, Hafeez, Najmus Sahar, Ganapathy, Sugantha, Sondekoppam, Rakesh, Johnson, Marjorie, Merrifield, Peter

Abstract: The greater palatine nerve and the greater palatine canal are common sites for maxillary anesthesia during dental and maxillo-facial procedures. The greater palatine nerve is thought to course as a single trunk through the greater palatine canal, branching after its exit from the greater palatine foramen. We describe intra-canalicular branching variations of the greater palatine nerve found in 8 of 20 embalmed dissection specimens. Such variation is previously unreported in the literature. We characterize the variations in branching pattern and discuss the possible implications for clinical practice.

Title: **Meta-analysis of surgical approaches to the treatment of parotid pleomorphic adenomas and recurrence rates.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 738-745 (July 2015)

Author(s): Colella, Giuseppe, Cannavale, Rosangela, Chiodini, Paolo

Abstract: Different types of surgical management of pleomorphic adenoma of the parotid gland are associated with different recurrence rates. A systematic review of literature until 2014 with meta-analysis was conducted. Inclusion criteria were original studies of patients with surgical management for pleomorphic adenoma of the parotid gland and recurrence rates, with a median follow-up period of 5 years. The Newcastle-Ottawa Quality Assessment Scale (NOQAS) was used to assess the quality. Sixteen studies were included. Four studies show a low recurrence rate (0.01, 95% confidence interval [CI] = 0.00-0.02) after total parotidectomy. Twelve studies show a low recurrence rate (0.02, 95% CI = 0.01-0.03) after superficial parotidectomy. Six studies show a low recurrence rate (0.02, 95% CI = 0.01-0.04) after limited parotidectomy. Six studies demonstrate a low recurrence rate (0.01, 95% CI = 0.00-0.04) after extracapsular dissection. Five studies report a low-to-medium recurrence rate (0.08, 95% CI = 0.03-0.14) after extracapsular enucleation. Information about recurrence rates, times of recurrence in relation to type of surgical treatment, and significance of capsule rupture is very poor. With regard to recurrence rates and surgical approaches, the types of operations that show the lowest recurrence rate are total parotidectomy and extracapsular dissection. Controversies over surgical treatment of PA of parotid gland remain, and the safest surgical method for the removal of this tumors has not been identified.

Title: **Differential expression of TLR3 and TLR4 in keratocystic odontogenic tumor (KCOT): A comparative immunohistochemical study in primary, recurrent, and nevoid basal cell carcinoma syndrome (NBCCS)-associated lesions.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 733-737 (July 2015)

Author(s): Leonardi, R, Perrotta, R E, Crimi, S, Matthews, J B, Barbato, E, Dos Santos, J N, Rusu, M

Abstract: Toll-like receptors (TLRs) play an essential role in the activation of innate immunity and they can promote cancer cell survival and tumor progression. It has been claimed that TLRs can somehow predict the clinical behavior in oral squamous cell carcinoma (OSCCs). To elucidate the molecular basis underlying keratocystic odontogenic tumor (KOCTs) aggressive behavior and recurrence we carried out this immunohistochemical study on TLR3 and TLR4 expression in sporadic primary KCOTs (sp-KCOTs), sporadic recurrent KCOTs (sp-KCOTs), and NBCCS-associated KCOTs (NBCCS-KCOTs). 40 cases of KOCTs removed from 23 men and 17 women were the sample. Paraffin-embedded blocks were processed for immunohistochemistry. Sections were incubated with TLR3 and TLR4 antibodies and immunoreactivity evaluated on a semi-quantitative score. Both TLR3 and TLR4 were expressed in KCOTs epithelium, although with a different extent. TLR3 was not expressed in sp-KCOTs and sr-KCOTs, but it showed a faint staining in NBCCS-KCOTs. On the other hand, both cytoplasmic and nuclear staining for TLR4 was detected in all the 3 types of lesions; however being significantly more expressed in sr-KCOT and NBCCS-KCOTs ($p < 0.0001$). Our results, demonstrated an association between TLR4, but not TLR3 expression to recurrence behavior of KCOTs. In fact, TLR4 was up-regulated in sr-KCOTs and NBCCS-KCOTs but not in sp-KCOTs. According these findings it seems conceivable to assume that the up-regulation of TLR4 in some KCOTs can be correlated somehow to their tendency recurrence.

