

Dentistry & Maxillofacial

November 2019 - January 2020

A current awareness update service from Library and Knowledge Services. If you know anyone who could benefit from receiving this please ask them to sign up by emailing sarah.glover@elht.nhs.uk or library.blackburn@elht.nhs.uk

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We hope this bulletin is useful. We are keen to promote our services at your team meetings/huddles. If you feel that this would be useful, then please contact me to arrange a brief induction to how we can support you in education and training, researching for information, literature support, critical appraisal skills, free article requests, social media training (learn to Tweet!) and much more.

Kind regards

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IN THE NEWS

[Gum disease doubles stroke risk, according to new study](#)

Date: 25th November 2019

Source: Oral Health Foundation

[Cancer risk tops list of incentives for healthier lifestyles](#)

Date: 27 November 2019

Source: Oral Health Foundation

[MPs urge dentists to back move for water fluoridation](#)

Date: 28th January 2020

Source: Dentistry.co.uk

[Brushing teeth three times a day could lead to a healthier heart](#)

Date: 5th December 2019

Source: Dentistry.co.uk

[Festive drinks contain 'shocking' amount of sugar](#)

Date: 4th December 2019

Source: Dentistry.co.uk



For references where there is a link to the full text, you may need to use your NHS Athens username & password to access
<https://openathens.nice.org.uk/>

Digital scanning for implant-supported fixed complete-arch dental prostheses for patients with epidermolysis bullosa

Authors: R Agustín-Panadero, et al.

Source: Journal of Prosthetic Dentistry 2019 Oct; 122(4):364-370

Abstract: The treatment of patients with recessive dystrophic epidermolysis bullosa has been compromised in the past by the lack of oral therapeutic information and the use of conventional complete dentures. The purpose of this clinical case series study was to describe a digital rehabilitation protocol involving computer-aided design and computer-aided manufacturing (CAD-CAM) techniques for the treatment of patients with recessive dystrophic epidermolysis bullosa and to follow up for 4 years the patients who underwent this treatment. A case series analyzing implant survival, peri-implant tissue health, and patient satisfaction with the treatment received was made of 4 patients with recessive dystrophic epidermolysis bullosa. Bimaxillary fixed implant-supported complete-arch rehabilitation was carried out by using a digital protocol with CAD-CAM techniques. The implant survival rate was 100%, with a bleeding rate of 74.2% and an inflammation rate of 58.0%. Gingival stability was achieved in 77.4% of the patients, with gingival displacement in 22.6% of the implants. However, the probing depth was maintained between 1 and 3 mm in 96.7% of the implants placed. Fixed complete-arch implant-supported rehabilitation is a successful treatment for patients with epidermolysis. Digital intraoral scanning facilitates the treatment of patients with this condition and reduces the clinical complications associated with conventional impression techniques (ulceration, blistering, angular cheilitis, and so forth). [Request this article from the library](#)

[Dental students' ability to detect maxillary sinus abnormalities: A comparison between panoramic radiography and cone-beam computed tomography](#)

Authors: L de Paula Lopes Rosado, et al.

Source: Imaging Science in Dentistry 2019 Sep;49(3):191-199

Abstract: To compare the diagnostic ability of undergraduate dental students to detect maxillary sinus abnormalities in panoramic radiographs (PR) and cone-beam computed tomography (CBCT). This was a retrospective study based on the evaluation of PR and CBCT images. A pilot study was conducted to determine the number of students eligible to participate in the study. The images were evaluated by 2 students, and 280 maxillary sinuses were assessed using the following categories: normal, mucosal thickening, sinus polyp, antral pseudocyst, nonspecific opacification, periostitis, antrolith, and antrolith associated with mucosal thickening. The reference standard was established by the consensus of 2 oral radiologists based on the CBCT images. The kappa test, receiver operating characteristic curves, and 1-way analysis of variance with the Tukey-Kramer post-hoc test were employed. Intraobserver and interobserver reliability showed agreement ranging from substantial (0.809) to almost perfect (0.922). The agreement between the students' evaluations and the reference standard was reasonable (0.258) for PR and substantial (0.692) for CBCT. Comparisons of values of sensitivity, specificity, and accuracy showed that CBCT was significantly better ($P<0.05$). CBCT was better than PR for the detection of maxillary sinus abnormalities by dental students. However, CBCT should only be requested after a careful analysis of PR by students and more experienced professionals.

