RECENT REVIEWS RELATED TO MINOR ORAL SURGERY

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Search Strategy:
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1 exp "Oral Surgical Procedures/ (41960)
2 ("minor oral surg$" or "tooth extraction" or "dental extraction" or "third molar surgery" or (extrac$ and "third molar$")),ti. (3192)
3 (minor$ or extract$ or "third molar$"),tw. (973691)
4 (1 and 3) or 2 (10523)
5 exp animals/ not humans/ (4507543)
6 4 not 5 (9403)
7 limit 6 to "review articles" (746)
8 review.ti. and 6 (393)
9 7 or 8 (811)
10 limit 9 to english language (738)
11 limit 10 to yr="2017 -Current" (103)
12 remove duplicates from 11 (101)

************************************************************************

1 Unique Identifier 30327153
Title Intramuscular injection of dexamethasone for the control of pain, swelling, and trismus after third molar surgery: a systematic review and meta-analysis. [Review]
VI 1
Status Publisher
Authors Fernandes IA; de Souza GM; Pinheiro MLP; Falci SGM.
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Local Messages
Abstract THIS JOURNAL IS AVAILABLE IN THE BDA LIBRARY, BDA MEMBERS CAN ALSO ACCESS THIS JOURNAL ONLINE FROM 2011 TO DATE. Go to www.bda.org/ejournals

2 Unique Identifier 30324666
Title Does laser therapy improve the wound healing process after tooth extraction? - A systematic review. [Review]
VI 1
Status Publisher
Lemes CHJ; da Rosa WLO; Sonego CL; Lemes BJ; de Moraes RR; da Silva AF.

Authors

Lemes, Carmen Helena Jacques; da Rosa, Wellington Luiz de O; Sonego, Camila Leal; Lemes, Bianca Jacques; de Moraes, Rafael Ratto; da Silva, Adriana Fernandes.

Institution


Abstract

Laser therapy could amplify the oral wound healing process by stimulating cell regeneration after injury, attenuating pain, and modulating the immune system. The purpose of this systematic review was to evaluate whether the application of laser therapy improved alveolar healing after tooth extractions. Eight electronic databases were screened: MedLine (PubMed), The Cochrane Library, Web of Science, Scopus, Lilacs, Ibecs, Scielo and BBO. Three reviewers independently assessed the title and abstracts of potentially relevant studies. Only clinical trials and animal experiments that evaluated the wound healing effect of laser therapy after tooth extraction were included. A total of 16 studies fulfilled all criteria, thus 8 animal experiments and 8 clinical trials were included. Different types of laser were evaluated, such as CO$_2$, GaAlAs, Nd:YAG, Diode Laser, HeNe and High-frequency Pulsed Diode Laser. Although HF, Diode and GaAs lasers were able to enhance wound healing process in clinical studies, four trials and one animal experiment showed no improvement in wound healing with laser therapy after tooth extractions. In general, the current available evidence in the literature demonstrated that laser therapy improved the wound healing process, but these findings were limited to the type of laser applied and its specific settings. Further well-designed and randomized controlled trials are needed to support a benefit effect of using laser therapy after tooth extraction. PROSPERO registration number: CRD42014007509 (2014). This article is protected by copyright. All rights reserved.

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Publication Type

Journal Article. Review.

Year of Publication

2018

Unique Identifier

30267700

Title


Source


Vi 1

Status

Publisher

Authors

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Local Messages

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Abstract

PURPOSE: The purpose of this study was to evaluate whether the anesthetic efficiency of articaine is superior to that of lidocaine during lower third molar extraction (LTME).

MATERIALS AND METHODS: Three electronic databases (PubMed, Cochrane, and Web of Science) were searched to identify randomized controlled trials up to December, 31 2017. Five evaluation indexes were extracted, namely success rate of anesthesia, subjective onset time of anesthesia, objective onset time of anesthesia, duration time of anesthesia, and intraoperative pain assessment, to assess the anesthesia efficiency of the 2 solutions. All data analyses were conducted using Review Manager (version 5.3; The Cochrane Collaboration, London, United Kingdom).

RESULTS: Nine studies were included in this review. The sample was composed of 770 LTMEs from 493 patients, with 382 LTMEs in the lidocaine group and 388 LTMEs in the articaine group. Compared with lidocaine, 4% articaine with 1:100,000 epinephrine showed a higher success rate of anesthesia (risk ratio, 1.10; 95% confidence interval [CI], 1.01 to 1.21; P = .03), shorter subjective onset time of anesthesia (standardized mean difference, 1.20; 95% CI, 0.50 to 1.89; P = .0007), and longer...
duration time of anesthesia (mean difference, 0.83 hours; 95% CI, 0.59 to 1.07 hours; P < .00001); however, for intraoperative pain assessment (mean difference, 3.12 mm; 95% CI, -0.13 to 6.37 mm; P = .06) and objective onset time of anesthesia (standardized mean difference, 0.44; 95% CI, -0.39 to 1.26; P = .30), there was no significant difference between the 2 solutions.

CONCLUSIONS: The results of this study suggest that 4% articaine with 1:100,000 epinephrine possesses superior anesthetic efficiency relative to lidocaine for inferior alveolar nerve blocks during LTME.

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Abstract
This systematic review and meta-analysis was performed to investigate whether methylprednisolone (MP) administered via any route improves postoperative outcomes after mandibular third molar surgery? A systematic review and meta-analysis. [Review]

Source

Title
Does methylprednisolone improve postoperative outcomes after mandibular third molar surgery? A systematic review and meta-analysis. [Review]

Authors
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Abstract
This systematic review and meta-analysis was performed to investigate whether methylprednisolone (MP) administered via any route improves postoperative outcomes (pain, trismus, and oedema) following mandibular third molar surgery. An electronic search of the PubMed, Scopus, Cochrane CENTRAL, and Google Scholar databases was performed to identify studies published in English up until January 2018. A total of 28 studies were included in the review: 25 randomized clinical trials (RCTs) and three controlled clinical trials. Studies were grouped according to the route of administration of MP for qualitative and quantitative analysis. Three studies were of 'high' quality and 22 were of 'medium' quality; three studies had a high risk of bias. Within the purview of the limitations of this review, the results showed that MP administered via any route significantly improves oedema in the early postoperative period, but has no effect on late postoperative oedema. Oral and intra-masseteric MP also seem to reduce pain and trismus in the early postoperative period. The results also indicate that oral MP may reduce late postoperative pain, while intra-masseteric MP may improve the late trismus outcome. More high quality RCTs are required to provide stronger evidence on the use of MP in third molar surgery.

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Abstract
Efficacy of photobiomodulation on accelerating bone healing after tooth extraction: a systematic review.

Source
Lasers in Medical Science. 2018 Oct 11.

Title
Efficacy of photobiomodulation on accelerating bone healing after tooth extraction: a systematic review.

Authors
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Abstract

Post-extraction healing of the socket may take up to 24 weeks to complete. This systematic review aims to evaluate whether photobiomodulation accelerates bone healing in those sockets. A search strategy was developed in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. PubMed, Cochrane Library, and Scopus electronic databases were searched for in vivo studies with restrictions on the year (< 50 years old) and language (English). After applying the inclusion criteria, ten studies were selected for review. Test subjects included humans (3), rats (5), and rabbits (2), either healthy or with specified systemic condition(s). Laser parameters applied varied between studies significantly. Six studies measured bone density or bone trabeculae percentage, while remaining studies measured secondary outcome measures such as osteogenesis markers, patient's self-reported pain scores, and clinical epithelial regeneration. No side effects of photobiomodulation have been reported. Higher concentration of osteogenesis markers Ocn and Runx2 were consistently reported across studies, as well as higher percentage of bony trabeculae and bone density. Within the limitations of this review, improvement in bone repair can be found when using photobiomodulation in extraction sockets.
BDA LIBRARY MEDLINE SEARCH

RECENT REVIEWS RELATED TO MINOR ORAL SURGERY

Authors
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Local Messages
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Abstract
The objectives of this systematic review were to investigate the efficacy of amoxicillin/amoxicillin-clavulanic acid for reducing the risk of postoperative infection after third molar surgery and to evaluate the adverse outcomes in these patients, as well as in healthy volunteers. A systematic search of four databases was performed on May 26, 2017. Eleven studies qualified for the qualitative analysis and eight were found suitable for meta-analysis. The results suggest that both amoxicillin-clavulanic acid and amoxicillin significantly reduce the risk of infection after third molar extraction (overall relative risk (RR) 0.25, P<0.001). However, with the exclusion of randomized controlled trials with a split-mouth design (due to an inadequate crossover period after antibiotic treatment), only amoxicillin-clavulanic acid was found to be effective (RR 0.21, P<0.001). The risk of adverse effects was significantly higher in the amoxicillin-clavulanic acid group (RR=4.12, P=0.023) than in the amoxicillin group (RR 1.57, P=0.405). In conclusion, amoxicillin-clavulanic acid and amoxicillin may significantly reduce the risk of infection after third molar extraction. However, their use in third molar surgery should be viewed with caution, as recent clinical trials on healthy volunteers have shown evidence of the negative impact of amoxicillin use on bacterial diversity and antibiotic resistance.

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Year of Publication
2018

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30076806

Title

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Status
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Local Messages
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Abstract
Myositis ossificans (MO) is a rare non-neoplastic disorder characterized by heterotopic ossification in soft tissues, mainly muscles. MO traumatica is characterized by ossification of the soft tissues after acute or repetitive trauma, burns, or surgical intervention. Muscular or soft tissue trauma is usually present as the underlying etiology. MO traumatica usually involves the extremity muscles. The number of reported cases involving the masticatory muscles is extremely low. The most common clinical sign of this condition is progressive limitation of mouth opening. Surgical resection of the ossified tissue has been the most commonly used treatment for this disorder, with a high postoperative recurrence rate. We report a case of traumatic MO of the medial pterygoid muscle to draw attention to the possibility of the condition in patients with a limited mouth opening and to review the reported data about MO traumatica involving the medial pterygoid muscle.

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Publication Type
Journal Article.

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2018

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29941229
Title
Efficacy of corticosteroids versus placebo in impacted third molar surgery: systematic review and meta-analysis of randomized controlled trials. [Review]

Source

Status

Authors
Almeida RAC; Lemos CAA; de Moraes SLD; Pellizzer EP; Vasconcelos BC.

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Abstract
The aim of this systematic review was to identify randomized, placebo-controlled clinical trials investigating the effectiveness of corticosteroids in the control of pain, oedema, and trismus following third molar surgery, and to analyse the effects of the type of drug administered and the time and route of drug administration on the outcomes of interest. Searches were performed in the PubMed, Scopus, and Cochrane Library databases. This review was structured according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses. The search identified 1223 studies. After assessing eligibility based on the inclusion and exclusion criteria, 17 studies were selected for the qualitative analysis (a total of 730 patients aged 15-45 years). Ten studies were included in the meta-analysis, which was performed using Review Manager software. The corticosteroids were effective in controlling pain (P=0.002; mean difference -17.38, 95% confidence interval -24.81 to -9.95) and trismus (P<0.00001; mean difference 6.10, 95% confidence interval 3.42 to 8.77). With the exception of the submucosal route, the route of administration did not appear to affect the outcomes. The administration of a corticosteroid in the preoperative phase was superior to its use in the postoperative phase for the control of trismus.

Copyright © 2018 International Association of Oral and Maxillofacial Surgeons. Published by Elsevier Ltd. All rights reserved.
Unresolving trismus following third molar surgery: Report of a case of fibrodysplasia ossificans progressiva with review of literature.

**BACKGROUND:** Trismus is a problem commonly encountered by the dental practitioner. It has a number of potential causes, and its treatment will depend on the cause. However, there are very few reports of trismus due to fibrodysplasia ossificans progressiva (FOP) following third molar surgery.

**CLINICAL PRESENTATION:** FOP is a rare human genetic disorder with characteristic clinical features like progressive formation of extraskeletal bone or heterotopic ossification and congenital malformation of the great toes.

**CLINICAL SIGNIFICANCE:** It is troublesome to the maxillofacial surgeon, that minimal manipulation and minor surgery can induce bone formation in soft tissues of the head and neck region, particularly the masticatory muscles and the temporomandibular joint. This paper presents a case of severe trismus following third molar extraction, intractable by routine treatment methods, which was later diagnosed as FOP.

**Abstract**

The removal of the upper third molar is a procedure commonly performed in oral and maxillofacial surgery. Maxillary third molars are generally less difficult to extract than mandibular third molars. The surgical removal of maxillary third molars is usually associated with low complication rates and low morbidity. This procedure involves the risk of developing complications such as oroantral communication, displacement into adjacent anatomic spaces, fracture of the maxillary tuberosity, and root fracture. Orthopantomograms are the standard preoperative imaging modality, but there is no proven tool for predicting oroantral communication. New possibilities have been offered by cone-beam computed tomography, which is increasingly used in dentistry and is an innovative technique that provides more information as it eliminates the superimposition of surrounding structures and allows the acquisition of 3-dimensional images and their qualitative assessment. The aim of this systematic review was to assess risk factors during the extraction of the upper third molar using orthopantomograms and cone-beam computed tomography.
**BDA LIBRARY MEDLINE SEARCH**

**RECENT REVIEWS RELATED TO MINOR ORAL SURGERY**

**Year of Publication**

2018

**Unique Identifier**

30116513

**Title**

Different Dosages of Corticosteroid and Routes of Administration in Mandibular Third Molar Surgery: a Systematic Review.

**Source**


**Status**

PubMed-not-MEDLINE

**Authors**

Larsen MK; Kofod T; Christiansen AE; Starch-Jensen T.

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Starch-Jensen, Thomas. Department of Oral and Maxillofacial Surgery, Aalborg University Hospital, Aalborg, Denmark.

**Abstract**

Objectives: The objective of the present systematic review was to test the hypothesis of no difference in facial swelling, pain and trismus after surgical removal of mandibular third molar with different dosages of corticosteroids and administration routes.

Material and Methods: A MEDLINE (PubMed), Embase database and Cochrane Library search in combination with a hand-search of relevant journals was conducted by including randomized controlled trials published in English until 1<sup>st</sup> December 2017.

Results: Seven studies fulfilled the inclusion criteria. Considerable variation in the included studies prevented meta-analysis from being performed. Preoperative submucosal injection of corticosteroids significantly diminishes facial swelling, pain and trismus compared with placebo. However, different dosages of corticosteroid and administration routes reveal contrary results indicating that administration of a higher dosage of corticosteroids do not necessarily cause a further decrease in facial swelling, pain and trismus.

Conclusions: Consequently, the optimal dosage of corticosteroids and administration route for diminishing postsurgical morbidity and improve quality of life after surgical removal of mandibular third molar is presently unknown. Therefore, further well-designed randomized clinical trials including a standardised protocol, patient-reported outcome measures and three-dimensional analysis of facial swelling is needed.

**Publication Type**

Journal Article. Review.

**Year of Publication**

2018

**Unique Identifier**

29625028

**Title**

Effectiveness of Drainage in Mandibular Third Molar Surgery: A Systematic Review and Meta-Analysis. [Review]

**Source**


**Status**

In-Data-Review

**Authors**

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**Abstract**

PURPOSE: The purpose of this study was to provide an evidence-based evaluation of the impact of surgical drainage after the removal of mandibular third molars.
MATERIALS AND METHODS: The Medline (PubMed), Cochrane Library, and Web of Science databases were searched to identify randomized controlled trials up to September 1, 2017. Postoperative variables, including facial swelling, trismus, and pain, were calculated early (2 to 3 days) and late (5 to 7 days) after the removal of impacted mandibular third molars. Weighted mean differences for trismus and standardized mean differences (SMDs) for swelling and pain were pooled for the included studies.