Title: **Three-dimensional position changes of the midface following Le Fort III advancement in syndromic craniosynostosis.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 820-824

Author(s): Bouw, Frederik P, Nout, Erik, van Bezooijen, Jine S, Koudstaal, Maarten J, Veenland, Jifke F, Wolvius, Eppo B

Abstract: Little is known about the positional change of the Le Fort III segment following advancement. To study this, pre- and postoperative computed tomography scans of 18 craniosynosthosis patients were analyzed. The Le Fort III segment movement was measured by creating a reference coordinate system and by superpositioning the postoperative over the preoperative scan. On both the pre- and postoperative scans, four anatomical landmarks were marked: the most anterior point of the left and right foramen infraorbitale, the nasion, and the anterior nasal spine. A significant anterior movement of the four reference points was observed. No significant transversal differences were found. A significant difference between the anterior movement of the nasion and anterior nasal spine was found. In vertical dimension, there was a significant cranial movement of nasion in the study group. In addition, from all patients standardized lateral X-rays were viewed to determine the location and direction of force application that were linked to the outcomes of the three-dimensional movement of the nasion and anterior nasal spine (ANS) and the surgical technique. Conclusively, a significant advancement of the midface can be achieved with Le Fort III distraction osteogenesis in this specific patient group. Counterclockwise

movement seemed to be the most dominant movement despite different modes of anchorage.

Title: **The role of the posterior fossa in developing Chiari I malformation in children with craniosynostosis syndromes.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 813-819

Author(s): Rijken, Bianca Francisca Maria, Lequin, Maarten Hans, van der Lijn, Fedde, van Veelen-Vincent, Marie-Lise Charlotte, de Rooi, Johan, Hoogendam, Yoo Young, Niessen, Wiro Joep, Mathijssen, Irene Margreet Jacqueline

Abstract: Patients with craniosynostosis syndromes are at risk of increased intracranial pressure (ICP) and Chiari I malformation (CMI), caused by a combination of restricted skull growth, venous hypertension, obstructive sleep apnea (OSA), and an overproduction or insufficient resorption of cerebrospinal fluid. This study evaluates whether craniosynostosis patients with CMI have an imbalance between cerebellar volume (CV) and posterior fossa volume (PFV), that is, an overcrowded posterior fossa. Volumes were measured in 3D-SPGR T1-weighted MR scans of 28 'not-operated' craniosynostosis patients (mean age: 4.0 years; range: 0-14), 85 'operated' craniosynostosis patients (mean age: 8.0 years; range: 1-18), and 34 control subjects (mean age: 5.4 years; range: 0-15). Volumes and CV/PFV ratios were compared between the operated and not-operated craniosynostosis patients, between the individual craniosynostosis syndromes and controls, and between craniosynostosis patients with and without CMI. Data were logarithmically transformed and studied with analysis of covariance (ANCOVA). The CV, PFV, and CV/PFV ratios of not-operated craniosynostosis patients and operated craniosynostosis patients were similar to those of the control subjects. None of the individual syndromes was associated with a restricted PFV. However, craniosynostosis patients with CMI had a significantly higher CV/PFV ratio than the control group (0.77 vs. 0.75; p = 0.008). The range of CV/PFV ratios for craniosynostosis patients with CMI, however, did not exceed the normal range. Volumes and CV/PFV ratio cannot predict which craniosynostosis patients are more prone to developing CMI than others. Treatment should focus on the skull vault and other contributing factors to increased ICP, including OSA and venous hypertension.