Migration of the root complex after coronectomy occurs within the first year after surgery

Authors: Mads Hagen Pedersen, et al.

Source: Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology Vol. 128, Issue 4, p357–365

Abstract: Currently, there are no studies evaluating the radiographic follow-up protocol after coronectomy. This study aims to assess root migration after coronectomy of mandibular third molars in panoramic images taken 1, 3 and 5 years after surgery. This was a prospective cohort study of patients undergoing coronectomy of a mandibular third molar. The patients followed a 5-year follow-up regimen with panoramic examinations at 1, 3 and 5 years after the surgical intervention. Three observers assessed the panoramic images in a blinded randomized order to evaluate bone coverage; superimposition of the roots and the mandibular canal; and migratory changes of the roots. Descriptive statistics were used to describe changes. Furthermore, reproducibility among the observers was calculated. Sixty-two patients were included. Ingrowth of bone superior to the root complex during the first year was registered by all observers (observer 1: 100%; observer 2: 77.4%; and observer 3: 85.5%). Superimposition of the mandibular canal and the root complex in the panoramic images taken in the immediate postoperative period and after 1 year showed that 53.2% to 62.9% went from superimposition to no superimposition. Interobserver reproducibility was high. Migration of the root complex occurs primarily within the first year after coronectomy. Therefore, a routine radiographic follow-up after 1 year only is recommended. [Request this article from the library](#)

New evolution of conebeam computed tomography in dentistry: combining digital technologies

Author: Supreet Jain, et al.

Source: Imaging Science in Dentistry 2019 Sep; 49(3): 179–190

Abstract: Panoramic radiographs and computed tomography (CT) play a paramount role in the accurate diagnosis, treatment planning, and prognostic evaluation of various complex dental pathologies. The advent of cone-beam computed tomography (CBCT) has revolutionized the practice of dentistry, and this technique is now considered the gold standard for imaging the oral and maxillofacial area due to its numerous advantages, including reductions in exposure time, radiation dose, and cost in comparison to other imaging modalities. This review highlights the broad use of CBCT in the dentomaxillofacial region, and also focuses on future software advancements that can further optimize CBCT imaging.

Diversion of the mandibular canal: Is it the best predictor of inferior alveolar nerve damage during mandibular third molar surgery on panoramic radiographs?

Authors: Melek Tassoker, et al.

Source: Imaging Science in Dentistry 2019 Sep; 49(3): 213–218

Abstract: The aim of this study was to evaluate the relationship between the mandibular canal and impacted mandibular third molars using cone-beam computed tomography (CBCT) and to compare the CBCT findings with signs on panoramic radiographs (PRs). This retrospective study consisted of 200 mandibular third molars from 200 patients who showed a close relationship between the mandibular canal and impacted third molars on PRs and were referred for a CBCT examination of the position of the mandibular canal. The sample consisted of 124 females and 76 males, with ages ranging from 18 to 47 years (mean, 25.75 ± 6.15 years). PRs were evaluated for interruption of the mandibular canal wall, darkening of the roots, diversion of the mandibular canal, and narrowing of the mandibular canal. Correlations between the PR and CBCT findings were statistically analyzed. In total, 146 cases (73%) showed an absence of canal cortication between the mandibular canal and impacted third molar on CBCT images. A statistically significant relationship was found between CBCT and PR findings ($P < 0.05$). The absence of canal cortication on CBCT images was most frequently accompanied by the PR sign of diversion of the mandibular canal (96%) and least frequently by interruption of the mandibular canal wall (65%). CBCT examinations are highly recommended when diversion of the mandibular canal is observed on PR images to reduce the risk of mandibular nerve injury, and this sign appears to be more relevant than other PR signs.