RESULTS: The samples consisted of 592 extractions (297 with surgical drainage and 295 controls) in 409 participants. The included studies were published from 1988 to 2016. Participants who received surgical drainage had significantly less facial swelling during the early stage (SMD, -0.46; 95% confidence interval [CI], -0.67 to -0.26; P < .0001) and the late stage (SMD, -0.36; 95% CI, -0.55 to -0.16; P = .0004) after the removal of an impacted mandibular third molar. They also had better mouth opening than controls during the early and late stages (early MD, 5.55 mm; 95% CI, 3.31-7.79; P = .0003; late MD, 2.38 mm; 95% CI, 1.47-3.29; P < .0001). The level of pain was significantly different between the 2 groups in the early stage (SMD, -0.55; 95% CI, -1.00 to -0.10; P = .01); however, there were no significant differences in the late stage (SMD, -0.13; 95% CI, -0.38 to 0.12; P = .30).

CONCLUSION: The use of surgical drainage has an obviously positive effect on postoperative reactions after the removal of a mandibular third molar. Given the need for additional time for clinic visits, surgical drainage presents an alternative for the perioperative management of impacted mandibular third molar surgery, especially in cases of a fully bony tooth with poor drainage.

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Title
Comparison of Two Routes of Administration of Dexamethasone to Reduce the Postoperative Sequelae After Third Molar Surgery: A Systematic Review and Meta-Analysis. [Review]
Source

Status
PubMed-not-MEDLINE

Authors
Troiano G; Laino L; Cicciu M; Cervino G; Fiorillo L; D'amico C; Zhurakivska K; Lo Muzio L.
Authors Full Name
Troiano, Giuseppe; Laino, Luigi; Cicciu, Marco; Cervino, Gabriele; Fiorillo, Luca; D’amico, Cesare; Zhurakivska, Khrystyna; Lo Muzio, Lorenzo.

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Abstract
The aim of this systematic review and meta-analysis was to compare the clinical efficacy of two routes of dexamethasone administration in reducing the postoperative sequelae after third molar extraction. Electronic databases (PUBMED, SCOPUS and EBSCO library) were screened in order to find both randomized and non-randomized clinical trials that directly compare the submucosal intraoral or the intramuscular extraoral administration of dexamethasone. No restriction about year of publication was imposed. About 340 titles and abstracts were screened independently by two authors. Of these [340 titles], only 4 randomized clinical trials met the inclusion criteria and were included in the meta-analysis. No statistical differences in postoperative pain, swelling and trismus were recorded comparing the intraoral submucosal and the extraoral intramuscular injection of dexamethasone in an extra-oral site.

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Journal Article. Review.

Year of Publication
2018

Unique Identifier
29541264

Title
Mucormycosis of maxilla following tooth extraction in immunocompetent patients: Reports and review.

Source
BDA LIBRARY MEDLINE SEARCH

RECENT REVIEWS RELATED TO MINOR ORAL SURGERY

VI 1
Status
PubMed-not-MEDLINE
Authors
Nilesh K; Vande AV.
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Abstract
Mucormycosis is a rare, fulminant, rapidly spreading fungal infection, which usually affects patient with underlying immune deficiency. If not managed promptly, the disease is characterized by progressive necrosis and is often fatal. A review of English literature shows that only fourteen cases of mucormycosis have been reported after tooth extraction. This paper highlights two cases of mucormycosis subsequent to tooth extraction in healthy adult patients. This first patient presented with an oroantral fistula and extensive maxillary necrosis. Whereas the second case was localized and presented as non-healing extraction socket with alveolar necrosis. This adds two more cases of this rare and serious complication of tooth extraction, to the present literature.
Key words: Fungal, infection, zygomycosis, exodontia, complication, jaw, necrosis.
Publication Type
Journal Article.
Year of Publication
2018
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29618877
Title
Infection, Alveolar Osteitis, and Adverse Effects Using Metronidazole in Healthy Patients Undergoing Third Molar Surgery: A Meta-analysis. [Review]
Source
VI 1
Status
PubMed-not-MEDLINE
Authors
Isiordia-Espinoza MA; Aragon-Martinez OH; Bolognina-Molina RE; Alonso-Castro AJ.
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Abstract
Purpose: The aim of this systematic review and meta-analysis was to evaluate the risk of surgical infection, alveolar osteitis, and adverse effects using systemic metronidazole in comparison with placebo in healthy patients undergoing third molar surgery.
Materials and Methods: The eligible reports were identified from diverse science sources. Clinical trials meeting the inclusion and exclusion criteria and an acceptable Oxford Quality Score were included in this study. The evaluation of risk was done using the Risk Reduction Calculator and Review Manager 5.3., from the Cochrane Library. A significant risk reduction was assumed when the upper limit of the 95% confidence intervals was <1 and the lower limit did not cross zero (negative number) alongside a p value of <0.05 for the overall test. Data of 667 patients from five clinical trials were used for the assessment of risk.
Results: Our analysis showed no reduction of the risk of infection or dry socket in patients receiving metronidazole compared to whom took placebo. Meanwhile, the adverse effects did not exhibit a difference between the studied groups.
Conclusion: The routine use of systemic metronidazole to prevent surgical site infection and/or dry socket in healthy patients undergoing third molar surgery is not recommended.
Publication Type
Journal Article. Review.
Year of Publication
Recent Reviews Related to Minor Oral Surgery

**Title:** Initial Manifestation of Acquired Hemophilia A After a Routine Tooth Extraction. A Case Report and Literature Review.


**Authors:** Bennetts NA; Mergelmeyer JE; Reimer EJ; Melville JC.

**Abstract:** Although surgical treatment of patients on anticoagulation regimens is common practice among oral and maxillofacial surgeons, unexpected and unknown coagulopathies can have devastating and catastrophic consequences for the most routine of procedures. Acquired hemophilia A (AHA) is an extremely rare life-threatening bleeding disorder characterized by autoantibodies directed against circulating coagulation factor VIII. The effects of AHA can produce catastrophic bleeding and hematomas. The effect of this uncontrolled hemorrhage after dentoalveolar surgery can mimic severe head and neck infection by causing dysphagia, odynophagia, and acute airway complications. This report describes the case of a 64-year-old woman who was diagnosed with AHA after routine extraction of the mandibular left third molar.

**Title:** Comparison of immediate implant placement in infected and non-infected extraction sockets: a systematic review and meta-analysis. [Review]

**Source:** Acta Odontologica Scandinavica. 76(5):338-345, 2018 Jul.

**Authors:** Lee J; Park D; Koo KT; Seol YJ; Lee YM.

**Abstract:** OBJECTIVE: This review aimed to investigate the feasibility of immediate implant placement in infected extraction sockets.
MATERIAL AND METHODS: We performed electronic and manual searches up to March 2017 to obtain data from randomized controlled trials (RCTs) and nonrandomized controlled clinical trials (CCTs). Using a fixed-effects model to assess the difference in survival rate (primary outcome), we evaluated the risk difference for immediate implant placement in infected and non-infected sites. We estimated the weighted mean differences (WMDs) of the change in marginal bone loss (MBL), probing depth (PD), modified bleeding index (mBI), marginal gingival level (MGL) and width of keratinized gingiva (WKG) at baseline and latest follow-up.

RESULTS: In total, five studies (0 RCT, five CCTs) were included in the systematic review and three studies were included in the meta-analysis. The risk difference for immediate implant placement in an infected extraction socket compared with that in a non-infected socket was -0.02. WMDs for MBL, PD, mBI, MGL and WKG between the two groups were 0.32, 0.12, 0.07, 0.06, 0.20 and 0.51, respectively. No statistical differences were observed between the two groups, except for the change in WKG.

CONCLUSIONS: Implants can be placed in infected extraction sockets after thorough socket debridement. For aesthetics, WKG should be considered when performing immediate implant placement in infected sites.
dimensions of peri-implant soft tissues. Clinical relevance When compared with PS placed in an equicrestal position, subcrestal implant positioning demonstrated less peri-implant bone remodeling.

Publication Type
- Year of Publication: 2018
- Unique Identifier: 29171914
- Title: Risk of inferior alveolar nerve injury with coronectomy vs surgical extraction of mandibular third molars—A comparison of two techniques and review of the literature. [Review]
- Status: MEDLINE

Abstract
The removal of mandibular third molar teeth is one of the most common oral surgical procedures. In a significant number of patients, it carries a degree of associated morbidity, including damage to the inferior alveolar nerve (IAN). For this reason, practitioners desire the most up-to-date guidance on the most appropriate technique, informed by the best available evidence that will produce the lowest incidence of iatrogenic complications. The aim of this study was to perform a systematic review comparing the effect of coronectomy vs complete surgical extraction of mandibular third molar teeth on the risk of IAN injury and other complications in adults. Studies were identified through Embase (1980-2016) and Ovid MEDLINE (1946-2016) database searches. Search terms included coronectomy, partial root removal, deliberate vital root retention, odontectomy, surgical removal, surgical extraction, complete tooth extraction and extract. Limits of the study included humans, English language and randomised controlled trials (RCTs). Only RCTs comparing IAN damage associated with surgical extraction of mandibular third molars vs coronectomy were included. From our database searches, we identified two unique RCTs matching the inclusion criteria. Both evaluated patients who had specific radiographic signs of intimate relationships with the IAN. Upon detailed analysis, the studies were noted to exhibit a high risk of bias in many categories, thereby rendering their results inconclusive. Although evidence from two RCTs suggests that coronectomy can reduce the risk of IAN injury compared to surgical removal of high-risk mandibular third molars, the quality of evidence is insufficient to provide definitive conclusions regarding the preferred technique.

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Publication Type
- Comparative Study. Journal Article. Review.
- Year of Publication: 2018
- Unique Identifier: 29963686
- Title: Antifibrinolytic therapy for preventing oral bleeding in people on anticoagulants undergoing minor oral surgery or dental extractions. [Review]
- Source: Cochrane Database of Systematic Reviews. 7:CD012293, 2018 07 02.
- Status: MEDLINE

Abstract
BACKGROUND: Individuals on continuous treatment with vitamin K antagonists (VKAs) or direct oral anticoagulants (DOACs) are at increased risk of bleeding complications during and after oral or dental procedures. Anticoagulant treatment is preferably continued at the same dose, since dose reduction or discontinuation of treatment is associated with an increased risk of
thromboembolism. The use of haemostatic measures during or after the procedure (or both) could enable continuation of the oral anticoagulant treatment.

OBJECTIVES: We aimed to assess the efficacy of antifibrinolytic agents for preventing bleeding complications in people on oral anticoagulants undergoing minor oral surgery or dental extractions.

SEARCH METHODS: We searched the Cochrane Cystic Fibrosis and Genetic Disorders Coagulopathies Trials Register, compiled from electronic database searches and handsearching of journals and conference abstract books. We also searched the reference lists of relevant articles and reviews. We searched PubMed, Embase and the Cochrane Library. Additional searches were performed using ClinicalTrials.gov, the International Clinical Trials Registry Platform (ICTRP), the CINAHL database of nursing and allied health services, the open access ProQuest dissertation database, papers and reports from the American College of Clinical Pharmacy (ACCP) and abstract books from annual scientific conferences. Date of last search: 04 January 2018.

SELECTION CRITERIA: Randomised and quasi-randomised controlled trials in people on continuous treatment with VKAs or DOACs undergoing oral or dental procedures using antifibrinolytic agents (tranexamic acid (TXA) or epsilon aminocaproic acid) to prevent perioperative bleeding compared to no intervention or usual care with or without placebo.

DATA COLLECTION AND ANALYSIS: Two authors independently screened the titles and abstracts of all identified articles. Full texts were obtained from potentially relevant abstracts and two authors independently assessed these for inclusion based on the selection criteria. A third author verified trial eligibility. Two authors independently performed data extraction and risk of bias assessments using standardized forms. The quality of the evidence was assessed using GRADE.

MAIN RESULTS: No eligible trials in people on continuous treatment with DOACs undergoing oral or dental procedures were identified. Three randomised trials and one quasi-randomised trial (follow-up in all was seven days) in people on continuous treatment with VKAs were included with a total of 253 participants (mean age 60 years). Two trials published in 1989 and 1993 compared the antifibrinolytic agent TXA with placebo in people using VKAs. Two other trials were published in 1999 and 2015 and compared TXA with gelatin sponge and sutures, and dry gauze compression, respectively. In all included trials, those who were treated with VKAs had international normalised ratio (INR) values within the therapeutic range and TXA was applied locally, not systemically. The two trials from 1989 and 1993 comparing TXA with placebo showed a statistically significant beneficial effect regarding the number of major postoperative bleeding episodes requiring intervention, with a pooled risk difference (RD) of -0.25 (95% confidence interval (CI) -0.36 to -0.14) (128 participants) (moderate-quality evidence). For the two trials that compared TXA with either gelatin sponge and sutures or with dry gauze compression, there was no difference between the TXA and the standard care group, RD 0.02 (95% CI -0.07 to 0.11) (125 participants) (moderate-quality evidence). The combined RD of all included trials was -0.13 (95% CI -0.30 to 0.05) (moderate-quality evidence). There were no side effects of antifibrinolytic therapy that required treatment withdrawal (128 participants) (moderate-quality evidence). Despite heterogeneity between trials with respect to the different haemostatic measures used in the control groups, the trials were comparable regarding design and baseline participant characteristics. Overall, we considered the risk of bias to be low in the trials comparing TXA with placebo and moderate in the trials comparing TXA with alternative haemostatic measures.

AUTHORS’ CONCLUSIONS: Based on the results of this Cochrane Review, there seems to be a beneficial effect of locally applied TXA in preventing oral bleeding in people on continuous treatment with VKAs undergoing minor oral surgery or dental extractions. However, the small number of identified randomised controlled trials, the relatively small number of participants included in the trials and the differences in standard therapy and treatment regimens between trials, do not allow us to conclude definite efficacy of antifibrinolytic therapy in this population. We were unable to identify any eligible trials in people on continuous treatment with DOACs undergoing oral or dental procedures. Therefore, a beneficial effect of antifibrinolytic therapy can currently only be assumed based on the people using VKAs.

Publication Type
Year of Publication
2018
Unique Identifier
29210825
Title
Graftless Maxillary Sinus Lift Using Lateral Window Approach: A Systematic Review. [Review]
Source
VI 1
Status
MEDLINE
Authors
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RESULTS: A total of 35 articles were evaluated; however, only 17 RCTs met the inclusion criteria. A total of 15 studies reported information on bone resorption, leading to a total sample of 304 implants. The estimated overall mean horizontal bone gain at the time of regeneration was 3.71 +/- 0.24 mm, with 4.18 +/- 0.56 mm for the block graft technique and 3.61 +/- 0.27 mm for guided bone regeneration (GBR). The estimated overall net bone gain at final re-evaluation (11.9 +/- 7.8) was 2.86 +/- 0.23 mm. The estimated mean (+/- SD) resorption after 6 months was 1.13 +/- 0.25 mm, with 0.75 +/- 0.59 mm for the block graft technique and 1.22 +/- 0.28 mm for GBR. The implant survival rate was 97% to 100%.

CONCLUSION: Regardless of the material used for regeneration, different degrees of graft resorption should be expected. Given the sample of investigations analyzed in this review, block grafts seemed to maintain the volume of the initial augmentation site more than GBR techniques. During the initial stages of healing, the GBR technique experienced more changes compared with block grafts. The resorption of the xenograft group was inferior compared with the combination of xenograft and autologous bone groups. Consequently, overcorrection of the horizontal defects should be performed to compensate for the resorption of the grafting materials.

Publication Type Journal Article. Review.
Year of Publication 2018

MATERIALS AND METHODS: An electronic search was conducted via MEDLINE (PubMed), EMBASE, and the Cochrane Library, complemented by manual searches, to identify eligible clinical studies of VDO before dental implantation. Two reviewers independently performed the study selection and data extraction. The implant survival rate, mean bone gain, and bone resorption amount, with 95% confidence intervals (CIs), were pooled separately. A random-effects model or fixed-effects model was chosen based on the heterogeneity. A funnel plot and Egger's test were performed to identify publication bias.