Title: **Osteoradionecrosis of the mandible: A ten year single-center retrospective study.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 837-846 (July 2015)

Author(s): Chronopoulos, Aristeidis, Zarra, Theodora, Tröltzsch, Matthias, Mahaini, Salah,

Abstract: Numerous factors have been associated with the development of osteoradionecrosis (ORN) of the jaws. The purpose of this study was to investigate the factors that are linked to the severity of mandibular ORN. A retrospective study was conducted which included all ORN cases treated in the Department of Oral and Maxillofacial Surgery in Munich (LMU) between 2003 and 2012. The cases were categorized according to

the necrosis stage and several variables were evaluated in order to identify possible correlation between them and the severity of the necrosis. A total of 115 patients with 153 osteonecrosis lesions were included in the study. Twenty-three cases were of stage I, 31 were of stage II and 99 were of stage III. The initial tumors were predominantly located in the floor of the mouth, the tongue or the pharynx. Diabetes mellitus (OR: 4.955, 95% Cl: 1.965-12.495), active smoking (OR: 13.542, 95% Cl: 2.085-87.947), excessive alcohol consumption (OR: 5.428, 95% Cl: 1.622-18.171) and dental treatment and/or local pathological conditions (OR: 0.237, 95% Cl: 0.086-0.655) were significant predictors for stage III necrosis. The aforementioned factors are predictive of ORN severity and can guide its prophylaxis and management.

Title: **A concept for scaffold-based tissue engineering in alveolar cleft osteoplasty.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 830-836

Author(s): Berger, Moritz, Probst, Florian, Schwartz, Christina, Cornelsen, Matthias, Seitz, Hermann, Ehrenfeld, Michael, Otto, Sven

Abstract: Alveolar cleft osteoplasty (ACO) using autologous bone grafts, is used worldwide as a standard treatment in the management of patients with clefts. Harvesting of the various autologous bone grafts is accompanied by considerable donor-site morbidity. Use of scaffold-based tissue engineering in ACO could potentially provide treatment options with decreased, or no donor-site morbidity. This study aims to demonstrate the technical and cell biological feasibility of using scaffold-based tissue engineering in ACO. Pre-existing cone-beam computed tomography scans were used for 3D printing of custom-made scaffolds (tricalcium phosphate-polyhydroxybutyrate (TCP-PHB)) according to the individual geometry of the alveolar bone in patients with clefts. The scaffolds were seeded with commercially available human mesenchymal stem cells (hMSCs). Cell survival and cell proliferation was monitored by live-dead assay, scanning electron microscopy (SEM) and WST-1 assay. The osteogenic differentiation of hMSCs on the scaffolds was evaluated by alkaline phosphatase (ALP) assay. The custom-made scaffolds were nearly identical to the size and shape of the digital master. Approximately 91% of the subsequently applied mesenchymal stem cells could be seeded on the rails. We could demonstrate successful cell proliferation by a factor of 5-7 over the first 3 weeks. SEM showed a pore-border growth of the hMSCs on the scaffolds after 3 weeks of cell proliferation. The successful osteogenic differentiation of the scaffold-seeded cells could be demonstrated. The concept of scaffold-based tissue engineering provides great potential as an alternative for the present gold standard of autologous bone grafts in ACO. The treatment causes less morbidity and is less invasive for managing young patients with cleft alveolar bone defects. Further in vivo studies and clinical trials are needed to demonstrate the advantages of this novel treatment for ACO in the clinical setting.

Title: **Overgrowth of costochondral grafts in craniomaxillofacial reconstruction: Rare complication and literature review.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 803-812