Prevalence of dental caries in children and adolescents with type 1 diabetes: a systematic review and meta-analysis

Authors: Yan Wang, et al.

Source: BMC Oral Health (2019) 19:213

Abstract: Dental caries and type 1 diabetes are responsible for a large burden of global disease; however, the exact prevalence of dental caries among children and adolescents with type 1 diabetes remains controversial, and no quantitative meta-analysis exists. Thus, we performed a meta-analysis to evaluate the prevalence of dental caries among children and adolescents with type 1 diabetes. We performed a systematic search strategy using PubMed, EMBASE and China National Knowledge Infrastructure for relevant studies investigating the prevalence of dental caries in children and adolescents with type 1 diabetes from July 1971 until December 2018. The pooled prevalence with 95% confidence intervals (95%CIs) and subgroup analyses were calculated using a random effects model. After screening 358 non-duplicated articles, a total of 10 articles involving 538 individuals were included. The overall prevalence of dental caries among children and adolescents with type 1 diabetes was 67% (95% CI: 0.56–0.77%; I² = 83%). The prevalence was highest in South America (84%) and lowest in diabetic patients with good metabolic control (47%). The prevalence of dental caries was high among children and adolescents with type 1 diabetes. Screening and preventive treatment should be included in dental clinical routines for diabetic children and adolescents, especially in those with poor metabolic control.

Systemic doxycycline as an adjunct to scaling and root planing in diabetic patients with periodontitis: a systematic review and meta-analysis

Authors: Kenneth Chou Hung Yap & Shaju Jacob Pulikkotil

Source: BMC Oral Health (2019) 19:209

Abstract: To compare the effectiveness of systemic doxycycline as an adjunct to scaling and root planing (SRP) with SRP alone in improving periodontal clinical attachment level and glycemic control in diabetic patients with periodontitis. Two independent reviewers (KY and SJ) screened two electronic databases, PubMed and Scopus, for randomized clinical trials on the use of systemic doxycycline as an adjunct to scaling and root planing in improving periodontal status and glycemic control in diabetic patients with periodontitis using predetermined selection criteria within a 3-month period. The reviewers independently did data screening, data selection, data extraction and risk of bias. Quality of studies involved was analysed using the revised Cochrane Risk of Bias 2.0. Weighted standard mean differences (SMD) and 95% confidence intervals were calculated using a random effects meta-analysis model. Publication bias was

evaluated using funnel plot. Quality of evidence was evaluated by Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach. Electronic searches provided 1358 records and six studies were selected. The meta-analyses indicated that there was no statistically significant difference in the improvement of periodontal status with the use of systemic doxycycline as an adjunct for scaling and root planing (SRP). SMD of clinical attachment levels ($-0.22 [-0.52, 0.08]$) and HbA1c levels ($-0.13 [-0.41, 0.15]$) were calculated. Overall risk of bias is high in 2 out of 6 studies involved. Systemic doxycycline when used in addition to scaling and root planing yields no significant improvement of clinical attachment levels for periodontal status and reduction of HbA1c levels in treatment of diabetic patients with periodontitis when comparing the test group to the control group.

Resistance and resilience to experimental gingivitis: a systematic scoping review

Authors: Charifa Zemouri, et al.

Source: BMC Oral Health (2019) 19:212

Abstract: This systematic scoping review aimed to identify changes in biomarkers of microbiological, immunological and biochemical origin during experimental gingivitis (EG) studies that might indicate resistance and resilience. The term 'experimental gingivitis' was run in PubMed from inception to April 11th 2018. From the 411 studies retrieved, 22 studies were included for this review. Studies reporting data on biomarker changes during and after full mouth EG trial were included. Two studies reported findings on changes in biomarkers of microbiological, 12 on immunological and eight on biochemical origin. Changes were reported in the induction phase, and occasionally in the resolution phase. The microbiological composition of both supragingival and subgingival dental plaque changed over the course of EG to a more pathogenic direction, but showed a shift back to a more normal composition. This indicates resilience of the oral microbiome. For immunological biomarkers, it was challenging to retrieve a robust pattern of changes across multiple studies. IL-1 β and IL-6 in saliva and in gingival crevicular fluid increased during induction phase and returned in the resolution phase below baseline values. The biochemical parameters cystatin-SN, cystatin-S and lactoferrin in saliva were increased at the end of induction phase, however also here no clear pattern emerged based on all available studies. More research is needed to investigate which microbiological, immunological, and biochemical biomarkers can be useful for future investigations into the resistance and resilience of the oral cavity to experimental gingivitis.