RESULTS: Of the 4,291 records after removal of duplicates, 113 full-text articles were obtained for further analysis, and 12 articles were ultimately included in the analysis. Two studies were defined as low quality. The estimated cumulative implant survival rate was 98.00% (95% CI: 96.02% to 99.40%), with a mean follow-up of 3.52 years. The bone gain was 7.92 mm (95% CI: 6.27 to 9.57 mm), with a range from 4 to 20 mm, and the level of bone relapse between the end of the distraction and the implant insertion was 0.97 mm (95% CI: 0.68 to 1.26 mm). The complication rate was high, with rates of 0.728 per site and 0.821 per patient. The most common major complication was basal bone fracture, with a rate of 2.27%, and the most common minor complication was displacement of the transport segments, with a rate of 16.71%.

CONCLUSION: Vertical alveolar defects could be rehabilitated successfully with distraction osteogenesis, and the implant placed in the distraction sites showed a high cumulative survival rate. However, the high complication rate necessitates caution. Due to the observed heterogeneity, the results of this meta-analysis should be interpreted with caution.

Effect of orthodontic treatment with 4 premolar extractions compared with nonextraction treatment on the vertical dimension of the face: A systematic review.

RESULTS: Of the 4,291 records after removal of duplicates, 113 full-text articles were obtained for further analysis, and 12 articles were ultimately included in the analysis. Two studies were defined as low quality. The estimated cumulative implant survival rate was 98.00% (95% CI: 96.02% to 99.40%), with a mean follow-up of 3.52 years. The bone gain was 7.92 mm (95% CI: 6.27 to 9.57 mm), with a range from 4 to 20 mm, and the level of bone relapse between the end of the distraction and the implant insertion was 0.97 mm (95% CI: 0.68 to 1.26 mm). The complication rate was high, with rates of 0.728 per site and 0.821 per patient. The most common major complication was basal bone fracture, with a rate of 2.27%, and the most common minor complication was displacement of the transport segments, with a rate of 16.71%.

CONCLUSION: Vertical alveolar defects could be rehabilitated successfully with distraction osteogenesis, and the implant placed in the distraction sites showed a high cumulative survival rate. However, the high complication rate necessitates caution. Due to the observed heterogeneity, the results of this meta-analysis should be interpreted with caution.

INTRODUCTION: Our aim was to assess the available evidence for the effects of orthodontic treatment with 4 premolar extractions on the skeletal vertical dimension of the face compared with nonextraction treatment.
METHODS: Electronic database searches (MEDLINE, EMBASE, Cochrane Oral Health Group’s Trials Register, and CENTRAL) of published and unpublished literature and hand searches of eligible studies were performed, with no language or publication date restrictions. Two authors performed data extraction independently and in duplicate. Risk of bias was assessed.

RESULTS: After application of the eligibility criteria, 14 studies were included in this systematic review. All were retrospective. Risk of bias ranged from moderate to critical. Ten studies investigated patients with various skeletal vertical patterns and classes of malocclusion and found no difference between extraction (Ex) and nonextraction (Nonex) treatment in regard to the vertical dimension. Only 2 studies found statistically significant increases in the nonextraction groups, one in N-Me (Ex: +1.5 mm; Nonex: +5.5 mm; P <0.05) and one in SN-GoGn (Ex: -0.9degree; Nonex: +0.8degree; P <0.05), but without a concurrent significant change in other vertical measurements such as FMA. Two other studies showed opposite findings regarding N-Me (Ex: +2.3 mm; Nonex: +0.9 mm; P <0.05) and FMA (Ex: +0.3degree; Nonex: -2.0degree; P <0.05).

CONCLUSIONS: Although the quality of evidence ranged from moderate to low, there was considerable agreement among these studies, suggesting that orthodontic treatment with 4 premolar extractions has no specific effect on the skeletal vertical dimension. Thus, an extraction treatment protocol aiming to reduce or control the vertical dimension does not seem to be an evidence-based clinical approach.

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Title
Does chlorhexidine reduce bacteremia following tooth extraction? A systematic review and meta-analysis. [Review]

Source

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BACKGROUND AND AIMS: Scientific evidence is not clear regarding the use of antimicrobial mouth rinse before dental extraction to reduce bacteremia. We tested the null hypothesis that there would be no difference in the incidence of bacteremia following dental extractions in patients treated with or without chlorhexidine.

MATERIAL AND METHODS: We conducted a meta-analysis following the recommendations proposed by PRISMA Preferred Reporting Items for Systematic Reviews and Meta-Analyses. The data sources Pubmed, Cochrane, Web of Science, Science Direct, Scopus, and Ovid MD were searched until April 30, 2017. (chlorhexidine) AND (bacteremia OR bacteraemia) AND (extraction OR removal) were used as key words in a free-text search. Published meeting abstracts were searched. The references of each article were reviewed. We only included randomized controlled clinical trials. There were no restrictions regarding language or date of publication. The outcome measure was the incidence of the bacteremia measured within the first ten minutes post-extraction. Two reviewers independently undertook the risk of bias assessment and data extraction. A fixed-effects inverse variance weighted meta-analysis was conducted.

RESULTS: Out of 18 studies, eight eligible trials with 523 participants were selected, 267 in the experimental group and 256 in the control group: risk ratio = 0.882 (95% confidence interval 0.799 to 0.975; p = 0.014), heterogeneity I2 = 13.07%, and p = 0.33. The number needed to treat was 16 (95% CI 7-Infinity).

CONCLUSIONS: Approximately 12% of bacteremia cases can be prevented if a population is exposed to chlorhexidine.

CRD42016046586.

Title
Does chlorhexidine reduce bacteremia following tooth extraction? A systematic review and meta-analysis. [Review]

Source
Cochrane Database of Systematic Reviews. 5:CD006698, 2018 05 23.

VI 1

Status
MEDLINE

Authors
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Abstract
BACKGROUND: Implants may be placed penetrating the oral mucosa (1-stage procedure) or can be completely buried under the oral mucosa (2-stage procedure) during the healing phase of the bone at the implant surface. With a 2-stage procedure the risk of having unwanted loading onto the implants is minimized, but a second minor surgical intervention is needed to connect the healing abutments and more time is needed prior to start the prosthetic phase because of the wound-healing period required in relation to the second surgical intervention.

OBJECTIVES: To evaluate whether a 1-stage implant placement procedure is as effective as a 2-stage procedure.

SEARCH METHODS: The Cochrane Oral Health Group's Trials Register, CENTRAL, MEDLINE and EMBASE were searched. Handsearching included several dental journals. Authors of all identified trials, an Internet discussion group and 55 dental implant manufacturers were contacted to find unpublished randomised controlled trials (RCTs). The last electronic search was conducted on 21 January 2009.

SELECTION CRITERIA: All RCTs of osseointegrated dental implants comparing the same dental implants placed according to 1-versus 2-stage procedures with a minimum follow up of 6 months after loading. Outcome measures were: prosthesis failures, implant failures, marginal bone level changes on intraoral radiographs, patient preference including aesthetics, aesthetics evaluated by dentists, and complications.

DATA COLLECTION AND ANALYSIS: Screening of eligible studies, assessment of the methodological quality of the trials and data extraction were conducted in duplicate and independently by two review authors. Authors were contacted for missing information. Results were expressed as random-effects models using mean differences for continuous outcomes and risk ratios for dichotomous outcomes with 95% confidence intervals.

MAIN RESULTS: Five RCTs were identified and included reporting data on 239 patients in total. On a patient, rather than per implant basis, the meta-analyses showed no statistically significant differences for prosthesis and implant failures, though trends, especially in fully edentulous patients, favoured 2-stage (submerged) implants.

AUTHORS' CONCLUSIONS: The number of patients included in the trials was too small to draw definitive conclusions. The 1-stage approach might be preferable in partially edentulous patients since it avoids one surgical intervention and shortens treatment times, while a 2-stage submerged approach could be indicated when an implant has not obtained an optimal primary stability or when barriers are used for guided tissue regeneration, or when it is expected that removable temporary prostheses could transmit excessive forces on the penetrating abutments especially in fully edentulous patients.

Publication Type

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2018

Unique Identifier
29194272

Title
Comparison of Complication Rate Between LeFort III and Monobloc Advancement With or Without Distraction Osteogenesis. [Review]

Source

VI 1

Status
MEDLINE

Authors
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Abstract
BACKGROUND: LeFort III osteotomies or monobloc advancements, with or without distraction, can be used to treat mid-facial hypoplasia causing exorbitism and obstructive sleep apnea in syndromic patients. This report is a meta-analysis of the complication rates following LeFort III osteotomies or monobloc advancement with or without distraction.
METHODS: Triple database search was conducted to identify articles addressing mid-facial hypoplasia treated with LeFort III or monobloc in which complications were detailed. Complications were considered major if they required a second operation or were potentially life threatening. Statistical analysis was performed with Student t test.

RESULTS: Fifteen studies fit inclusion criteria. This yielded 363 total patients. In patients treated with a monobloc advancement, there was a statistically higher rate of major (P < 0.0001) and minor (P < 0.0001) complications, death (P = 0.02), cerebrospinal fluid (CSF) leaks (P < 0.0001), and meningitis/abscess (P < 0.0001) when distraction was used. In patients treated with a LeFort III, there was a statistically higher rate of reoperation when distraction was used (P = 0.001). In patients treated without distraction, there was a statistically higher rate of major (P < 0.0001) complications, death (P = 0.008), CSF leaks (P = 0.003), and reoperation (P < 0.0001) with a monobloc and a statistically higher rate of minor complications (P < 0.001) with a LeFort III.

CONCLUSION: LeFort III proved to be a safer technique for the treatment of mid-facial hypoplasia. Although distraction was initially introduced to reduce complications, in this review, monobloc with distraction had the highest rate of major complications. There are multiple confounding factors that influence success of mid-face surgery and every patient must be evaluated and treated individually.

Abstract
The purpose of this study is to perform a systematic review on the use of lasers in oral surgery for bone healing. Selection of articles was carried out by two evaluators in Pubmed and Web of Science databases for published articles and OpenGray for gray literature. Search strategy was developed based on the PICO Question "Does the use of lasers after oral surgery improve bone healing?": Eligibility criteria were: being on laser; evaluate bone healing; involve oral surgery; do not be about implant, periodontics, orthodontics, osteonecrosis or radiotherapy, nor revisions, clinical cases, etc. Data were collected from each article in a structured spreadsheet and a descriptive analysis was performed. Risk assessment of bias of the articles was carried out through the tool elaborated by the Cochrane collaboration. A total of 827 potentially relevant references were identified. No articles were found in OpenGray. Eleven articles met the eligibility criteria and were included in the systematic review. Most of studies were in vivo and in jaw, being conducted with low-power lasers which were applied immediately after the surgical procedure of extraction. Neoforation and bone density were the outcomes of choice and there was a tendency of increase in bone density, neoforation, regeneration, mineralization, or bone condensation when laser was applied. Regarding the bias risk assessment, studies were not clear in reporting most of the parameters. Low-power laser therapy seems to reduce time of bone healing in oral surgery, although there are no defined protocols and the level of evidence is still considered weak.

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29517801
Title
Source
Cochrane Database of Systematic Reviews. 3:CD004621, 2018 03 08.

Status
VI 1
BACKGROUND: The permanent canine tooth in the maxillary (upper) jaw sometimes does not erupt into the mouth correctly. In about 1% to 3% of the population these teeth will be diverted into the roof of the mouth (palatally). It has been suggested that if the primary canine is removed at the right time this palatal eruption might be avoided. This is an update of a Cochrane review first published in 2009.

OBJECTIVES: To evaluate the effect of extracting the primary maxillary canine on the eruption of the palatally ectopic maxillary permanent canine.

SEARCH METHODS: We searched the following electronic databases: the Cochrane Oral Health Group’s Trials Register (to 20 April 2012), the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2012, Issue 1), MEDLINE via OVID (1946 to 20 April 2012) and EMBASE via OVID (1980 to 20 April 2012). There were no restrictions regarding language or date of publication.

SELECTION CRITERIA: Trials were selected if they met the following criteria: a randomised or quasi-randomised controlled trial, involving the extraction of the deciduous maxillary canine and assessing eruption/non-eruption of the palatally displaced maxillary permanent canine.

DATA COLLECTION AND ANALYSIS: Data extraction was undertaken independently by two review authors. The primary outcome was the reported prevalence of eruption or non-eruption of the ectopic permanent canine into the mouth following observation or intervention. Results were to be expressed as risk ratios for dichotomous outcomes with 95% confidence intervals and mean differences for continuous outcomes. Heterogeneity was to be investigated, including both clinical and methodological factors. Authors of trials were contacted to request unpublished data.

MAIN RESULTS: Reports of two randomised controlled trials previously excluded from an earlier version of the review due to "deficiencies in reporting, insufficient data" have now been included. These two trials included approximately 128 children, with more than 150 palatally displaced canine teeth, and both were conducted by the same research group. Data presented in the trial reports are either incomplete or inconsistent. Both trials are at high risk of bias. It must be emphasised that both trials have serious deficiencies in the way they were designed, conducted, and reported, and attempts to contact the authors to obtain detailed information and clarify inconsistencies have been unsuccessful. Allocation to treatment appears to be at the level of the individual, but outcomes of successful treatment relate to included teeth and data are not reported for each treatment group. Adverse effects are not reported. Neither trial provides any evidence to guide clinical decision making.

AUTHORS’ CONCLUSIONS: There is currently no evidence of the effects of extraction of primary canine teeth in 10-13 year old children with one or two palatally displaced permanent canine teeth.

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Journal Article. Research Support, Non-U.S. Gov’t. Review.
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2018

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Status
MEDLINE
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Abstract
BACKGROUND: Post-extraction bleeding (PEB) is a recognised, frequently encountered complication in dental practice, which is defined as bleeding that continues beyond 8 to 12 hours after dental extraction. The incidence of post-extraction bleeding varies from 0% to 26%. If post-extraction bleeding is not managed, complications can range from soft tissue haematomas to severe blood loss. Local causes of bleeding include soft tissue and bone bleeding. Systemic causes include platelet problems, coagulation disorders or excessive fibrinolysis, and inherited or acquired problems (medication induced). There is a wide array of techniques suggested for the treatment of post-extraction bleeding, which include interventions aimed at both local and systemic causes. This is an update of a review published in June 2016.
OBJECTIVES: To assess the effects of interventions for treating different types of post-extraction bleeding.

SEARCH METHODS: Cochrane Oral Health’s Information Specialist searched the following databases: Cochrane Oral Health's Trials Register (to 24 January 2018), the Cochrane Central Register of Controlled Trials (CENTRAL) (the Cochrane Library, 2017, Issue 12), MEDLINE Ovid (1946 to 24 January 2018), Embase Ovid (1 May 2015 to 24 January 2018) and CINAHL EBSCO (1937 to 24 January 2018). The US National Institutes of Health Trials Registry (ClinicalTrials.gov) and the World Health Organization International Clinical Trials Registry Platform were searched for ongoing trials. We searched the reference lists of relevant systematic reviews.

SELECTION CRITERIA: We considered randomised controlled trials (RCTs) that evaluated any intervention for treating PEB, with male or female participants of any age, regardless of type of teeth (anterior or posterior, mandibular or maxillary). Trials could compare one type of intervention with another, with placebo, or with no treatment.

DATA COLLECTION AND ANALYSIS: Three pairs of review authors independently screened search records. We obtained full papers for potentially relevant trials. If data had been extracted, we would have followed the methods described in the Cochrane Handbook for Systematic Reviews of Interventions for the statistical analysis.

MAIN RESULTS: We did not find any randomised controlled trial suitable for inclusion in this review.

AUTHORS' CONCLUSIONS: We were unable to identify any reports of randomised controlled trials that evaluated the effects of different interventions for the treatment of post-extraction bleeding. In view of the lack of reliable evidence on this topic, clinicians must use their clinical experience to determine the most appropriate means of treating this condition, depending on patient-related factors. There is a need for well designed and appropriately conducted clinical trials on this topic, which conform to the CONSORT statement (www.consort-statement.org/).