Author(s): Yang, Shimao, Fan, Huanhuan, Du, Wen, Li, Jiayang, Hu, Jing, Luo, En

Abstract: Costochondral grafts (CCGs) have been used for the reconstruction of the craniomaxillofacial defects in various situations. However, there is controversy concerning the growth pattern of CCGs, which is often unpredictable and may manifest as overgrowth or no growth at all. This article summarizes the literature concerning overgrowth of CCGs in craniomaxillofacial reconstruction, and presents an uncommon case of treatment for overgrowth of costal graft in mandibular body reconstruction. The literature on overgrowth of CCGs in craniomaxillofacial reconstruction was reviewed with a chart. A 25-year-old man received mandibular partial resection because of adamantoblastoma, followed by replacement of costal graft. Two years postoperatively, he began to present with facial asymmetry and malocclusion. Clinical and radiologic image examination showed deviation of the chin to the left side, and overgrowth of the costal graft was diagnosed. Left sagittal split ramus osteotomy (SSRO), genioplasty, and left mandibular angle ostectomy (MAO) were performed. A total of 30 articles containing 68 cases of overgrowth of CCGs in craniomaxillofacial reconstructions have been reported since 1977, including the present case. During a 2-year follow-up, the patient's postoperative facial profile and contour appeared stable clinically and radiographically, and an improved symmetry facial contour and occlusion were achieved. The growth of CCGs may be influenced by complex factors such as the function of the mandible, inherent growth capacity, and possibly hormonal factors. Once overgrowth of the costal graft occurs in mandibular body reconstruction, SSRO combined with genioplasty and MAO could be the optimal option to restore a symmetrical face.

Title: **Changes in nose symmetry in unilateral cleft lip and palate treated by differing pre-surgical assistance: An objective assessment of primary repair.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 779-789

Author(s): Spolyar, John L, Roldán, J Camilo

Abstract: Residual deformity of the nose, not lip, continues to be the greater challenge in UCCLP rehabilitation. Platform distortions often re-emerge following primary reconstruction revealing the stereotypical cleft-nose. Nasal alveolar molding reduces nose asymmetry. However, this study applies directional mechanics to the underlying platform distortions and soft tissue nose, introducing a novel device addressing the distorted septo-premaxillary junction. Retrospective assessment of 47 UCCLP patients by 2-dimensional photographic analysis with 24 subjects treated by dento-maxillary advancement (DMA) and nasal septum button-head pin (NSBP), 17 having nasal molding (NM), compared to 23 subjects without nose treatment, 16 with DMA and 7 with passive plates. Measurements were assessed by t tests, ≤05 confidence. Frontal view: nose-treatment sample achieved ideal ala-bases vertical symmetry ($p = 0.00065$ & 0.00073); significantly improved ala-rims "slump" angle ($p = 0.0071$). Both samples had nose positioning within the facial frame like non-cleft population.

Sub-nasal view: significant differences were for columella angle (p = 0.0015), nares "offset" (p = 0.002), and columella symmetry (p = 0.022) with nose-treatment achieving near ideal columella symmetry score (0.92) vs. (0.81). NM and the novel NSBP procedures integrated with the platform correction effect of the DMA successfully treated at three distorted anatomic-levels native to UCCLP to improve nasal aesthetics..

Title: **Early two-stage repair of clefts in holoprosencephaly.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 825-829

Author(s): Rankin, Timothy M, Mailey, Brian, Saad, Ahmad, Biswas, Atanu, Hurst, Craig

Abstract: Holoprosencephaly (HPE) presents with a spectrum of severity, but in its totality is the most common malformation of the embryonic forebrain occurring 1 in 10,000 to 1 in 20,000 live births. Due to the poor prognosis, treatment of mid-face clefts in HPE patients have classically been addressed in a delayed fashion after 1-year of age. Improvements in the ability to manage medical complications associated with HPE along with an increased understanding and lower mortality rates in less severe forms have challenged these previous practiced routines. Accompanied by advances in understanding of HPE and identification of genes responsible for sporadic forms, we are able to better guide timing of surgical intervention. We present a patient with lobar HPE and a type IV facial deformity treated with early repair of the median facial cleft. We believe this treatment strategy was safe, given her relatively good prognosis. We propose that patients with HPE displaying less severe neural non-cleavage may be good candidates for earlier two-stage intervention. The historically poor prognosis of patients with holoprosencephaly (HPE) has led to midline facial clefts have being addressed in a delayed fashion after 1-year of age. Improvements in the ability to manage medical complications associated with HPE and lower mortality rates in less severe forms have challenged these previous practiced routines. Additionally, the identification of genes responsible for sporadic forms of HPE can better guide timing of surgical intervention and improve developmental outcomes. We present a patient with lobar HPE and a type IV facial deformity treated with an early two-stage repair of the median facial cleft. We propose patients with HPE displaying less severe neural non-cleavage may be good candidates for earlier intervention.