The application of virtual reality and augmented reality in Oral & Maxillofacial Surgery

Authors: Ashraf Ayoub & Yeshwanth Pulijala.

Source: BMC Oral Health (2019) 19:238

Abstract: Virtual reality is the science of creating a virtual environment for the assessment of various anatomical regions of the body for the diagnosis, planning and surgical training. Augmented reality is the superimposition of a 3D real environment specific to individual patient onto the surgical field using semi-transparent glasses to augment the virtual scene. The aim of this study is to provide an overview of the literature on the application of virtual and augmented reality in oral & maxillofacial surgery. We reviewed the literature and the existing database using Ovid MEDLINE search, Cochran Library and PubMed. All the studies in the English literature in the last 10 years, from 2009 to 2019 were included. We identified 101 articles related to the broad application of virtual reality in oral & maxillofacial surgery. These included the following: Eight systematic reviews, 4 expert reviews, 9 case reports, 5 retrospective surveys, 2 historical perspectives, 13 manuscripts on virtual education and training, 5 on haptic technology, 4 on augmented reality, 10 on image fusion, 41 articles on the prediction planning for orthognathic surgery and maxillofacial reconstruction. Dental implantology and orthognathic surgery are the most frequent applications of virtual reality and augmented reality. Virtual planning improved the accuracy of inserting dental implants using either a statistic guidance or dynamic navigation. In orthognathic surgery, prediction planning and intraoperative navigation are the main applications of virtual reality. Virtual reality has been utilised to improve the delivery of education and the quality of training in oral & maxillofacial surgery by creating a virtual environment of the surgical procedure. Haptic feedback provided an additional immersive reality to improve manual dexterity and improve clinical training. Virtual and augmented reality have contributed to the planning of maxillofacial procedures and surgery training. Few articles highlighted the importance of this technology in improving the quality of patients' care. There are limited prospective randomized studies comparing the impact of virtual reality with the standard methods in delivering oral surgery education.

Effect of smoking cessation on tooth loss: a systematic review with meta-analysis

Authors: Maria Luisa Silveira Souto, et al.

Source: BMC Oral Health (2019) 19:245

Abstract: Smoking is a major risk factor for periodontitis and tooth loss. Smoking cessation has a positive impact in periodontal treatment. However, so far, no systematic review has evaluated the effect of smoking cessation on tooth loss. Therefore, this review aimed to evaluate if smoking cessation reduces the risk of tooth loss. Observational (cross-sectional and longitudinal) studies that investigated the association between smoking cessation and tooth loss were included. MEDLINE, EMBASE and LILACS databases were

searched for articles published up to November 2018. Pooled results for subgroups of current and former smokers were compared in meta-analysis. Meta-regression was used to test the influence of smoking status on estimates and explore the heterogeneity. Of 230 potentially relevant publications, 21 studies were included in the qualitative review and 12 in the quantitative analysis. Meta-analysis of cross-sectional studies did not show any differences between former and current smokers in the chance of losing 1 or more teeth ($OR = 1.00$; 95% CI = 0.80 to 1.24, $I^2 = 80\%$), losing more than 8 teeth ($OR = 1.02$; 95% CI = 0.78 to 1.32, $I^2 = 0\%$) or being edentulous ($OR = 1.37$; 95% CI = 0.94 to 1.99, $I^2 = 98\%$). Meta-analysis from longitudinal studies showed that, when compared to never smokers, former smokers presented no increased risk of tooth loss ($RR = 1.15$; 95% CI = 0.98 to 1.35, $I^2 = 76\%$), while current smokers presented an increased risk of tooth loss ($RR = 2.60$; 95% CI = 2.29 to 2.96, $I^2 = 61\%$). Meta-regression showed that, among former smokers, the time of cessation was the variable that better explained heterogeneity (approximately 60%). Risk for tooth loss in former smokers is comparable to that of never smokers. Moreover, former smokers have a reduced risk of tooth loss, when compared to current smokers.

