INTRODUCTION: The purpose of this study was to investigate the long-term stability of deep overbite correction with mandibular incisor intrusion with utility arches in adult patients.

METHODS: Pretreatment, posttreatment, and 5-years postretention lateral cephalograms of 31 patients (mean age, 26.8 years; range, 24.1-30.9 years) with Class II Division 1 malocclusion and deepbite, treated by maxillary first premolar extraction and mandibular incisor intrusion, were traced and measured.

RESULTS: Significant decreases in overjet and overbite (6.4 +/- 1.2 and 3.9 +/- 0.7 mm, respectively), significant retroclination (17 +/- 1.9) and retraction (3.8 +/- 1.1 mm) of the maxillary incisors, and significant increases in protrusion (0.8 +/- 1.5 mm), proclination (0.6 +/- 0.9), and intrusion (2.6 +/- 1.4 mm) of the mandibular incisors were observed at posttreatment. At postretention, there were statistically significant but clinically unimportant increases in overjet and overbite (0.4 +/- 0.2 and 0.8 +/- 0.4 mm, respectively) and extrusion of the mandibular incisors (0.8 +/- 1.1 mm).

CONCLUSIONS: Correction of deepbite in nongrowing patients by mandibular incisor intrusion with a utility arch can be considered effective and stable. Copyright 2013 American Association of Orthodontists. Published by Mosby, Inc. All rights reserved.

Publication Type: Journal Article.
Date Created: 20130902
Year of Publication: 2013

STUDY DESIGN: Twenty-two male volunteers (mean age 24.6) were divided into a deep-bite (NL/ML 11.8 +/- 2.3) and open-bite group (NL/ML 34.1 +/- 2.6). Vertical jaw relationship, gonial angle, and masseter volume were defined and compared with the phosphate values obtained from the (31)P spectra. Student t test and regression analysis were used.

RESULTS: Phosphocreatine related strongly to muscle volume (P < .001), gonial angle (P < .001), and ML/NL angle (P < .01). Pi was found to be related to gonial angle (P < .05). Muscle volume was found to be inversely related to ML/NL (P < .01) and to the gonial angle (P < .01).

CONCLUSIONS: A difference in masseter muscle metabolism between long- and short-faced subjects was confirmed at rest position. Copyright 2013 Elsevier Inc. All rights reserved.

Publication Type:
Date Created
20130304
Year of Publication
2013

Unique Identifier
23941034
Status
MEDLINE
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Department of Orthodontics & Dentofacial Orthopedics, ITS Dental College Hospital and Research Centre, Greater Noida, Uttar Pradesh, India.
Title
An interim bite raiser.
Source
Abstract
Patients with deep bites or crossbites often need temporary bite opening to prevent mandibular brackets from being sheared off and to allow unobstructed tooth movement. Here we present a simple auxiliary occlusal extension for temporary bite opening to correct an anterior crossbite. The bite plane is hygienic, less intrusive to the tongue space and prevents supra-eruption of the adjacent as well as opposing teeth.

Title
Asymmetric deep bite with a canted occlusal plane: a case report.
Source
Local Messages
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Abstract
INTRODUCTION: Asymmetry and deep bite malocclusions provide management difficulties for clinicians and the combination invites special concern.

AIM: The purpose of the present paper is to describe a clinical case presenting with an asymmetric deep bite, a canted occlusal plane, a Class II canine relationship on the right side and a Class III canine relationship on the left side, with deviations of both dental midlines to the right. A lower right premolar impaction contributed to the asymmetry and a left first maxillary molar extraction was required for endodontic reasons.

METHODS: A straight-wire technique was used for eighteen months to achieve second molar mesialisation, as well as dental levelling and alignment. To unravel the mandibular arch, resolve the deep bite and manage the canted the lower occlusal plane, two bite turbos were attached to the palatal surface of the maxillary central incisors. In addition, a sectiona Multiloop Edgewise Arch-Wire (MEAW) was placed on the left side and maintained for nine months. Different lower MEAW activation (lateral left lower extrusion) and tip-back control on the posterior teeth were essential mechanics to increase vertical dimension on the lower left side and allow for Class III dental correction. Short Class II vertical elastics on the right side and Class III elastics on the left side were applied.

CONCLUSION: The asymmetric mechanics allowed the case to be treated to a stable sagittal and vertical occlusal result.

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CONCLUSION: The asymmetric mechanics allowed the case to be treated to a stable sagittal and vertical occlusal result.
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Title
Deep bite: a case report with chewing pattern and electromyographic activity before and after therapy with function generating bite.