Title: **A randomized controlled trial comparing two techniques for unilateral cleft lip and palate: Growth and speech outcomes during mixed dentition.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 790-795

Author(s): Ganesh, Praveen, Murthy, Jyotsna, Ulaghanathan, Navitha, Savitha, V H

Abstract: To study the growth and speech outcomes in children who were operated on for unilateral cleft lip and palate (UCLP) by a single surgeon using two different treatment protocols. A total of 200 consecutive patients with nonsyndromic UCLP were randomly allocated to two different treatment protocols. Of the 200 patients, 179 completed the

protocol. However, only 85 patients presented for follow-up during the mixed dentition period (7-10 years of age). The following treatment protocol was followed. Protocol 1 consisted of the vomer flap (VF), whereby patients underwent primary lip nose repair and vomer flap for hard palate single-layer closure, followed by soft palate repair 6 months later; Protocol 2 consisted of the two-flap technique (TF), whereby the cleft palate (CP) was repaired by two-flap technique after primary lip and nose repair. GOSLON Yardstick scores for dental arch relation, and speech outcomes based on universal reporting parameters, were noted. A total of 40 patients in the VF group and 45 in the TF group completed the treatment protocols. The GOSLON scores showed marginally better outcomes in the VF group compared to the TF group. Statistically significant differences were found only in two speech parameters, with better outcomes in the TF group. Our results showed marginally better growth outcome in the VF group compared to the TF group. However, the speech outcomes were better in the TF group.

Title: **The accordion suture technique: A modified rhinoplasty spreader flap.**

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 796-802 (July 2015)

Author(s): Görgülü, Tahsin, Özer, Cenk Murat, Kargi, Eksal

Abstract: In rhinoplasties, a spreader flap is a widely used alternative to dorsal reconstruction with spreader grafts; however, it has a limited ability to provide sufficient nasal dorsal width. The upper lateral cartilage (ULC) thickness is four times thinner than a spreader graft. This report presents an accordion suture technique for the ULC that involves simple sutures which fix each ULC (3 times folded) to the septum. We performed this technique in 64 primary rhinoplasties, and the patients were followed up for approximately 18 months. The patients completed a questionnaire 12 months postoperatively, and reported marked satisfaction with the aesthetics and function. Furthermore, rhinomanometric analysis showed that nasal airway resistance (NAR) decreased significantly in the postoperative period.

Cleft lip and palate

Title: Presurgical Unilateral Cleft Lip Anthropometrics and the Presence of Dental Anomalies.

Citation: The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Jul 2015, vol. 52, no. 4, p. 395-404

Author(s): Antonarakis, Gregory S, Fisher, David M

Abstract: To investigate associations between cleft lip anthropometrics and dental anomalies in the permanent dentition in unilateral cleft lip patients. Retrospective cross-sectional study. Children with unilateral clefts of the lip, with or without cleft palate. Anthropometric lip measurements, made immediately prior to lip repair, were available for

each patient. The presence of dental anomalies in the permanent dentition was assessed radiographically. The presence of associations between anthropometric lip measurements and prevalence rates of different dental anomalies were determined using logistic regression analyses. In the 122 included patients, the cleft lateral lip element was deficient in height in 80% and in transverse length in 84% of patients. Patients with more deficient cleft side lateral lip height and less deficient cleft side lateral lip transverse length were more likely to present with cleft side maxillary lateral incisor agenesis. On the other hand, patients with a less deficient cleft side lateral lip height and more deficient cleft side lateral lip transverse length were more likely to present with a cleft side supernumerary maxillary lateral incisor. When looking only at incomplete clefts, the cleft side lateral lip transverse length deficiency was more predictive of the presence of supernumerary maxillary lateral incisors (P = .030), while for complete clefts, the cleft side lateral lip height deficiency was more predictive of the presence of maxillary lateral incisor agenesis (P = .035). In patients with unilateral clefts, cleft lip anthropometrics have a predictive role in determining the occurrence of dental anomalies.

Title: Longitudinal Changes in Dental Fear and Coping Behavior in Children, Adolescents, and Young Adults With Cleft Lip and/or Cleft Palate.