Publication Type
Journal Article. Research Support, Non-U.S. Gov't. Review.
Year of Publication
2018

Unique Identifier
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Title
Source

Authors
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Local Messages
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Abstract
PURPOSE: To compare prosthesis and implant failures and marginal bone loss (MBL) resulting from submerged vs nonsubmerged dental implant protocols.

MATERIALS AND METHODS: Electronic and manual searches of two databases (MEDLINE [PubMed] and Cochrane) were conducted to identify randomized controlled trials (RCTs) comparing submerged to nonsubmerged dental implant protocols. Data were independently extracted by two reviewers, and meta-analyses were performed for the included RCTs. The Cochrane Risk of Bias tool was used to assess the quality of included studies.

RESULTS: Eight RCTs were identified, and six were included. Four of the included studies were considered to be at high risk of bias, one at unclear risk, and one at low risk. The meta-analysis for studies reporting MBL revealed significantly more bone loss around submerged implants ($I^2 = 0\%, P = .04$; mean difference: $0.12; 95\%$ confidence interval: $0.00, 0.24$); however, there were no differences in implant or prosthesis failures between the two interventions.

CONCLUSION: Two conclusions were made: (1) There were no differences between the two interventions regarding implant or prosthesis failures, and (2) submerged implants exhibited statistically significantly more MBL, but this difference was not clinically relevant. These conclusions should be interpreted with caution, since the present review is underpowered and the included RCTs were considered to be at high risk of bias.

Publication Type
Year of Publication
2018

Unique Identifier
28608478
Title
Dental extraction from an appendix: a case report and review of the literature.

Source

VI 1

Status
Publisher

Authors
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Publication Type
Journal Article.

Year of Publication
2017

Unique Identifier
28965988

Title
Influence of orthodontic premolar extraction therapy on the eruption of the third molars: A systematic review of the literature.

[Review]
Source

VI 1

Status
In-Data-Review

Authors
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Local Messages
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Abstract
BACKGROUND: Through a systematic literature review, the authors assess the effect of premolar extractions on third-molar (M3) eruption considering eruption rate, retromolar space, and molar angulation.

TYPES OF STUDIES REVIEWED: The authors performed a systematic search using MEDLINE and Web of Science databases up through April 2017 to identify quality studies available comparing M3 eruption between a group with premolar extraction and a group without premolar extraction.

RESULTS: Twelve comparative retrospective cohort studies met all the inclusion criteria. The authors found in 5 studies comparing the rate of M3 eruption that there were significantly higher results in the group with extractions. They found in 5 studies comparing the evolution of the retromolar space significantly higher results in the group with extractions. Lastly, concerning the uprighting of the M3 during treatment, the authors found only 2 studies showing significant differences between the 2 groups, each time in favor of the group with extractions.

CONCLUSIONS AND PRACTICAL IMPLICATIONS: The dental literature on premolar extraction related to the eruption of the M3 is composed of average-quality retrospective studies. Premolar extraction significantly improves the chances of M3 eruption, but the level of evidence of comparative retrospective cohort studies is low. Clinicians must continue to rely on their judgment regarding premolar extraction on a case-by-case basis until the evidence is stronger. Retrospective studies with standardized protocols and more detailed methodologies are required to obtain higher levels of evidence.

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Publication Type
Journal Article. Review.

Year of Publication
2017

Unique Identifier
28521145

Title

Source

VI 1
Does 3-dimensional imaging of the third molar reduce the risk of experiencing inferior alveolar nerve injury owing to extraction?: A meta-analysis. [Review]

Source

BACKGROUND: Clinicians generally use panoramic radiographic (PR) images to assess the proximity of the mandibular third molar to the inferior alveolar nerve (IAN). However, in cases in which a patient needs to undergo a third-molar extraction, many clinicians also assess computed tomographic (CT) images to prevent nerve damage.

TYPES OF STUDIES REVIEWED: Two of the authors independently searched MEDLINE (through PubMed), Cochrane Library, Scopus, and Ovid. The authors included randomized or nonrandomized longitudinal studies whose investigators had compared the number of IAN injuries after third-molar extraction in patients who had undergone preoperative CT with patients who had undergone only PR.

RESULTS: The authors analyzed the full text of 26 of the 745 articles they initially selected. They included 6 studies in the meta-analysis. Four of the studies had a high risk of bias, and the investigators of only 1 study had used blinding with the patients. The authors observed no statistically significant differences between groups related to the total number of nerve injuries (risk ratio, 0.96; 95% confidence interval, 0.50 to 1.85; P = .91). The prognosis of the injuries was similar for both groups.

CONCLUSIONS AND PRACTICAL IMPLICATIONS: Although having preoperative CT images might be useful for clinicians in terms of diagnosing and extracting mandibular third molars, having these CT images does not reduce patients’ risk of experiencing IAN injuries nor does it affect their prognosis.
BACKGROUND: The authors conducted a systematic review and meta-analysis on the effect of dexamethasone (DX) on edema, trismus, and pain during early and late postoperative periods after third molar (M3) extraction.

TYPES OF STUDIES REVIEWED: The authors identified eligible reports by searching PubMed, Embase, and the Cochrane Central Register of Controlled Trials up through April 2016. The full text of the studies that met the minimum inclusion requirements were those in which the investigators evaluated the effects of submucosal injection of DX compared with inactive treatments in patients undergoing surgical extraction of an M3.

RESULTS: The authors included 11 eligible trials in this study. Participants receiving DX had significantly less edema during both early (standardized mean difference, 3.28; 95% confidence interval [CI], 2.21-4.36; P < .0001) and late (standardized mean difference, 0.56; 95% CI, 0.27-0.86; P < .00001) periods after surgery, as well as less trismus than did control participants during the early (standardized mean difference, 5.34; 95% CI, 2.44-8.24; P = .004) phase, but there was no strong evidence for the reduction of trismus in the late period. Because of heterogeneity in intervention and outcome assessments across the studies, the authors only qualitatively summarized pain outcomes.

CONCLUSIONS AND PRACTICAL IMPLICATIONS: The findings of this study suggest that submucosal injection of DX reduced not only early and late edema but also early trismus in experimental compared with control participants after M3 extraction, which makes it a likely choice for dental clinical use. However, larger and higher-quality trials are needed to guard against bias to confirm the effect in late trismus and pain.

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Clinical outcomes of dental implants after use of tenting for bony augmentation: a systematic review. [Review]


Objective: To determine whether the successful management of palatally displaced permanent canines (PDCs) can be achieved by the interceptive extraction of primary maxillary canines.

Materials and Methods: Digital databases (Medline, Scopus, Web of Science, and Cochrane) were searched to retrieve articles published from 1952 to April 2016. The university librarian developed search strategies for each database. Two calibrated reviewers independently reviewed potentially related titles and abstracts. Papers meeting the inclusion and exclusion criteria were read in full. The selected articles were evaluated and scored according to methodological quality criteria.

Results: Four randomized clinical trials (RCTs) were included in the systematic review. Compared with two older studies, two more recent RCTs were found to have better study designs, were better conducted, and involved better reporting of the results. The included studies compared intervention groups (children with PDCs undergoing extraction of primary canines) with controls (subjects with PDCs but no primary canine extractions). In three of the four studies, the interceptive extraction of primary canines facilitated eruption of PDCs in more than 65% of cases. Overall, the intervention groups had a markedly higher incidence of successful eruption of PDCs (50%-69%) compared with the control groups (38%-42%).

Extraction of primary canines for interceptive orthodontic treatment of palatally displaced permanent canines: A systematic review. [Review]

CONCLUSIONS: Based on the available evidence, it is reasonable to conclude that eruption of PDCs can be facilitated by extraction of primary canines. However, further high-quality, randomized clinical trials are warranted in other population groups. It is hoped that this study will help orthodontists make evidence-based decisions about clinically managing PDCs.

Publication Type
Journal Article. Review.
Year of Publication
2017

Unique Identifier
27778470
Title
Periodontal regeneration in aggressive periodontitis patients: A systematic review of the literature. [Review]
Source
Journal of Investigative & Clinical Dentistry. 8(4), 2017 Nov.

Authors
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Abstract
The aim of the present study was to systematically review the existing literature on periodontal regenerative procedures in individuals affected by aggressive periodontitis (AgP). An electronic and manual search was performed using an ad hoc prepared search string. All types of study designs were considered acceptable for inclusion. Data about treated patients, baseline clinical parameters, type of surgery, and outcomes were extracted and recorded. A narrative evaluation of the results was performed. After the article-selection process, a total of 22 full-texts were included in the qualitative synthesis. Twelve papers were case reports; one was a retrospective study; six were non-randomized, comparative studies; and three papers were published on two randomized, controlled trials (RCT). Various biomaterials and surgical techniques were described in the included papers. Based on the existing literature, even considering the relatively low level of evidence, periodontal regenerative surgery could be successfully performed in patients affected by AgP. There is a substantial need of high-quality RCT to support this.

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Unique Identifier
29237427
Title
Clinical applications and effectiveness of guided implant surgery: a critical review based on randomized controlled trials. [Review]
Source

Authors
Colombo M; Mangano C; Mijiritsky E; Krebs M; Hauschild U; Fortin T.

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BACKGROUND: Nowadays implant placement protocols are widespread among clinicians all over the world. However, available literature, only partially analyses what can be potential benefits for the clinicians and patients, often focusing just on specific aspects, such as accuracy. The purpose of this review is to compare computer guided implant placement with conventional treatment protocols.

METHODS: A search strategy according to the P-I-C-O format was developed and executed using an electronic MEDLINE plus manual search from 2000 up to December 2016. This review included only randomized controlled trials (RCTs) focusing on subjects treated with digital workflow for oral implant placement compared to conventional procedures. Data were extracted from eligible papers and analysed. All kinds of outcomes were considered, even patient-related and economical outcomes.

RESULTS: The search strategy revealed 16 articles; additional manual searches selected further 21 publications. Afterwards the evaluation of articles, only two studies could be selected for subsequent data extraction. The two identified RCTs analysed primary outcomes as prosthesis failure, implant failure, biological or prosthetic complications, and secondary outcomes as perimplant marginal bone loss. One RCT evaluated also the duration of treatment, post-surgical progress, additional treatment costs and patient satisfaction. The other RCT focused instead on evaluating eventual improvement of patient's quality of life. In both selected studies, were not observed by the authors statistically significant differences between clinical cases treated with digital protocols and those treated with conventional ones. In one RCT, however post-surgical progress evaluation showed more patients' self-reported pain and swelling in conventional group.

CONCLUSIONS: Within the limitation of this review, based on only two RCTs, the only evidence was that implant survival rate and effectiveness are similar for conventional and digital implant placement procedures. This is also confirmed by many other studies with however minor scientific evidence levels. Reduction of post-operative pain, surgical time and overall costs are discussed. Authors believe that scientific research should focus more in identifying which clinical situations can get greatest benefits from implant guided surgery. This should be done with research protocols such as RCT that assess comprehensively the advantages and disadvantages of fully digital surgical protocols.
overall quality of evidence for each of the outcomes using the Grading of Recommendations Assessment, Development and Evaluation classification system. Meta-analysis and subgroup analyses will be conducted, to all outcomes, if appropriate.

ETHICS AND DISSEMINATION: The systematic review will be published in a peer-reviewed journal, and brief reports of the review’s findings will be released directly to the intended audience. The results will help dentists in the decision-making process to minimise the risk of bleeding in patients using anticoagulants in their clinical practice.

PROSPERO REGISTRATION NUMBER: CRD42017056986.
New horizons in anticoagulation: Direct oral anticoagulants and their implications in oral surgery. [Review]

**Source**

**VI 1**

**Status**
MEDLINE

**Authors**
Serrano-Sanchez V; Ripolles-de Ramon J; Collado-Yurrita L; Vaello-Checa I; Colmenero-Ruiz C; Helm A; Ciudad-Cabanas MJ; Serrano-Cuenca V.

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**Abstract**

**BACKGROUND:** Thrombotic disorders remain a leading cause of death in the Western World. For decades, vitamin K antagonists used in the prevention of this pathology, such as warfarin or sintrom, were the only oral agents available for long-term anticoagulation, in spite of their disadvantages.

**MATERIAL AND METHODS:** An electronic database search was carried out on MedLine and The Cochrane Library Plus, without restrictions on the type of study nor dates, in English and Spanish. Abstracts were reviewed, and complete articles if necessary, considering all articles that included recommendations on DOACs and oral surgery.

**RESULTS:** In recent years, the so-called "new oral anticoagulants" have been introduced in clinical practice to treat those patients whose medical conditions require long-term anticoagulant treatment, replacing traditional oral anticoagulants.

**CONCLUSIONS:** The new oral anticoagulants represent new therapeutic options, with a number of advantages such as poor interaction with food, minor drug interactions, and do not require periodic dose adjustments or routine controls. The purpose of this review is to establish an update on the new oral anticoagulants: Dabigatran, Rivaroxaban, Apixaban and Edoxaban.

**Publication Type**
Journal Article. Review.

**Year of Publication**
2017

**Unique Identifier**
28343928

**Title**
Endodontics, Endodontic Retreatment, and Apical Surgery Versus Tooth Extraction and Implant Placement: A Systematic Review. [Review]

**Source**

**VI 1**

**Status**
MEDLINE

**Authors**
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**Comments**

**Local Messages**
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**Abstract**

**INTRODUCTION:** The aim of this systematic review was to answer the following clinical question: Which is the best treatment option for a pulpally involved tooth?

**METHODS:** An electronic search was conducted in the Cochrane, PubMed (MEDLINE), and ScienceDirect databases between December 2015 and February 2016. A manual search was also performed. The inclusion criteria were randomized clinical trials, prospective or retrospective cohort studies, and cross-sectional studies performed on humans with at least 1 year of follow-up and published within the last 10 years. Two researchers independently screened the title and abstract of every article identified in the search in order to establish its eligibility. The selected articles were classified into different levels of evidence by means of the Strength of Recommendation Taxonomy criteria.

**RESULTS:** Sixty articles met the inclusion criteria for this systematic review. The survival rate of single-tooth implants was greater than the success rate of the distinct conservative treatments. However, among comparative studies, no important differences between both treatments were observed until at least 8 years later.
CONCLUSIONS: The endodontic treatment and the implant placement are both valid and complementary options for planning oral rehabilitation. Although a level B recommendation can be stated, these results come from retrospective comparative studies because there is a lack of randomized clinical studies comparing both types of therapeutic options.

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Publication Type
Comparative Study. Journal Article. Review.
Year of Publication
2017

Unique Identifier
29027879
Title
Emerging Ethical Issues in Restorative Dentistry. [Review]
Source

Abstract
This article reviews some of the merging ethical issues in restorative dentistry. This is a branch of healthcare concerned with quality of life, since retention of functioning teeth is important in allowing a healthy diet to be consumed. Yet the supply of dentists is such that, in many of the world's poorest countries, extraction is the only viable option for treating tooth decay. Available repair materials present various ethical problems. Silver amalgam is being phased out in much of the world, because of environmental concerns with mercury, yet it is cheap and reliable. Alternatives have been developed, influenced by the West's preoccupation with appearance, yet these materials are difficult to place and are less durable than amalgam. These concerns lead to significant ethical problems, which are explored in this article. It concludes by proposing a way to deal with the emerging ethical problems.

Publication Type
Journal Article. Review.
Year of Publication
2017

Unique Identifier
28526078
Title
The efficacy of chlorhexidine gel in the prevention of alveolar osteitis after mandibular third molar extraction: a systematic review and meta-analysis. [Review]
Source

Abstract
BACKGROUND: Alveolar osteitis is a very painful and distressing condition for a patient who has recently undergone a tooth extraction and has led dental professionals to search for preventive measures. The aim of this meta-analysis was to determine the effect of chlorhexidine (CHX) gel on the incidence of alveolar osteitis after mandibular third molar extraction.