Phenotyping obstructive sleep apnoea - bringing precision to oral appliance therapy

Authors: Peter A. Cistulli & Kate Sutherland

Source: Journal of Oral Rehabilitation 2019;46:1185–1191

Abstract: Obstructive Sleep Apnoea (OSA) is a highly prevalent disorder across the world and is characterised by repeated obstruction of the pharyngeal airway during sleep, resulting in oxygen desaturation (intermittent hypoxia) and sleep fragmentation. As awareness of the disorder has risen over the last few decades, there is growing recognition that OSA is a highly heterogeneous disorder, and that application of a precision medicine framework to its treatment could significantly enhance patient outcomes by allowing prediction of who has OSA, who needs it treated, who is susceptible to symptoms and comorbidities, which treatment should be used and who will respond to therapy. To achieve this, there is a need to develop an understanding of intermediate OSA phenotypes in terms of their contribution to disease pathogenesis, clinical and physiological expression and treatment responses. Recently, there have been an increasing number of studies using unsupervised (cluster) analytical approaches that have generated new insights, demonstrating the viability of a precision medicine approach in sleep medicine. These advances will undoubtedly influence the emerging field of dental sleep medicine, and dentists need to be aware of these developments.



Management of gag reflex for patients undergoing dental treatment

Eachempati P, Kumbargere Nagraj S, Kiran Kumar Krishnappa S, George RP, Soe HHK, Karanth L.

Cochrane Database of Systematic Reviews 2019, Issue 11. Art. No.: CD011116.

DOI: 10.1002/14651858.CD011116.pub3.

Interventions with pregnant women, new mothers and other primary caregivers for preventing early childhood caries

Riggs E, Kilpatrick N, Slack-Smith L, Chadwick B, Yelland J, Muthu MS, Gomersall JC

Cochrane Database of Systematic Reviews 2019, Issue 11. Art. No.: CD012155.

DOI: 10.1002/14651858.CD012155.pub2.

Fluorides for preventing early tooth decay (demineralised lesions) during fixed brace treatment

Benson PE, Parkin N, Dyer F, Millett DT, Germain P. Cochrane Database of Systematic Reviews 2019,

Issue 11. Art. No.: CD003809.

DOI: 10.1002/14651858.CD003809.pub4.

ONLINE RESOURCES FOR DENTISTRY & MAXILLOFACIAL

DynaMed®



The screenshot shows the DynaMed website interface. At the top, there's a navigation bar with links for 'Specialties', 'Drug Interactions', 'Calculators', 'Differential Diagnosis', 'About', and 'Mobile'. A 'SIGN IN' button and a 'Learn more about CME' button are also present. Below the navigation, the word 'Specialty' is followed by 'Oral Health'. Under 'Oral Health', there's a list of sub-topics: 'Disorders of Teeth and Gingiva', 'Infections Affecting the Oral Cavity', 'Oral Manifestations of Systemic Disease', 'Malignancy', and 'Other Conditions'.

<https://www.dynamed.com/browse/Oral%20Health>

DynaMed gets you to your clinical answer faster than ever before.

Questions arising during patient care need fast answers. In DynaMed, the right information is quickly surfaced. Actionable recommendations, key takeaways, and synopses provide the quick answer with the ability to dig deeper as needed.



BMJ Best Practice

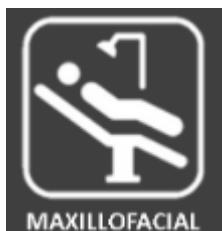
BMJ Best Practice is a clinical decision support tool, uniquely structured around the patient consultation, with advice on symptom evaluation, tests to order and treatment approach. Earn CME credits while searching for answers to your clinical questions.