Citation: The Cleft palate-craniofacial journal : official publication of the American Cleft Palate-Craniofacial Association, Jul 2015, vol. 52, no. 4, p. e73.

Author(s): Krikken, Janneke B, de Jongh, Ad, Veerkamp, Jaap S J, Vogels, Wilma, Cate, Jacob M Ten, van Wijk, Arjen J

Abstract: To determine changes in dental anxiety levels of cleft lip and/or palate (CL/P) children and to explore the role of coping strategies in the development of their dental anxiety. Prospective study. Free University Medical Center Amsterdam. A sample of CL/P children (at T1: n = 153, 4 to 18 years, 67 girls; at T2: n = 113, 7 to 21 years, 51 girls). Data were available at both time points for 102 children. Dental anxiety and coping strategies were assessed at the start of the study (T1; mean age: 9.8 years, standard deviation 4.1) and 3 years later (T2; mean age: 13.4 years, standard deviation 3.8). These scores were compared to a normative group of Dutch children. The severity of dental anxiety was indexed using the Parental Version of the Dental Subscale of the Children's Fear Survey Schedule. Dental coping strategies were assessed with the Dental Cope Questionnaire. Overall, dental anxiety decreased to a level equal to normative scores of Dutch children. However, 5% of the children became more anxious. At T2, children used significantly fewer coping strategies. Children whose level of dental anxiety increased significantly used more destructive coping strategies than children whose level of dental anxiety decreased significantly or remained stable. Results suggest that dental anxiety levels of most CL/P children gradually decline over time. Whereas some coping strategies have the potential to be protective, more destructive coping strategies may put children at greater risk for developing and maintaining their dental anxiety.

Title: Evaluation of mandibular transverse widths in patients affected by unilateral and bilateral cleft lip and palate using cone beam computed tomography.

Citation: The Angle orthodontist, Jul 2015, vol. 85, no. 4, p. 611-615

Author(s): Celikoglu, Mevlut, Buyuk, Suleyman K, Ekizer, Abdullah, Sekerci, Ahmet E

Abstract: To evaluate the mandibular dental, alveolar, and skeletal transversal widths in patients affected by unilateral (UCLP) and bilateral (BCLP) cleft lip and palate and to compare the findings with a well-matched normal occlusion sample using cone beam computed tomography images. The study sample consisted of 75 patients divided into three groups: the UCLP (29 patients; mean age: 15.40 ± 3.22 years), BCLP (18 patients; mean age: 15.54 ± 3.72 years), and normal occlusion (28 patients; mean age: 15.82 ± 2.11 years) groups. Mandibular dental (intercanine and -molar), alveolar (intercanine and -molar), and skeletal (bigonial width) transversal measurements were performed three-dimensionally and analyzed using the one-way variance analysis and post hoc Tukey tests. Patients affected by UCLP and BCLP had statistically significantly lower intercanine alveolar widths ($P < .05$ and $P < .001$, respectively) and larger intermolar ($P < .001$ and $P < .05$, respectively) and intermolar alveolar widths ($P < .001$) compared with the normal occlusion group. Furthermore, the patients affected by UCLP and BCLP had similar mandibular dental, alveolar, and skeletal transversal widths ($P > .05$). The UCLP and BCLP groups showed statistically significantly smaller values for intercanine alveolar widths and larger values for intermolar dental and alveolar widths compared with the normal occlusion group. This shows the importance of using individualized archwires according to the pretreatment arch widths of the patients affected by UCLP and/or BCLP.

Title: A randomized controlled trial comparing two techniques for unilateral cleft lip and palate: Growth and speech outcomes during mixed dentition.