METHODS: Studies were searched for on electronic search engines using Medline (PubMed), Cochrane central, Scopus and advanced Google Scholar from May 2015 to December 2015. Randomized controlled trial studies with a history of mandibular third molar extraction, along with the administration of topical chlorhexidine gel were included. The risk of bias of the selected articles was assessed using the Cochrane risk of bias assessment tool. RevMan 5.3 Software was used to analyze the pooled effect. I² was calculated to determine heterogeneity and a funnel plot was used to check the risk of bias. Subgroup analysis was also done based on the presence of confounding factors (smoking, oral contraceptive etc.) and on split mouth design.
RESULTS: Out of 52 articles, ten met the inclusion criteria. 862 participants were involved in the selected studies with a mean age range from 24.15+/-5.02 to 36.65+/-11. The overall RR was 0.43 (95% CI: 0.32, 0.58, p<0.00001). Three studies used a split-mouth design to check the effect of chlorhexidine gel in the prevention of alveolar osteitis incidence. There was a pooled effect of 0.29 (95% CI: 0.16, 0.50) for the intervention group in the split mouth design studies. A stratified analysis was done to check the effect of CHX gel in patients with confounding factors and a significant reduction of AO incidence was found; 0.60 (95% CI: 0.41, 0.87; p<0.05) in the intervention. There was no reported adverse reaction. The heterogeneity (I^2) was 40%. The funnel plot showed that there was no significant publication bias.

CONCLUSION: This meta-analysis suggests that CHX gel is superior to a placebo in reducing the incidence of alveolar osteitis after mandibular third molar extraction.

Publication Type
Year of Publication
2017

<50>
Unique Identifier
28521963
Title
Does local delivery of bisphosphonates influence the osseointegration of titanium implants? A systematic review. [Review]
Source
VI 1
Status
MEDLINE
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Abstract
The aim of this study was to systematically review the influence of the local delivery of bisphosphonates on the osseointegration of titanium implants in humans. A search of health sciences databases was performed (The Cochrane Library, Embase, PubMed MEDLINE, ISI Web of Knowledge, Scopus, and SIGLE OpenGrey), including articles published until October 2016. A total of 679 articles were identified. Following the removal of duplicates, 278 were screened by title and abstract. The complete texts of seven studies were read, and of these, three met the inclusion criteria. Each article included in the analysis was submitted to a quality and level of evidence evaluation, and relevant data were extracted and tabulated. Despite methodological differences, all articles presented positive results for osseointegration when a local bisphosphonate was used: the authors reported greater implant stability, better implant survival rates, and reduced peri-implant bone loss when compared with the control groups. On the basis of the results of this systematic review, it is concluded that the local use of a bisphosphonate appears to favour the osseointegration of titanium implants in humans. Nonetheless, a higher level of standardization and the control of methodological bias is required in future research so that stronger evidence might be produced.

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Publication Type
Journal Article. Review.
Year of Publication
2017

<51>
Unique Identifier
28945673
Title
Effects of Bacterial Contamination on Dental Implants During Surgery: A Systematic Review. [Review]
Source
VI 1
Status
MEDLINE
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INTRODUCTION: Contamination during surgery negatively influences the prognosis of orthopaedic implants; however, it has not been proven whether contamination influences the success of dental implant treatment. The aim of the systematic review was to investigate if there exists evidence in the literature whether contamination of dental implants during surgery affects osseointegration and clinical success.

MATERIALS AND METHODS: Four data bases were used for the literature search. Primary studies and reviews regarding both clinical and preclinical research were eligible. Rating of the summarized quality of the evidence was performed.

RESULTS: Five preclinical studies were included. Because of the estimated high risk of bias in all included studies and extensive differences in study design between the included studies, meta-analysis was not performed and no reliable aggregated data could be extracted.

CONCLUSIONS: It is suggested that the scientific evidence with regard to the current topic is insufficient. Further controlled studies are warranted.

PURPOSE: To present a case report on the presence of an ectopic mandibular third molar (EMTM), the surgical treatment, and outcome.

CASE REPORT: A 63-year-old woman presented with right preauricular facial swelling, limited jaw function, and pain. Radiographic assessment demonstrated an EMTM positioned in the superoposterior aspect of the ramus. Radiographically, there was a bony tunnel extending from the third molar to distal of the second molar. The patient was treated by an intraoral approach on the medial aspect of the ramus for removal of the ectopic third molar, as well as the tissue in the bony tunnel.
RESULTS: The patient healed uneventfully. The soft tissue in the bony canal was granulation tissue, and nerve function was preserved. A literature search of EMTMs was conducted identifying 17 reported cases.

CONCLUSION: Three-dimensional imaging in the management of EMTM can be beneficial in identifying position of the tooth, associated pathology, and identifying the position of neurovascular structures to aid in removal of the ectopic tooth.

Publication Type
Case Reports. Journal Article. Review.

Year of Publication
2017

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Unique Identifier
28858550

Title

Source
Anesthesia Progress. 64(3):136-143, Fall 2017.

VI 1

Status
MEDLINE

Authors
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Abstract
The aim of the present study was to assess the effectiveness of preemptive dexamethasone in surgery of the lower third molars and to compare it with other oral anti-inflammatories. An electronic search was conducted for preemptive effects related to lower third-molar surgery in 3 separate databases. The variables pain, swelling, and trismus were assessed. Meta-analysis was used to calculate the pooled effect measures for mean and standard deviation values (95% confidence interval [CI]). Seven split-mouth clinical trials were selected. Two studies were included in the meta-analysis. Three studies showed a low risk of bias; 2 studies exhibited a moderate risk and 2 a high risk of bias. Dexamethasone was better than nonsteroidal anti-inflammatories for preemptive effectiveness. Meta-analysis for swelling confirmed better results for dexamethasone than for methylprednisolone after 2 days (95% CI = -1.28 to -0.38), 4 days (95% CI = -1.65 to -0.71), 7 days (95% CI = -1.42 to -0.71), and overall (95% CI = -1.25 to -0.72). Dexamethasone was better than methylprednisolone for mouth opening after 4 days (95% CI = 0.18 to 1.07). There is insufficient evidence through meta-analysis to conclude that dexamethasone is better than other nonsteroidal anti-inflammatories or methylprednisolone as a preemptive analgesic. The results of this meta-analysis suggest that dexamethasone is more effective than methylprednisolone for swelling and trismus.

Publication Type

Year of Publication
2017

<54>

Unique Identifier
28478869

Title
Immediate implant placement into fresh extraction sockets versus delayed implants into healed sockets: A systematic review and meta-analysis. [Review]

Source

VI 1

Status
MEDLINE

Authors
Mello CC; Lemos CAA; Verri FR; Dos Santos DM; Goiato MC; Pellizzer EP.

Authors Full Name
Mello, C C; Lemos, C A A; Verri, F R; Dos Santos, D M; Goiato, M C; Pellizzer, E P.

Institution
Mello, C C. Department of Dental Materials and Prosthodontics, Aracatuba Dental School, UNESP - Univ Estadual Paulista, Aracatuba, Brazil.
The aim of this systematic review and meta-analysis was to compare the survival rate of the implants and the peri-implant tissue changes associated with implants inserted in fresh extraction sockets and those inserted in healed sockets. This review has been registered at PROSPERO under the number CRD42016043309. A systematic search was conducted by two reviewers independently in the databases PubMed/MEDLINE, Embase, and the Cochrane Library using different search terms; articles published until November 2016 were searched for. The searches identified 30 eligible studies. A total of 3,049 implants were installed in a total of 1,435 patients with a mean age of 46.68 years and a minimum of 6 months of follow-up. The survival rate of delayed implants (98.38%) was significantly greater than immediate implants (95.21%) (p=0.001). For the marginal bone loss (p=0.32), implant stability quotients values (p=0.44), and pocket probing depth (p=0.94) there was no significant difference between the analysed groups. The immediate implants placed in fresh sockets should be performed with caution because of the significantly lower survival rates than delayed implants inserted in healed sockets.
OBJECTIVE: Two focused questions were addressed within this systematic review. Q1) What is the effect of alveolar ridge preservation on linear and volumetric alveolar site dimensions, keratinised tissue measurements, histological characteristics and patient-based outcomes when compared to unassisted socket healing. Q2) What is the size effect of these outcomes in three different types of intervention (guided bone regeneration, socket grafting and socket seal).

MATERIALS AND METHODS: An electronic search (MEDLINE, EMBASE, Cochrane Central Register LILACS, Web of Science) and hand-search was conducted up to June 2015. Randomised controlled trials (RCT) and controlled clinical trials (CCT); with unassisted socket healing as controls: were eligible in the analysis for Q1. RCTs, CCTs and large prospective case series with or without an unassisted socket healing as control group were eligible in the analysis for Q2.

RESULTS: Nine papers (8 RCTs and 1 CCTs) were included in the analysis for Q1 and 37 papers (29 RCTs, 7 CCTs and 1 case series) for Q2. The risk for bias was unclear or high in most of the studies. Q1: the standardised mean difference (SMD) in vertical mid-buccal bone height between ARP and a non-treated site was 0.739 mm (95% CI: 0.332 to 1.147). The SMD when proximal vertical bone height and horizontal bone width was compared was 0.796mm (95% CI: -1.228 to 0.364) and 1.198 mm (95% CI: -0.0374 to 2.433). Examination of ARP sites revealed significant variation in vital and trabecular bone percentages and keratinised tissue width and thickness. Adverse events were routinely reported, with three papers reporting a high level of complications in the test and control groups and two papers reporting greater risks associated with ARP. No studies reported on variables associated with the patient experience in either the test or the control group. Q2: A pooled effect reduction (PER) in mid-buccal alveolar ridge height of -0.467 mm (95% CI: -0.866 to -0.069) was recorded for GBR procedures and -0.157 mm (95% CI: -0.554 to 0.239) for socket grafting. A proximal vertical bone height reduction of -0.356 mm (95% CI: -0.490 to -0.222) was recorded for GBR, with a horizontal dimensional reduction of -1.45 mm (95% CI: -1.892 to -1.008) measured following GBR and 1.613 mm (95% CI: -1.989 to -1.238) for socket grafting procedures. Five papers reported on histological findings after ARP. Two papers indicated an increase in the width of the keratinised tissue following GBR, with two papers reporting a reduction in the thickness of the keratinised tissue following GBR. Histological examination revealed extensive variations in the treatment protocols and biomaterials materials used to evaluate extraction socket healing. GBR studies reported a variation in total bone formation of 47.9 +/- 9.1% to 24.67 +/- 15.92%. Post-operative complications were reported by 29 papers, with the most common findings soft tissue inflammation and infection.

CONCLUSION: ARP results in a significant reduction in the vertical bone dimensional change following tooth extraction when compared to unassisted socket healing. The reduction in horizontal alveolar bone dimensional change was found to be variable. No evidence was identified to clearly indicate the superior impact of a type of ARP intervention (GBR, socket filler and socket seal) on bone dimensional preservation, bone formation, keratinised tissue dimensions and patient complications.
BDA LIBRARY MEDLINE SEARCH

RECENT REVIEWS RELATED TO MINOR ORAL SURGERY

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Abstract
PURPOSE: Anodized implants with moderately rough surface were introduced around 2000. Whether these implants enhanced biologic effect to improve the environment for better osseointegration was unclear. The purpose of this article was to review the literature available on anodized surface in terms of their clinical success rate and bone response in patients till now.

MATERIALS AND METHODS: A broad electronic search of MEDLINE and PubMed databases was performed. A focus was made on peer-reviewed dental journals. Only articles related to anodized implants were included. Both animal and human studies were included.

RESULTS: The initial search of articles resulted in 581 articles on anodized implants. The initial screening of titles and abstracts resulted in 112 full-text papers; 40 animal studies, 16 studies on cell adhesion and bacterial adhesion onto anodized surfaced implants, and 47 human studies were included. Nine studies, which do not fulfill the inclusion criteria, were excluded.

CONCLUSIONS: The long-term studies on anodized surface implants do favor the surface, but in most of the studies, anodized surface is compared with that of machined surface, but not with other surfaces commercially available. Anodized surface in terms of clinical success rate in cases of compromised bone and immediately extracted sockets has shown favorable success.

Publication Type
Comparative Study. Journal Article. Review.

Year of Publication
2017

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28541269

Title
Immediate Loading of Tantalum-Based Implants in Fresh Extraction Sockets in Patient With Sjogren Syndrome: A Case Report and Literature Review. [Review]

Source

Authors
Peron C; Javed F; Romanos GE.

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Abstract
PURPOSE: The objective of this article is to demonstrate treatment of a clinical case using implants in conjunction with immediate loading in a patient with Sjogren syndrome (SS) and to present the current status of knowledge about this type of patients with dental implants.

MATERIALS AND METHODS: This article describes a 62-year-old woman patient with SS and partially edentulous maxilla who was rehabilitated with 5 immediately loaded tantalum-based dental implants (TBDIs) placed in fresh extraction sockets. Six nonrestorable teeth were atraumatically extracted and immediate TBDI were placed in the fresh extraction sites. Space between the implants and socket walls were filled with particulate bone graft.

RESULTS: After implant placement, a prefabricated screw-retained provisional restoration was placed and adapted in centric occlusion. The provisional restoration was removed after 2 months and replaced with a full metal/ceramic restoration.

CONCLUSIONS: Minimal invasive surgical procedures and temporary immediate restorations are steps particularly important in patients with SS to guide the healing of perimplant tissues and avoid discomfort and complications from removable prostheses.

Publication Type
Case Reports. Journal Article. Review.

Year of Publication
2017
**Title**
Postoperative interventions to reduce inflammatory complications after third molar surgery: review of the current evidence.

**Source**

**Authors**
Cho H; Lynham AJ; Hsu E.

**Abstract**
Inflammatory complications such as pain, swelling, trismus, infection and alveolar osteitis have an adverse affect on the quality of life of patients after third molar removal. This review presents the current evidence on postoperative strategies to reduce these complications. A literature search was performed to identify articles published in English between 2000 to 2016 using the following keywords: third molar(s), wisdom tooth/teeth, pain, swelling, trismus, infection, alveolar osteitis and dry socket. In total, 221 papers were reviewed. Methods published included analgesics, antibiotics, corticosteroids, mouthwashes, topical gels, cryotherapy and ozone therapy. This review highlights the variability in evidence available and summarizes the findings from best-quality evidence. In conclusion, paracetamol and ibuprofen are efficacious in managing postoperative pain. Corticosteroids and antibiotics should only be used in selected cases. Chlorhexidine reduces alveolar osteitis. The benefits of cryotherapy, postoperative irrigation and ozone gel are yet to be established.

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**Title**
Dental arch spatial changes after premature loss of first primary molars: a systematic review of controlled studies. [Review]

**Source**

**Authors**
Kaklamanos EG; Lazaridou D; Tsiantou D; Kotsanos N; Athanasiou AE.

**Abstract**
Studies investigating dental arch spatial changes following first primary molar premature loss are controversial regarding clinical significance. The purpose of this review was to systematically investigate the relevant literature. Controlled studies investigating changes before and after premature loss of first primary molars were searched in various databases. Split-mouth design studies were considered eligible for inclusion. The risk of bias was judged according to ADA Clinical Practice Guidelines. Only two analyzable split-mouth studies on mandibular first primary molar loss were identified. Space loss in the extraction side was greater at 2, 4, 6 and 8-month follow-ups, reaching a -1.5 mm difference in the final examination (95% Confidence Interval: -2.080 to -0.925; p = 0.000; random effects model). Studies were judged to be at unclear risk of bias. The amount of space decrease after
RECENT REVIEWS RELATED TO MINOR ORAL SURGERY

premature loss of first primary molars may have management implications under certain circumstances. Comprehensive assessment of the various characteristics of each patient should precede management decisions in individual cases.

Publication Type
Journal Article. Review.

Year of Publication
2017

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28551729

Title
Use of platelet-rich fibrin in regenerative dentistry: a systematic review. [Review]

Source

Status
MEDLINE

Authors
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Local Messages
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Abstract
OBJECTIVES: Research across many fields of medicine now points towards the clinical advantages of combining regenerative procedures with platelet-rich fibrin (PRF). This systematic review aimed to gather the extensive number of articles published to date on PRF in the dental field to better understand the clinical procedures where PRF may be utilized to enhance tissue/bone formation.