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Reflective Reading Clubs at ELHT

What is a Reflective Reading Club?

A Reflective Reading Club is a regular gathering of interested people to discuss a particular topic. This will include staff, students, and volunteers; in fact anyone at East Lancashire Hospitals NHS Trust can attend. It is a really good way of meeting new people, sharing thoughts and opinions.

This is how the Reflective Reading Club works:

Individual Learning – 1.5 hours CPD

1. You let us know you are interested.
2. We send you a short journal article and a small checklist of points to consider when reading it. Make notes as you read the paper in your own time and this earns you one and a half hours CPD time!

Participatory Learning – 1.5 hours CPD

3. We meet for the club and discuss the article in a small group, reflecting on points whilst working our way through the checklist. Any notes that you make on the checklist can be submitted into your portfolio as evidence of reflective activities – this earns you another one and a half hours CPD time!
4. YOU GET A CERTIFICATE of participation and attendance!

If you would like to learn how to facilitate or are interested in facilitating a Reflective Reading Club please contact:

Abbas Bismillah

Head of Library and Knowledge Services

Email abbas.bismillah@elht.nhs.uk

01254 784308 (Ext: 84308)

Find out about our upcoming Reflective Reading Clubs

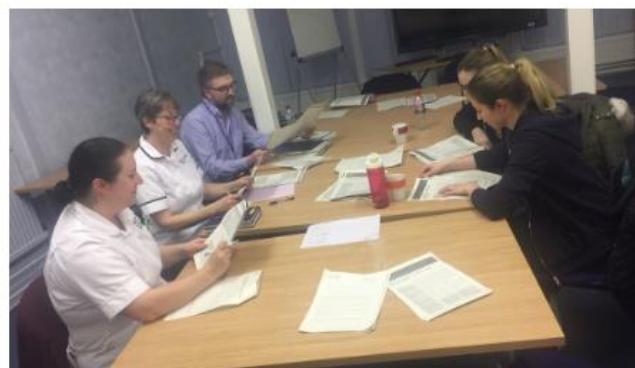


Library staff can help you to set up and facilitate a regular Journal Club.

We can help you search for suitable articles and offer advice on critical appraisal.

A journal club can

- Help develop critical appraisal skills
- Provide you with CPD hours to help you with your Medical, Nursing or Midwifery revalidation
- Encourage evidence based medicine
- Help people to learn and improve their critical appraisal skills
- Promote awareness of research skills
- Encourage use of research
- Support continuing professional development
- Promote social contact
- Provide continuing medical education
- Stimulate debate and improve understanding of current topics
- Encourage quality improvement initiatives



Here's Patrick, our Clinical Librarian at the Neurological Rehabilitation Journal Club discussing "Outcomes of hospital admissions among frail older people: a 2 year cohort study"

For further information please contact Abbas Bismillah, Head of LKS on ext. 84308 or email abbas.bismillah@elht.nhs.uk or contact Patrick Glaister, Clinical Librarian at patrick.glaister@elht.nhs.uk

This is OUR Time **2020**

#YearOfTheNurseAndMidwife



To celebrate the achievements of nurses and midwives the world over,
ELHT are going to be offering a range of celebrations and activities.

To start us off, we are looking for a short biography of **YOU**

A picture of who you are and your journey into your role and what it means to you.
Let's show the world how wonderful you are in providing the best care for all our communities.

If you are a Nurse or Midwife, please would you consider completing a brief bio of you
(ELHT Role Model) or alternatively follow [this example](#) and complete an NHS England People
Story.

ELHT Role
Models

NHS England
People Story

With your permission, your journey will be promoted on our websites, via social media,
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Completed profiles should be sent to Communications communications@elht.nhs.uk or to Abbas
Bismillah, Head of Library and Knowledge Services email abbas.bismillah@elht.nhs.uk

Please send your completed form and photo by email, marked 'YNM2020 People Story'
(Alternatively you can complete a form in the Trust libraries and have your photograph taken)

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Sarah Glover	Library Services Officer
Charlotte Holden	Library Services Officer
Lauren Kay	Library Services Officer

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