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 790-795

Author(s): Ganesh, Praveen, Murthy, Jyotsna, Ulaghanathan, Navitha, Savitha, V H

Abstract: To study the growth and speech outcomes in children who were operated on for unilateral cleft lip and palate (UCLP) by a single surgeon using two different treatment protocols. A total of 200 consecutive patients with nonsyndromic UCLP were randomly allocated to two different treatment protocols. Of the 200 patients, 179 completed the protocol. However, only 85 patients presented for follow-up during the mixed dentition period (7-10 years of age). The following treatment protocol was followed. Protocol 1 consisted of the vomer flap (VF), whereby patients underwent primary lip nose repair and vomer flap for hard palate single-layer closure, followed by soft palate repair 6 months later; Protocol 2 consisted of the two-flap technique (TF), whereby the cleft palate (CP) was repaired by two-flap technique after primary lip and nose repair. GOSLON Yardstick scores for dental arch relation, and speech outcomes based on universal reporting parameters, were noted. A total of 40 patients in the VF group and 45 in the TF group completed the treatment protocols. The GOSLON scores showed marginally better outcomes in the VF group compared to the TF group. Statistically significant differences were found only in two speech parameters, with better outcomes in the TF group. Our results showed marginally

better growth outcome in the VF group compared to the TF group. However, the speech outcomes were better in the TF group.

Title: Osseous and dental outcomes of primary gingivoperiosteoplasty with iliac bone graft: A radiological evaluation.

Citation: Journal of cranio-maxillo-facial surgery : official publication of the European Association for Cranio-Maxillo-Facial Surgery, Jul 2015, vol. 43, no. 6, p. 950-955

Author(s): Touzet-Roumazeille, Sandrine, Vi-Fane, Brigitte, Kadlub, Natacha, Genin, Michaël, Dissaux, Caroline, Raoul, Gwenaël, Ferri, Joël, Vazquez, Marie-Paule, Picard, Arnaud

Abstract: Primary alveolar cleft repair has two main purposes: to restore normal morphology and normal function. Gingivoperiosteoplasty with bone grafting in mixed dentition has been a well-established procedure. We hypothesized that 1) performance of this surgery in deciduous dentition would provide favorable bone graft osseointegration, and 2) would improve the support of incisor teeth eruption, thereby avoiding maxillary growth disturbances. We conducted a retrospective study of clinical and tridimensional radiological data for 73 patients with alveolar clefts (with or without lip and palate clefts) who underwent gingivoperiosteoplasty with iliac bone graft in deciduous dentition. Pre- and post-operative Cone Beam Computed Tomography (CBCT) comparison allowed evaluation of the ratio between bone graft volume and initial cleft volume (BGV/ICV ratio), and measurement of central incisor teeth movements. This series of 73 patients included 44 males and 29 females, with a mean age of 5.5 years. Few complications were observed. Post-operative CBCT was performed at 7.4 months. The mean BGV/ICV ratio was 0.62. Axial rotation was significantly improved post-operatively ($p = 0.004$). Gingivoperiosteoplasty with iliac bone graft is safe when performed in deciduous dentition and results in a sufficient bone graft volume to support lateral incisor eruption and upper central incisor tooth position improvement.

Title: Spectrum of Dental Phenotypes in Nonsyndromic Orofacial Clefting.

Citation: Journal of dental research, Jul 2015, vol. 94, no. 7, p. 905-912

Author(s): Howe, B J, Cooper, M E, Vieira, A R, Weinberg, S M, Resick, J M, Nidey, N L, Wehby, G L, Marazita, M L, Moreno Uribe, L M

Abstract: Children with oral clefts show a wide range of dental anomalies, adding complexity to understanding the phenotypic spectrum of orofacial clefting. The evidence is mixed, however, on whether the prevalence of dental anomalies is elevated in unaffected relatives and is mostly based on small samples. In the largest international cohort to date of children with nonsyndromic clefts, their relatives, and controls, this study characterizes the spectrum of cleft-related dental anomalies and evaluates whether families with clefting have a significantly higher risk for such anomalies compared with the general population. A total of 3,811 individuals were included: 660 cases with clefts, 1,922 unaffected relatives, and 1,229 controls. Dental anomalies were identified from in-person dental exams or intraoral photographs, and case-control differences were tested using $\chi(2)$ statistics. Cases