MATERIALS AND METHODS: Manuscripts were searched systematically until May 2016 and separated into the following categories: intrabony and furcation defect regeneration, extraction socket management, sinus lifting procedures, gingival recession treatment, and guided bone regeneration (GBR) including horizontal/vertical bone augmentation procedures. Only human randomized clinical trials were included for assessment.
RESULTS: In total, 35 articles were selected and divided accordingly (kappa = 0.94). Overall, the use of PRF has been most investigated in periodontology for the treatment of periodontal intrabony defects and gingival recessions where the majority of studies have demonstrated favorable results in soft tissue management and repair. Little to no randomized clinical trials were found for extraction socket management although PRF has been shown to significantly decrease by tenfold dry sockets of third molars. Very little to no data was available directly investigating the effects of PRF on new bone formation in GBR, horizontal/vertical bone augmentation procedures, treatment of peri-implantitis, and sinus lifting procedures.

CONCLUSIONS: Much investigation now supports the use of PRF for periodontal and soft tissue repair. Despite this, there remains a lack of well-conducted studies demonstrating convincingly the role of PRF during hard tissue bone regeneration. Future human randomized clinical studies evaluating the use of PRF on bone formation thus remain necessary.

CLINICAL RELEVANCE: PRF was shown to improve soft tissue generation and limit dimensional changes post-extraction, with little available data to date supporting its use in GBR.

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Journal Article. Review.
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2017

Abstract
The aim of this study was to review scales used to assess anxiety, stress, and pain in dental patients undergoing a tooth extraction procedure and to propose a novel psycho-emotional rating scale based on the relevant literature and our own experience. An electronic literature search was conducted of the National Library of Medicine database MEDLINE (Ovid) and EMBASE databases between January 2005 and April 2016. Sequential screening at the title/abstract and full-text levels was performed. The review included all human prospective or retrospective follow-up studies and clinical trials, cohort studies, case-control studies, and case series that demonstrated at least one scale used to measure tooth extraction anxiety, stress, or pain. The search resulted in 32 articles meeting the inclusion criteria. None of the studies were found to be suitable in evaluating patient's stress, pain, and fear at once. Also, no scales were found that included both the doctor's and the patient's rating. In a few studies, vital signs as psycho-emotional status indicators were rated. Guidelines for a suitable questionnaire that could be used for rating the psycho-emotional status of patients undergoing tooth extraction are listed in the present research. Further studies are required for verification and validation of offered scale.
BACKGROUND: The number of surgical procedures to repair a cleft palate may play a role in the outcome for maxillofacial growth and speech outcome after one-stage or two-stage palatoplasty in unilateral cleft lip and palate. A systematic review. [Review]


vi1

Status: MEDLINE

Authors: Reddy RR; Gosla Reddy S; Vaidyanathan A; Berge SJ; Kuipers-Jagtman AM.

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Abstract

BACKGROUND: The number of surgical procedures to repair a cleft palate may play a role in the outcome for maxillofacial growth and speech. The aim of this systematic review was to investigate the relationship between the number of surgical procedures performed to repair the cleft palate and maxillofacial growth, speech and fistula formation in non-syndromic patients with unilateral cleft lip and palate.

MATERIAL AND METHODS: An electronic search was performed in PubMed/old MEDLINE, the Cochrane Library, EMBASE, Scopus and CINAHL databases for publications between 1960 and December 2015. Publications before 1950-journals of plastic and maxillofacial surgery were hand searched. Additional hand searches were performed on studies mentioned in the reference lists of relevant articles. Search terms included unilateral, cleft lip and/or palate and palatoplasty. Two reviewers assessed eligibility for inclusion, extracted data, applied quality indicators and graded level of evidence.

RESULTS: Twenty-six studies met the inclusion criteria. All were retrospective and non-randomized comparisons of one- and two-stage palatoplasty. The methodological quality of most of the studies was graded moderate to low. The outcomes concerned the comparison of one- and two-stage palatoplasty with respect to growth of the mandible, maxilla and cranial base, and speech and fistula formation.

CONCLUSIONS: Due to the lack of high-quality studies there is no conclusive evidence of a relationship between one- or two-stage palatoplasty and facial growth, speech and fistula formation in patients with unilateral cleft lip and palate.
**BDA LIBRARY MEDLINE SEARCH**

**RECENT REVIEWS RELATED TO MINOR ORAL SURGERY**

Journal Article. Review.
Year of Publication
2017

<65>
Unique Identifier
27534916
Title
Histomorphometric results of different grafting materials and effect of healing time on bone maturation after sinus floor augmentation: a systematic review and meta-analysis. [Review]
Source
VI 1
Status
MEDLINE
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Local Messages
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Abstract
The aim of this systematic review was to evaluate histomorphometric variables, the amount of new bone (NB), residual graft (RG) particles and soft tissue (ST), related to various grafting materials and assess the effect of graft healing time on different histomorphometric outcomes. Studies that were published before October 2015 were electronically and manually searched in three databases. We included human studies that reported the amount of NB, RG and ST in the biopsies taken from the grafted sinuses. Based on the applied grafting materials, extracted data were categorized into different groups. Furthermore, extracted data were classified into three groups based on healing time: (i) <= 4.5 mo; (ii) 4.5-9 mo; and (iii) >= 9-13.5 mo. The search provided 791 titles. Full text analysis was performed for 258 articles resulting in 136 studies that met the inclusion criteria. Autogenous bone (AB) resulted in the highest amount of NB and lowest amount of RG compared to other grafting materials. Based on this meta-analysis, a significant difference was noticed in the amount of NB formation in grafts with a healing time of > 4.5 mo when compared to the grafts with less healing time. However, when comparing biopsies taken at 4.5-9 mo of healing (average = 6.22 mo) to the ones taken at >= 9-13.5 mo (average = 10.36 mo), no significant difference was noticed in the amount of NB formation of various grafts except allografts that resulted in a significantly higher percentage of NB at 9.5 mo of healing. Based on histomorphometric analysis, AB results in the highest amount of NB formation in comparison to the other grafting materials. Bone substitute materials (allografts, alloplastic materials and xenografts) seem to be good alternatives to autogenous bone and can be considered as grafting materials to avoid disadvantages related to AB, including morbidity rate, limited availability and high volumetric change. Combining AB with alloplastic materials and xenografts brings no significant advantages regarding NB formation.

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28428609
Title
Socket preservation. [Review][Retraction in Br Dent J. 2017 Nov 10;223(9):741; PMID: 29123314]
Source
VI 1
Status
MEDLINE
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Abstract
Socket preservation maintains bone volume post-extraction in anticipation of an implant placement or fixed partial denture pontic site. This procedure helps compensate for the resorption of the facial bone wall. Socket preservation should be considered when
implant placement needs to be delayed for patient or site-related reasons. The ideal healing time before implant placement is six months. Socket preservation can reduce the need for later bone augmentation. By reducing bone resorption and accelerating bone formation it increases implant success and survival. Biomaterials for socket grafting including autograft, allograft, xenograft and alloplast. A bone substitute with a low substitution rate is recommended.

Abstract

Background Haemostasis is crucial for the success of oral surgical treatment as bleeding problems can cause complications both pre- and post-operatively. Patients on anticoagulant drugs present a challenge due to their increased risk of bleeding.

Aims To review the evidence for the management of oral surgery patients on novel oral anticoagulant therapy.

Methods A literature review was conducted in May 2016 of free-text and MESH searches (keywords: apixaban, dabigatran, rivaroxaban and dental extractions) in the Cochrane Library, PubMed and CINAHL. Trial registers, professional bodies for guidelines and OpenGrey for unpublished literature were also searched. Studies were selected for appraisal after limits were applied (adult, human and English only studies) and inclusion/exclusion criteria imposed.

Results Five studies were identified for critical appraisal using the CASP tools. These were a combination of systematic reviews and case series. Two case series were excluded due to low quality evidence. Curtin et al., Davis et al. and Constantinides et al. together with guidelines from the Scottish Dental Clinical Effectiveness Programme, have highlighted a protocol in managing these patients in a dental surgical setting.

Conclusion Patients on novel anticoagulant therapy requiring dental surgery can be managed appropriately either without discontinuation of therapy or a delay in dose. For those patients at higher risks of postoperative bleeding complications, it is advised to liaise with the specialist physician.
difference (MD) and 95% confidence interval (CI) were calculated from the random-effects meta-analysis. Subgroup and sensitivity analyses were also performed.

RESULTS: Twenty-five studies satisfied the inclusion criteria and were included in the qualitative synthesis. Eleven nonextraction and only one extraction Class II treatment studies presented untreated Class II control group. Therefore, meta-analysis was performed only for the nonextraction protocol. In treated Class II nonextraction patients, the average of the various effects was a reduction in the ANB angle of 1.56degree (95% CI: 1.03, 2.09, P < .001) compared with untreated Class II subjects. Class II malocclusions treated with two maxillary-premolar extractions and four premolar extractions produced estimated mean reductions in ANB of -1.88degree and -2.55degree, respectively. However, there is a lack of low-risk-of-bias studies.

CONCLUSIONS: According to the existing low quality evidence, the apical base sagittal relationship in nonextraction, two-maxillary and four-premolar extractions Class II treatments decreases -1.56degree, 1.88degree and 2.55degree, respectively. Further studies are necessary to obtain more robust information.

Publication Type
Year of Publication
2017

Unique Identifier
27504820
Title
Effectiveness of the transpalatal arch in controlling orthodontic anchorage in maxillary premolar extraction cases: A systematic review and meta-analysis. [Review]
Source
VI 1
Status
MEDLINE
Authors
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Abstract
OBJECTIVE: To evaluate the effectiveness of the transpalatal arch (TPA) as an anchorage device in preventing maxillary molar mesialization during retraction of the anterior teeth after premolar extraction.

MATERIALS AND METHODS: This systematic review intended to include patients indicated for upper premolar bilateral extraction and subsequent retraction of anterior teeth, considering the use of TPA as an anchorage tool in one of the treatment groups. The search was systematically performed, up to April 2015, in the following electronic databases: Medline, Embase, and all evidence-based medicine reviews via OVID, Cochrane Library, Scopus, PubMed, and Web of Science. Risk of bias assessment was performed using Cochrane's Risk of Bias Tool for randomized clinical trials (RCTs) and Methodological Index for Nonrandomized Studies (MINORS) for non-RCTs.

RESULTS: Fourteen articles were finally included. Nine RCTs and five non-RCTs presented moderate to high risk of bias. Only one study investigated the use of TPA in comparison with no anchorage, failing to show significant differences regarding molar anchorage loss. A meta-analysis showed a significant increase in anchorage control when temporary anchorage devices were compared with TPA (mean difference [MD] 2.09 [95% confidence interval [CI] 1.80 to 2.38], seven trials), TPA + headgear (MD 1.71 [95% CI 0.81 to 2.6], four trials), and TPA + utility arch (MD 0.63 [95% CI 0.12 to 1.15], 3 trials).

CONCLUSION: Based on mostly moderate risk of bias and with some certainty level, TPA alone should not be recommended to provide maximum anchorage during retraction of anterior teeth in extraction cases.

Publication Type
Journal Article. Review.
Year of Publication
2017

Unique Identifier
28333025
Title
Preventing perioperative bleeding in patients with inherited bleeding disorders. [Review]
Source
Evidence-Based Dentistry. 18(1):28-29, 2017 03.
VI 1
Status
MEDLINE
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Delayed retrieval of a displaced maxillary third molar from infratemporal space via trans-sinusoidal approach: a case report and review of the literature.

**Abstract**

The aim of this case report is to present the trans-sinusoidal pathway used to remove a displaced maxillary third molar from the infratemporal fossa and review the English literature regarding the techniques used.

**CASE REPORT:** A 21-year-old male patient was referred with the findings of an oroantral fistula on the left maxillary vestibular first molar region and slight restriction of mouth opening. The patient underwent a maxillary sinus surgery in order to remove a sinus retention cyst via Caldwell-Luc access in a dental clinic 4 years ago. A computerized tomography scan showed the inverted third molar to be located in the infratemporal fossa, just between zygomatic arch and lateral pterygoid plate. The tooth was accessed through the remaining lateral bone defect from the Caldwell-Luc approach of the lateral sinus wall. The bone defect was extended. The posterior bony wall of the maxillary sinus was removed via a surgical burr. After that, the displaced tooth was exposed. The tooth was mobilized via Warwick James elevator downwards and removed with a forceps.

**CONCLUSION:** Access for surgical removal of the tooth from the infratemporal fossa is not only difficult but also has potential for morbidity due to the structures running through it. Wide incision in the maxillary sulcus and blunt dissection are reported with lower success rates and usually necessitate a second intervention via extraoral route. Trans-sinusoidal approach might be an old fashioned but relatively successfully attempt in the removal of the upper third molars from the infratemporal fossa. Considering the time of removal, if no symptoms were present, it is beneficial to wait for a couple of weeks thus facilitating development of fibrous surrounding around the tooth.

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**Source**


**Year of Publication**

2017
Effect of flap design on periodontal healing after impacted third molar extraction: a systematic review and meta-analysis. [Review]


Abstract

The extraction of an impacted third molar violates the surrounding soft and bony tissues. The surgeon's access to the tooth, for which there are various surgical approaches, has an important impact on the periodontium of the adjacent second molar. The aim of this review was to analyze the relationships between the different flap techniques and postoperative periodontal outcomes for the mandibular second molars (LM2) adjacent to the impacted mandibular third molars (LM3). An electronic search of MEDLINE and other databases was conducted to identify randomized controlled trials fulfilling the eligibility criteria. To assess the impact of flap design on the periodontal condition, the weighted mean difference of the probing depth reduction (WDPDR) and the weighted mean difference of the clinical attachment level gain (WDCAG) at the distal surface of LM2 were used as the primary outcomes. The results showed that, overall, the different flap techniques had no significant impact on the probing depth reduction (WDPDR -0.14mm, 95% confidence interval -0.44 to 0.17), or on the clinical attachment level gain (WDCAG 0.05mm, 95% confidence interval -0.84 to 0.94). However, a subgroup analysis revealed that the Szmyd and paramarginal flap designs may be the most effective in reducing the probing depth in impacted LM3 extraction, and the envelope flap may be the least effective.

Re: "Does the piezoelectric surgical technique produce fewer postoperative sequelae after lower third molar surgery than conventional rotary instruments? A systematic review and meta-analysis".

In reply to commentary on "Does the piezoelectric surgical technique produce fewer postoperative sequelae after lower third molar surgery than conventional rotary instruments? A systematic review and meta-analysis".

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Abstract: Factors associated with the diagnosis, aetiology, and treatment of mandibular fractures occurring during the postoperative period following the removal of a lower third molar are discussed. The following databases were searched using specific key words: PubMed/MEDLINE, LILACS, Embase, and Scopus. The search yielded 124 cases. Sex, age, side, tooth position and angulation, bone impaction, relationship between the tooth and the inferior alveolar nerve, local pathological conditions, aetiology of the fracture, symptomatology, and time between surgery and fracture, as well as any displacement of the fracture and the treatment of the fracture, were evaluated. Data were tabulated and the chi<sup>2</sup> statistical test was applied (P<0.05). Male patients aged >35 years, with teeth in positions II/III and B/C, complete bony impaction, and local bone-like alterations, were found to have a higher frequency of fracture and pericoronitis (P<0.05). Late fractures generally occurred between the second and fourth postoperative weeks (P<0.05). They were generally not displaced and the typical treatment was the non-surgical approach.
It is concluded that the risk of mandibular fracture after extraction is associated with excessive ostectomy and/or local alterations. At-risk patients should be thoroughly briefed on the importance of a proper postoperative diet.