had higher rates of dental anomalies in the maxillary arch than did controls for primary (21% vs. 4%, P = 3 × 10(-8)) and permanent dentitions (51% vs. 8%, P = 4 × 10(-62)) but not in the mandible. Dental anomalies were more prevalent in cleft lip with cleft palate than other cleft types. More anomalies were seen in the ipsilateral side of the cleft. Agenesis and tooth displacements were the most common dental anomalies found in case probands for primary and permanent dentitions. Compared with controls, unaffected siblings (10% vs. 2%, P = 0.003) and parents (13% vs. 7%, P = 0.001) showed a trend for increased anomalies of the maxillary permanent dentition. Yet, these differences were nonsignificant after multiple-testing correction, suggesting genetic heterogeneity in some families carrying susceptibility to both overt clefts and dental anomalies. Collectively, the findings suggest that most affected families do not have higher genetic risk for dental anomalies than the general population and that the higher prevalence of anomalies in cases is primarily a physical consequence of the cleft and surgical interventions.

Journal Tables of Contents

The most recent issues of key journals. Click on the journal covers for the tables of contents. If you would like any of the papers in full text then get in touch: library@uhbristol.nhs.uk

Head and Neck
Vol. 37, iss. 8, August 2015



British Journal of Oral and Maxillofacial Surgery
Vol. 53, iss. 6, July 2015



Oral Surgery Oral Medicine Oral Pathology Oral Radiology
Vol. 120, iss. 1, July 2015



Oral Surgery
Vol. 8, iss. 3, August 2015



The Cleft Palate-Craniofacial Journal
Vol. 52, iss. 4, July 2015



New from the Dental Elf

The *Dental Elf* is part of the *National Elf Service* suite of blogs. It highlights recently published studies, giving a summary of the findings and a commentary. Its authors are Derek Richards, Consultant in Dental Public Health and Director of the Centre for Evidence-based Dentistry, and Dominic Hurst, Clinical lecturer in Adult Oral Health at Queen Mary, University of London.

Periodontal surgery for multiple gingival recessions

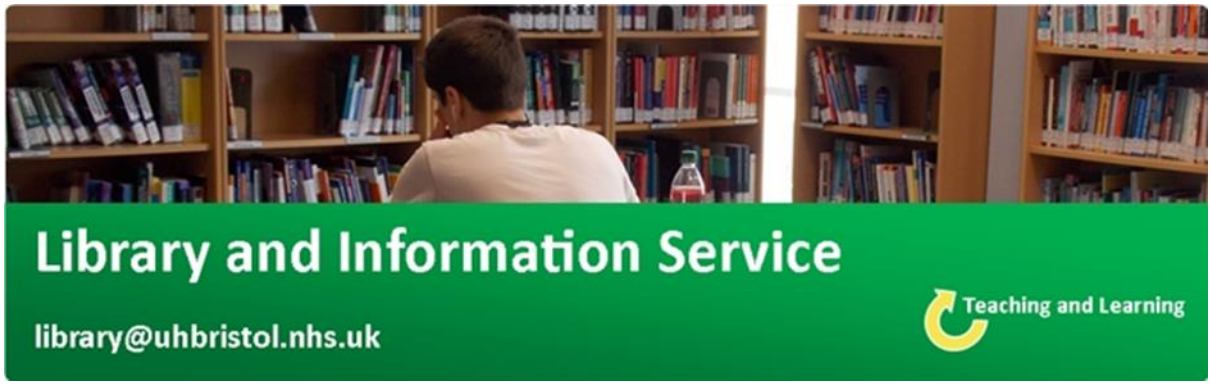
Jul 7 2015

The management of periodontal disease associated with multi-rooted teeth can be challenging because of the anatomical features of the root furcation. The aim of this review was to assess the effectiveness of access flap surgery in the treatment of class II furcation defects.

Orthognathic surgery: intra-operative bleeding reduced with tranexamic acid

Aug 6 2015

Blood loss during orthognathic surgery is variable and can be affected by the length of the procedure, major vascular injury and surgical inexperience. As a result a variety of techniques, including the use of hypotensive anesthesia, and antifibrinolytic agents have been used to reduce intra-operative blood loss. The aim of this review was to evaluate the efficacy of haemostatic adjuncts on intra-operative blood loss (IOB) in orthognathic surgery (OS)



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