Abstract
Extracted human teeth have been used to practice operative techniques for a very long time. As a natural surrogate for a live tooth in vivo, their use has traditionally been very important for the development of skills in trainee dentists, as well as their qualified colleagues who wish to practise existing or new skills. As synthetic alternatives develop greater authenticity, alongside a society in which many retain their natural dentition well into old age, the current paradigm relating to how extracted teeth in dental education are used needs to be revisited. An ethical and legal dilemma that must be addressed within dental education relates to where and how teeth may be sourced. This article will seek to question whether there is a legal or ethical requirement to gain consent for the use of extracted teeth from patients, as well as exploring the status of whether extracted dental tissue can be considered to be the property of either patient or surgeon. Whilst synthetic alternatives are being utilized more frequently in education, it is unlikely that they will completely replace extracted natural teeth in the immediate future. It is therefore imperative that their use complies with legal doctrine and contemporary ethical thought.

Abstract
After a tooth extraction both hard and soft tissues undergo dimensional changes. The use of a ridge preservation technique at the moment of the tooth extraction could help to prevent the volume loss, thus simplifying the subsequent prosthetic and/or implant therapy. Some studies were conducted in order to examine the biomaterials and the surgical technique used for ridge preservation procedures. Clinical, histological, volumetric and molecular outcomes were registered and analyzed in different studies, in order to comprehend the biological events and the consequences of a socket preservation procedure and to allow the clinician to make the correct choice.
BDA LIBRARY MEDLINE SEARCH

RECENT REVIEWS RELATED TO MINOR ORAL SURGERY

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Title
Local Application of Platelet-Rich Fibrin During Lower Third Molar Extraction Improves Treatment Outcomes. [Review]

Source

VI 1

Status
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Authors
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Nie, Minhai. Professor, Orofacial Reconstruction and Regeneration Laboratory, Department of Periodontal and Mucosal Diseases, Hospital of Stomatology, Southwest Medical University, Luzhou, China. Electronic address: 19320003@qq.com.

Abstract
PURPOSE: Application of platelet-rich fibrin (PRF) during tooth extraction is able to accelerate wound healing, stimulate osseous and soft tissue regeneration, and reduce unwanted side effects. The aim of this meta-analysis was to investigate the effect of local application of PRF on controlling postoperative signs and symptoms after the extraction of an impacted lower third molar.

MATERIALS AND METHODS: A systematic search of PubMed, Web of Science, Embase, and the Cochrane Library was performed to identify all studies published up to October 2016 that investigated the effect of PRF on lower third molar extraction. Pain, swelling, trismus, alveolar osteitis (AO), and osteoblastic activity were extracted to evaluate the effect of PRF. After quality assessment, meta-analysis was performed with RevMan software (version 5.3; Cochrane Library Software, Oxford, UK).

RESULTS: After the search and selection process, 10 studies were selected in this meta-analysis, including 468 cases of PRF application and 467 cases of non-PRF application. Of the studies, 9 were randomized controlled trials, including 7 split-mouth studies, and there was 1 retrospective case-control study. The results indicated that PRF significantly relieves pain (P = .01) and 3-day postoperative swelling (P = .03) and reduces the incidence of AO (P < .0001). However, there were no significant differences between the PRF and non-PRF groups with respect to 1-day postoperative swelling and osteoblastic activity.

CONCLUSIONS: Local application of PRF after lower third molar extraction is a valid method for relieving pain and 3-day postoperative swelling and reducing the incidence of AO. For patients undergoing complicated surgical extraction, PRF might be a recommendation for local application into the sockets.

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

Source

VI 1

Status
MEDLINE

Authors
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de Santana Santos, Thiago. Universidade Federal de Sergipe, Sergipe, Brazil.
Purpose: To perform a systematic review and meta-analysis of randomized clinical trials (RCTs) investigating the efficacy and safety of topical tranexamic acid (TXA) to prevent postoperative bleeding in anticoagulated patients undergoing minor oral surgery.

Material and Methods: We analyzed RCTs comparing the use of topical TXA versus other topical hemostatic agents or placebo solutions for minor oral surgeries. We assessed the risk of bias and strength of evidence according to the Cochrane guidelines and GRADE rating system, respectively. The pooled relative risk (RR) was calculated for the effect of topical application of TXA on postsurgical bleeding.

Results: Five RCTs were included in the study. The combined RR for the number of patients receiving TXA in comparison to the control group was 0.13 (95% CI 0.05-0.36; P = 0.01), indicating a protective effect of topical TXA on bleeding after minor oral surgeries. Subgroup analysis revealed that topical TXA was effective in preventing postsurgical bleeding compared to placebo and epsilon-aminocaproic acid. No cases of thromboembolic events were reported.

Conclusions: Currently available evidence suggests that surgical site irrigation with TXA followed by mouthwash during the first postoperative week is safe and may reduce the risk of bleeding after minor oral surgeries in anticoagulated patients.

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Abstract
A literature review was conducted to determine the role of insertion torque in attaining primary stability of dental implants. The review is comprised of articles that discussed the amount of torque needed to achieve primary implant stability in healed ridges and fresh extraction sockets prior to immediate implant loading. Studies were appraised that addressed the effects of minimum and maximum forces that can be used to successfully place implants. The minimum torque that can be employed to attain primary stability is undefined. Forces >=30 Ncm are routinely used to place implants into healed ridges and fresh extraction sockets prior to immediate loading of implants. Increased insertion torque (>=50 Ncm) reduces micromotion and does not appear to damage bone. In general, the healing process after implant insertion provides a degree of biologic stability that is similar whether implants are placed with high or low initial insertion torque. Primary stability is desirable when placing implants, but the absence of micromotion is what facilitates predictable implant osseointegration. Increased insertion torque helps achieve primary stability by reducing implant micromotion. Furthermore, tactile information provided by the first surgical twist drill can aid in selecting the initial insertion torque to achieve predictable stability of inserted dental implants.
RECENT REVIEWS RELATED TO MINOR ORAL SURGERY


Status
MEDLINE

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Abstract
Objective: To systematically search the literature and assess the available evidence regarding the incidence and quantification of condylar resorption following bilateral sagittal split osteotomy (BSSO) of the mandible in orthognathic patients.

Search methods: Electronic database searches of published and unpublished literature were performed. The reference lists of eligible studies were hand searched for additional studies.

Selection criteria: Randomized clinical trials (RCTs), prospective, and retrospective studies with patients of any age that underwent BSSO were included.

Data collection and analysis: Study selection, data extraction, and risk of bias assessment were performed individually and in duplicate.

Results: One RCT, 3 prospective, and 10 retrospective studies were included in this review. The lack of standardized protocols and the high amount of heterogeneity precluded a valid interpretation of the actual results through pooled estimates. There was a substantial consistency among studies, however, that young, female patients with mandibular deficiency and high mandibular plane angle, submitted to surgical counterclockwise rotation of mandibular segments, were more prone to a higher risk for condylar resorption after BSSO. The level of evidence was found to be low given the high/serious risk of bias in all included studies.

Conclusions: Condylar resorption should be taken into account as a potential postsurgical complication after BSSO. However, its incidence and quantification need precautious interpretation owing to the low level of evidence and the high heterogeneity of studies. Additional high-quality prospective research assisted by 3D imaging technology is needed to allow more definitive conclusions.

Registration: Study not registered.

Conflict of interest: None.

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Title
Clinical relevance of dimensional bone and soft tissue alterations post-extraction in esthetic sites. [Review]
Source

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Authors
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Chappuis, Vivianne; Araujo, Mauricio G; Buser, Daniel.

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Abstract
The key to achieving pleasing esthetics in implant dentistry is a thorough understanding of the biological processes driving dimensional bone and soft tissue alterations post-extraction. The aim of the present report is first to characterize the extent of bone and soft tissue changes post-extraction and second to identify potential factors influencing tissue preservation in order to facilitate successful treatment outcomes. The facial bone wall thickness has been identified as the most critical factor influencing bone resorption and can be used as a prognostic tool in order to identify sites at risk for future facial bone loss subsequent to tooth extraction. Clinical studies indicated that thin bone wall phenotypes exhibiting a facial bone wall thickness of 1 mm or less revealed progressive bone resorption with a vertical loss of 7.5 mm, whereas thick bone wall phenotypes showed only minor bone resorption with a vertical loss of 1.1 mm. This is in contrast to the dimensional soft tissue alterations. Thin bone wall phenotypes revealed a spontaneous soft tissue thickening after flapless extraction by a factor of seven, whereas thick bone wall phenotypes showed no significant changes in the soft tissue dimensions after 8 weeks of healing. In sites exhibiting a limited bone resorption rate, immediate implant placement may be considered. If such ideal conditions are not present, other timing protocols are recommended to achieve predictable and pleasing esthetics. Socket preservation techniques for ridge preservation utilizing different biomaterials and/or barrier membranes often result in a better maintenance of tissue volumes, although the inevitable biological process of post-extraction bone resorption and bone modeling cannot be arrested. In summary, the knowledge of the biological events driving dimensional tissue alterations post-extraction should be integrated into the comprehensive treatment plan in order to limit tissue loss and to maximize esthetic outcomes.

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Title
Implant placement post extraction in esthetic single tooth sites: when immediate, when early, when late? [Review]
Source
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Authors
Buser D; Chappuis V; Belser UC; Chen S.
Authors Full Name
Buser, Daniel; Chappuis, Vivianne; Belser, Urs C; Chen, Stephen.
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Abstract
Implant placement in post-extraction sites of single teeth in the esthetic zone has been a topic of great interest in the field of implant dentistry since 1990. Triggered by the development of guided bone regeneration, the concept of immediate implant placement became quite popular in the 1990s. In the past 12 years, however, the dental community has begun to focus increasingly on the esthetic outcomes of post-extraction implant placement and several studies indicated a significant risk for the development of mucosal recessions with immediate implants. Parallel with this, significant progress has been made in the understanding of tissue biology in terms of hard and soft tissue alterations post extraction, based on preclinical, clinical and radiological studies. This knowledge has helped better to understand the etiology of these esthetic complications with immediate implant placement. The present review first analyzes the various phases of the development of therapeutic strategies over the years for post-extraction implant placement in single tooth sites in the esthetic zone. It presents the current knowledge concerning the terminology with immediate, early and late implant placement, the risk factors for the development of esthetic complications, and the selection criteria for the various treatment options. In the second part, clinical recommendations are given: since a clinician active in this field of implant therapy can use all treatment options depending on the preoperative analysis including a 3D cone beam computed tomography. The selection criteria for all four treatment options are presented and documented with typical case reports to illustrate the current treatment approaches applied in daily practice.

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Does Chlorhexidine Prevent Alveolar Osteitis After Third Molar Extractions? Systematic Review and Meta-Analysis. [Review]
Source
VI 1
Status
MEDLINE
Authors
Rodriguez Sanchez F; Rodriguez Andres C; Arteagoitia Calvo I.
Oral surgery procedures involve traumatization of mucosal and bony tissues, and lengthy interventions can lead to inflammatory post-operative sequelae. In the bony tissues in particular, the inflammatory processes can affect healing. Modern drug therapies provide valid support for lowering the risk of occurrence of post-operative inflammatory signs. The two main types of agents used are nonsteroidal anti-inflammatory drugs and/or corticosteroids, which act on two different molecular pathways in the inflammatory process. The aim of this systematic review is to examine the different corticosteroids used in oral surgery procedures, their indications for use, and their route of administration, to provide the clinician with a useful scheme for correct pharmacological management of post-operative inflammation. To identify studies eligible for inclusion in this systematic review, we performed a literature search up to April 2017 of the electronic databases, considering published papers from 2007 to 2017.
Platelet-rich plasma for regeneration of neural feedback pathways around dental implants: a concise review and outlook on future possibilities. [Review]


Huang Y; Bornstein MM; Lambrichts I; Yu HY; Politis C; Jacobs R.

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Abstract
Along with the development of new materials, advanced medical imaging and surgical techniques, osseointegrated dental implants are considered a successful and constantly evolving treatment modality for the replacement of missing teeth in patients with complete or partial edentulism. The importance of restoring the peripheral neural feedback pathway and thus repairing the lack of periodontal mechanoreceptors after tooth extraction has been highlighted in the literature. Nevertheless, regenerating the nerve fibers and reconstructing the neural feedback pathways around osseointegrated implants remain a challenge. Recent studies have provided evidence that platelet-rich plasma (PRP) therapy is a promising treatment for musculoskeletal injuries. Because of its high biological safety, convenience and usability, PRP therapy has gradually gained popularity in the clinical field. Although much remains to be learned, the growth factors from PRP might play key roles in peripheral nerve repair mechanisms. This review presents known growth factors contributing to the biological efficacy of PRP and illustrates basic and (pre-)clinical evidence regarding the use of PRP and its relevant products in peripheral nerve regeneration. In addition, the potential of local application of PRP for structural and functional recovery of injured peripheral nerves around dental implants is discussed.

Risks in surgery-first orthognathic approach: complications of segmental osteotomies of the jaws. A systematic review. [Review]

European Review for Medical & Pharmacological Sciences. 21(1):4-12, 2017 01.

Pelo S; Saponaro G; Patini R; Staderini E; Giordano A; Gasparini G; Garagiola U; Azzuni C; Cordaro M; Foresta E; Moro A.

Pelo, S; Saponaro, G; Patini, R; Staderini, E; Giordano, A; Gasparini, G; Garagiola, U; Azzuni, C; Cordaro, M; Foresta, E; Moro, A.

Abstract
Along with the development of new materials, advanced medical imaging and surgical techniques, osseointegrated dental implants are considered a successful and constantly evolving treatment modality for the replacement of missing teeth in patients with complete or partial edentulism. The importance of restoring the peripheral neural feedback pathway and thus repairing the lack of periodontal mechanoreceptors after tooth extraction has been highlighted in the literature. Nevertheless, regenerating the nerve fibers and reconstructing the neural feedback pathways around osseointegrated implants remain a challenge. Recent studies have provided evidence that platelet-rich plasma (PRP) therapy is a promising treatment for musculoskeletal injuries. Because of its high biological safety, convenience and usability, PRP therapy has gradually gained popularity in the clinical field. Although much remains to be learned, the growth factors from PRP might play key roles in peripheral nerve repair mechanisms. This review presents known growth factors contributing to the biological efficacy of PRP and illustrates basic and (pre-)clinical evidence regarding the use of PRP and its relevant products in peripheral nerve regeneration. In addition, the potential of local application of PRP for structural and functional recovery of injured peripheral nerves around dental implants is discussed.
OBJECTIVE: To date, no systematic review has been undertaken to identify the complications of segmental osteotomies. The aim of the present systematic review was to analyze the type and incidence of complications of segmental osteotomies, as well as the time of subjective and/or clinical onset of the intra- and post-operative problems.

MATERIALS AND METHODS: A search was conducted in two electronic databases (MEDLINE - Pubmed database and Scopus) for articles published in English between 1 January 2000 and 30 August 2015; only human studies were selected. Case report studies were excluded. Two independent researchers selected the studies and extracted the data. Two studies were selected, four additional publications were recovered from the bibliography search of the selected articles, and one additional article was added through a manual search.

RESULTS: The results of this systematic review demonstrate a relatively low rate of complications in segmental osteotomies, suggesting this surgical approach is safe and reliable in routine orthognathic surgery.

CONCLUSIONS: Due to the small number of studies included in this systematic review, the rate of complication related to surgery first approach may be slightly higher than those associated with traditional orthognathic surgery, since the rate of complications of segmental osteotomies must be added to the complication rate of basal osteotomies. A surgery-first approach could be considered riskier than a traditional one, but further studies that include a greater number of subjects should be conducted to confirm these findings.

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Title: Efficacy of Platelet-Rich Fibrin After Mandibular Third Molar Extraction: A Systematic Review and Meta-Analysis. [Review]

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Comments: This journal is available in the BDA Library, BDA Members can also access this journal online from 2011 to date. Go to www.bda.org/ejournals

Abstract: PURPOSE: To assess the effect of platelet-rich fibrin (PRF) on the healing process of the alveolar socket after surgical extraction of the mandibular third molars.

MATERIALS AND METHODS: PubMed, the Cochrane Central Register of Controlled Trials, Scopus, and relevant journals were searched using a combination of specific keywords ("platelet-rich fibrin," "oral surgery," and "third molar"). The final search was conducted on November 2, 2015. Randomized controlled clinical trials, as well as controlled clinical trials, aimed at comparing the effect of PRF versus natural healing after extraction of mandibular third molars were included.

RESULTS: Five randomized controlled trials and one controlled clinical trial were included. There were 335 extractions (168 with PRF and 167 controls) in 183 participants. Considerable heterogeneity in study characteristics, outcome variables, and estimated scales was observed. Positive results were generally recorded for pain, trismus, swelling, periodontal pocket depth, soft tissue healing, and incidence of localized osteitis, but not in all studies. However, no meta-analysis could be conducted for such variables because of the different measurement scales used. The qualitative and meta-analysis results showed no significant improvement in bone healing with PRF-treated sockets compared with the naturally healing sockets.

CONCLUSIONS: Within the limitations of the available evidence, PRF seems to have no beneficial role in bone healing after extraction of the mandibular third molars. Future standardized randomized controlled clinical trials are required to estimate the effect of PRF on socket regeneration.

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Title
Predictive Value of Panoramic Radiography for Injury of Inferior Alveolar Nerve After Mandibular Third Molar Surgery. [Review]

Source

Authors
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Comments

Abstract
PURPOSE: The purpose of the present systematic review was to assess the added value of panoramic radiography in predicting postoperative injury of the inferior alveolar nerve (IAN) in the decision-making before mandibular third molar (MM3) surgery.

MATERIALS AND METHODS: MEDLINE and EMBASE were searched electronically to identify the diagnostic accuracy of studies that had assessed the predictive value of 7 panoramic radiographic signs, including root-related signs (darkening of the root, deflection of the root, narrowing of the root, and dark and bifid apex of the root) and canal-related signs (interruption of the white line of the canal, diversion of the canal, and narrowing of the canal) for IAN injury after MM3 surgery.

RESULTS: A total of 8 studies qualified for the meta-analysis. The pooled sensitivity and specificity of the 7 signs ranged from 0.06 to 0.49 and 0.81 to 0.97, respectively. The area under the summary area under the receiver operating characteristic curve ranged from 0.42 to 0.89. The pooled positive predictive value (PPV) and negative predictive value (NPV) ranged from 7.5 to 26.6% and 95.9 to 97.7%, respectively. The added value of a positive sign for ruling in an IAN injury (PPV minus the prior probability) ranged from 3.4 to 22.2%. The added value of a negative sign for ruling out an IAN injury (NPV minus [1 minus the prior probability]) ranged from 0.1 to 2.2%.

CONCLUSIONS: For all 7 signs, the added value of panoramic radiography is too low to consider it appropriate for ruling out postoperative IAN in the decision-making before MM3 surgery. The added value of panoramic radiography for determining the presence of diversion of the canal, interruption of the white line of the canal, and darkening of the root can be considered sufficient for ruling in the risk of postoperative IAN injury in the decision-making before MM3 surgery.

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Title
Effects of CPAP and Mandibular Advancement Devices on Health-Related Quality of Life in OSA: A Systematic Review and Meta-analysis. [Review]

Source
BACKGROUND: Alveolar cleft reconstruction using iliac crest bone graft is considered the standard of care for children with complete cleft lip and palate. However, harvesting bone may result in donor-site morbidity and additional operating time and length of hospitalization. Recombinant human bone morphogenetic protein (rhBMP)-2 with a demineralized bone matrix is an alternative bone source for alveolar cleft reconstruction. The authors investigated the outcomes of rhBMP-2/demineralized bone matrix versus iliac crest bone graft for alveolar cleft reconstruction by reviewing postoperative surgical complications and cleft closure.

METHODS: MEDLINE and the Cochrane Library were searched up to November 2015 for randomized controlled trials (RCTs) comparing the effect of CPAP and a mandibular advancement device (MAD) on health-related quality of life (QoL) in OSA. Extraction of study characteristics, quality, and bias assessment were independently performed by three authors. A network meta-analysis using multivariate random-effects meta-regression was performed to assess treatment effects on the mental component score (MCS) and the physical component score (PCS) of the SF-36.

RESULTS: Of 1,491 identified studies, 23 RCTs were included in the meta-analysis (2,342 patients). Compared with an inactive control, CPAP was associated with a 1.7 point (95% CI, 0.1-3.2; P = .036) improvement in the MCS and a 1.7 point (95% CI, 0.5-2.9; P = .005) improvement in the PCS. MADs were associated with a 2.4 point (95% CI, 0.0-4.9; P = .053) and a 1.5 point (95% CI, -0.2 to 3.2; P = .076) improvement in the MCS and PCS, respectively, compared with inactive control treatments. There were no statistically significant differences between treatment effects of CPAP and MAD on the SF-36 scores.

CONCLUSIONS: CPAP is effective in improving health-related QoL in OSA, and MADs may be just as effective, but further RCTs comparing the two treatments are required.
METHODS: A retrospective chart review was conducted for 258 rhBMP-2/demineralized bone matrix procedures (mean follow-up, 2.9 years) and 243 iliac crest bone graft procedures (mean follow-up, 4.1 years) on 414 patients over a 12-year period. The authors compared complications, canine eruption, and alveolar cleft closure between the two groups.

RESULTS: In the rhBMP-2/demineralized bone matrix group, one patient required prolonged intubation because of intraoperative airway swelling not thought to be caused by rhBMP-2, 36 reported facial swelling and one required outpatient steroids as treatment, and 12 had dehiscence; however, half of these complications resolved without intervention. Twenty-three of the 228 rhBMP-2/demineralized bone matrix patients and 28 of the 242 iliac crest bone graft patients required repeated surgery for alveolar cleft repair. Findings for canine tooth eruption into the cleft site through the graft were similar between the groups.

CONCLUSIONS: The rhBMP-2/demineralized bone matrix appears to be an acceptable alternative for alveolar cleft repair. The authors found no increase in serious adverse events with the use of this material. Local complications, such as swelling and minor wound dehiscence, predominantly improved without intervention.

CLINICAL QUESTION/LEVEL OF EVIDENCE: Therapeutic, III.

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The effectiveness of systemic antibiotic prophylaxis in preventing local complications after tooth extraction. A systematic review. [Review]
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Authors
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Abstract
PURPOSE: To assess the beneficial or harmful effects of systemic prophylactic antibiotics at extraction of teeth, apart from third molars, vs no antibiotic or placebo administration. Furthermore, if antibiotics are beneficial, to determine which type, dosage, duration and timing of administration is the most effective.

MATERIALS AND METHODS: The Cochrane Oral Health Group's Trials Register (to 30 January 2016) and MEDLINE (1 January 1950 to 30 January 2016) were searched. There were no language or date restrictions placed on the searches of the electronic databases. Randomised controlled trials (RCTs) of parallel group design, with a follow-up of at least 2 weeks, comparing the administration of various prophylactic antibiotic regimens vs no antibiotics to people undergoing extraction of teeth, not including third molars, were included. Outcome measures were postoperative complications/adverse events, post-operative pain and swelling. Screening of eligible studies, assessment of the risk of bias of the trials and data extraction were conducted in triplicate by three independent review authors. Results were to be expressed as risk ratios (RRs) using a random-effects model for dichotomous outcomes, with 95% confidence intervals (CIs). Heterogeneity, including both clinical and methodological factors, was to be investigated.

RESULTS: No relevant RCT was identified.

CONCLUSIONS: There is no RCT to determine if the antibiotic therapy is needed at extraction of teeth, excluding third molars. Properly designed and conducted RCTs are needed to understand the role of the antibiotic therapy for tooth extraction. Conflict-of-interest statement: This systematic review was self-funded and the authors have no conflict of interests to declare.

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

Abstract

MATERIALS AND METHODS: A retrospective review was conducted of cases completed from 2010 to 2014 by a single oral and maxillofacial surgeon. The average age of the patients was 47 years (range, 27 to 72 years). Extraction complexity was classified with Juodzbalys and Daugela’s classification system. The included study cases had complexity scores of 9 or greater. Each patient received custom intraoral splints to secure the tracking array and underwent cone beam computed tomography image acquisition. All surgical procedures were performed with a precalibrated tracking straight handpiece under dynamic navigation.

RESULTS: All 25 cases were treated successfully with the use of the DINS. Twelve of these cases were associated with pathologic lesions. Three patients were noted to have inferior alveolar nerve paresthesia. One patient sustained a pathologic fracture at week 2. Postoperative infections were noted in 7 cases, 2 of which had a pre-existing infection. One patient reported temporary limitation of mouth opening. A coronectomy was performed in 1 case.

CONCLUSIONS: We present results using a new technology, the DINS, for removal of complex mandibular third molars. Potential advantages are 1) improved visualization and localization of anatomic structures such as the inferior alveolar nerve, lingual cortical plate, and adjacent roots; 2) improved control during osteotomy; 3) decreased surgical access requirements and reduction in overall bone removal; 4) ability to perform complex procedures successfully in an in-office setting; 5) decreased surgical time resulting from improved visualization; and 6) potential use as a teaching tool. Possible limitations of the use of an in-office DINS include increased cost, increased time attributed to presurgical planning, initial learning curve, and optical array interference by the surgeon or assistants during surgery.
Vertical Ridge Augmentation in the Atrophic Mandible: A Systematic Review and Meta-Analysis. [Review]

Source

MATERIALS AND METHODS: An electronic literature search was conducted by two independent reviewers in several databases, including MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials, and Cochrane Oral Health Group Trials Register databases for articles reporting VRA in the atrophic mandible via distraction osteogenesis (DO), inlay block grafting (IBG), onlay block grafting (OBG), and guided bone regeneration (GBR). For meta-analysis, two primary (VRA and ISR [%]) and two secondary outcomes were studied (SSR [%] and vertical bone resorption [VBR] [%]). Additionally, for qualitative assessment, complications (ie, causes of failure) were further extracted and comprehensively described.

RESULTS: Overall, 73 full-text papers were evaluated. Of these, 52 articles fulfilled the inclusion criteria. The weight mean (WM) of VRA (+/- SD) was 4.49 +/- 0.33 mm (95% CI: 3.85 to 5.14 mm). It was most notable that DO involved greater VRA than IBG, and thus, significantly higher than GBR and OBG. The technique significantly influenced the mean VRA obtained (P < .001). Nonetheless, no technique showed superiority in terms of ISR or SSR. VBR and complications were shown to be minimized for GBR.

CONCLUSION: If 4 mm of VRA is needed, any technique in optimum local and systemic conditions should be equally reliable in the atrophic mandible. However, when greater VRA is needed, DO and IBG have demonstrated accuracy. By means of complication and VBR rates, GBR was shown to have the lowest. For ISR and SSR, no statistical differences existed among all techniques. Controlled studies are needed to examine the long-term peri-implant bone fate and the frequency of biologic complications in each technique applied for the vertical augmentation of the atrophied mandible.

Healing of Postextraction Sockets Preserved With Autologous Platelet Concentrates. A Systematic Review and Meta-Analysis. [Review]

Source

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PREVENTION OF LINGUAL NERVE INJURY IN THIRD MOLAR SURGERY: LITERATURE REVIEW. [Review]


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Abstract
PURPOSE: To identify any factors that could aid the surgeon in preventing or minimizing the risk of lingual nerve injury during third molar surgery.

MATERIALS AND METHODS: Electronic research was carried out on the correlation between lingual nerve damage and lower third molar surgery (topographic anatomy, surgical technique, and regional anesthesia) using PubMed, Scopus, and Cochrane central databases. The research included only articles published in English up to February 2016.

RESULTS: Lingual nerve anatomy varied greatly: direct contact between the lingual nerve and the third molar alveolar wall was reported in a wide range of cases (0 to 62%) and the nerve was located at the same level or above the top of the ridge in 0 to 17.6% of cases. No detailed data were found on the actual incidence of lingual nerve injury resulting from local anesthesia by injection. Permanent lingual nerve damage did not show statistically relevant differences between the simple buccal approach and the buccal approach plus lingual flap retraction, although the latter was statistically associated with an increased risk of temporary nerve damage.

Lingual split technique was statistically associated with an increased risk of temporary nerve damage than the buccal approach with or without lingual flap retraction. For permanent damage, no statistically relevant differences were found between the lingual split technique and the buccal approach with lingual flap retraction. Compared with tooth sectioning, the ostectomy was strongly statistically associated with permanent lingual nerve damage.
CONCLUSIONS: Results should be interpreted with extreme caution because of the considerable heterogeneity of the data and the considerable influence of several anatomic and surgical variables that were closely related, but difficult to analyze independently. It seems preferable to avoid lingual flap elevation, except in selected cases in which the presence of more than 1 unfavorable surgical variable predicts a high risk of nerve injury. Tooth sectioning could decrease the extent of the ostectomy or even, in some cases, prevent it, potentially acting as a protective factor against lingual nerve injury.

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Does Orthodontic Extraction Treatment Improve the Angular Position of Third Molars? A Systematic Review. [Review]
Source

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Delli, Konstantina. Oral Medicine Specialist, Department of Oral and Maxillofacial Surgery, University of Groningen, University Medical Center Groningen, Groningen, The Netherlands.

Purpose: To systematically assess the available evidence on the effect of orthodontic extractions on third molar (M3) angulation.

Materials and Methods: Three databases were searched up to April 25, 2016 to identify orthodontic studies comparing M3 angular changes in patients with and without extraction. Information on methodology, treatment procedures, and outcome was retrieved from each study. Assessment of overall and individual quality of the included studies was performed using validated criteria.

Results: Fourteen retrospective studies were considered eligible for this systematic review. Two studies achieved a moderate evidence score, whereas the lowest grade was assigned to 12 studies. The overall evidence level was classified as limited. Meta-analysis was not feasible because of the high heterogeneity across studies. Based on the best available evidence, premolar extraction followed by fixed orthodontic appliances can substantially improve the angular position of M3s by 10° to 18°.

Conclusions: There is limited evidence that orthodontic extractions can substantially enhance the uprighting of M3s. Clinicians should be aware of the potentially beneficial effect of orthodontic extraction treatment on M3 development, although well-designed prospective studies are necessary to strengthen this statement.
Abstract

Obstructive sleep apnea-hypopnea syndrome (OSAHS) is a serious social health problem with significant implications on quality of life. Surgery for OSAHS has been criticized due to a lack of evidence to support its efficacy as well as the heterogeneous reporting of published outcomes. Moreover, the transoral robotic surgery (TORS) in the management of OSAHS is still in a relative infancy. Nevertheless, a review and meta-analysis of the published articles may be helpful. Among 195 articles, eight studies were included in the analysis. The mean of enrolled patients was 102.5 +/- 107.9 (range 6-289) comprising a total of 820 cases. The mean age was 49 +/- 3.27 and 285 patients underwent a previous sleep apnea surgery. The uvulopalatopharyngoplasty (UPPP) was the most common palatal procedure. The mean rate of failure was 34.4 % (29.5-46.2 %). Complications occurred in 21.3 % of the patients included in the analysis, most of them were classified as minor. Transient dysphagia represented the most common complication (7.2 %) followed by bleeding (4.2 %). TORS for the treatment of OSAHS appears to be a promising and safe procedure for selected patients seeking an alternative to continuous positive airway pressure (CPAP), although further researches are urgently needed.

Publication Type

Year of Publication
2017
Tongue reduction for OSAHS: TORSs vs coblations, technologies vs techniques, apples vs oranges. [Review]

Source

Abstract
Coblation tongue surgery and Trans-oral robotic surgery (TORS) proved to be the most published therapeutical options for the treatment of patients affected by obstructive sleep apneas (OSAHS). A systematic review of the literature and an analysis of the data are presented. The mean rates of failure were 34.4 and 38.5 %, respectively in TORS and Coblation groups. Complications occurred in 21.3 % of the patients treated with TORS and in 8.4 % of the patients treated with Coblation surgery. TORS seems to give slightly better results, allowing a wider surgical view and a measurable, more consistent removal of lingual tissue. However, the higher rate of minor complication and the significant costs of TORS must also be considered. Moreover, both technologies may be applied to a wide range of surgical techniques, each of them with different effectiveness.