Source

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Abstract
AIM: The purpose of this case report is the concurrent evaluation of the masticatory pattern and the electromyographic activity, recorded during mastication, before and after therapy of deep bite malocclusion.

CASE REPORT: An 11-year-old boy, affected by deep bite (overbite = 5 mm) was treated by the use of a functional appliance (Function Generating Bite for Deep bite correction = FGB-D). Mandibular movements during mastication of a soft and a hard bolus were recorded both before and 10 months after correction of the malocclusion. Electromyographic activity (EMG) of the masseters and anterior temporalis muscles were recorded at the same time. Chewing cycles and EMG activity were recorded with the K7 I kinesiograph (Myotronics Inc., Seattle, WA-USA). Before therapy a higher EMG activity was recorded for both masseters and anterior temporalis muscles in comparison with the results after therapy.

RESULTS: The results showed a great decrease of the EMG activity of masseter and anterior temporalis muscles. Moreover, the height and width of the chewing cycles in the frontal plane increased after therapy.

CONCLUSION: The functional improvement showed after therapy with FGB-D showed that the functional appliance is able to correct the dental malocclusion and the masticatory function. The orthodontic treatment should consider not only the repositioning of teeth within the dental arches but also the effects on function, especially when the malocclusion involves the muscular and skeletal structures.

Publication Type

Date Created
20130613

Year of Publication
2013

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Title
Extraction of the lateral incisors to treat maxillary protrusion: quantitative evaluation of the stomatognathic functions.

Source

Local Messages

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Abstract
To treat morphological abnormalities, impaction, and severe malposition of the teeth, the lateral incisors are sometimes extracted, followed by orthodontic space closure. This procedure often requires special consideration, not only with regard to esthetics but also for functional issues. However, thus far, few reports that have performed a functional evaluation in such cases. The purpose of this article is to report the successful treatment of an adult patient with a Class II division 1 malocclusion who was treated with extraction of the upper lateral incisors. The female patient, aged 23 years and 6 months, had a chief complaint of maxillary incisal protrusion and crooked teeth. In this patient, the upper lateral incisors were extracted to fulfill the patient’s strong request, followed by orthodontic treatment using edgewise appliances. A high-pull J-hook headgear on the lower dental arch was used to prevent further labial inclination of the lower incisors. The total active treatment period was 37 months. The resulting occlusion and a satisfactory facial profile were maintained during a 4-year retention period. Additionally, this treatment did not affect the stomatognathic functions as assessed by the following criteria: range of the incisal path or condylar motion during maximal open-close movement, protrusive excursion, lateral excursion, and the chewing test. In conclusion, extraction of the upper lateral incisors can be an effective treatment choice when the upper lateral incisors are dwarfed, are nonvital, or demonstrate severe malposition.

Publication Type
Case Reports. Journal Article.

Date Created
20130305

Year of Publication
2013

Unique Identifier
22866755

Status
MEDLINE

Authors
Ahn HW. Cho IS. Cho KC. Choi JY. Chung JW. Baek SH.
Patterns of vertical facial growth in Korean adolescents analyzed with mixed-effects regression analysis.
Local Messages: THIS JOURNAL IS AVAILABLE IN THE BDA LIBRARY
Abstract: INTRODUCTION: To understand the growth patterns of skeletal open bite and deepbite, we present observations from 9 years of pure longitudinal data based on lateral cephalometric radiographs using mixed-effects regression model analysis.
METHODS: In total, 51 children (14 years old) with extreme values for the ratio of lower anterior facial height to total anterior facial height were assigned to 1 of 2 groups: a skeletal open-bite group (11 boys, 14 girls) or a skeletal deepbite group (14 boys, 12 girls). Measurements of total anterior facial height, upper anterior facial height, lower anterior facial height, total posterior facial height, ramus height, and ratio of lower anterior facial height to total anterior facial height were obtained for all subjects. All data were analyzed and interpreted using a mixed-effects regression model analysis with random effects.
RESULTS: From these 4 groups at 14 years old, statistically significant differences were observed between the groups when subjects of the same sex were compared; however, statistical significance was not reached between subjects of opposite sexes in each group. Morphologic differences were clearly evident from the start and became more pronounced with age. There were statistical significances in the initial values and increases with age in all 6 variables except for increases with age in the ratio of lower anterior facial height to total anterior facial height. Statistical significance was also reached for morphologic differences between the annual increases in the ratio of lower anterior facial height to total anterior facial height and lower anterior facial height. In general, individual random variability was high in all variables when compared with the annual changes over time.
CONCLUSIONS: Divergent patterns were established early and became more pronounced with age, with anterior facial height dimensions primarily contributing to these differences. Individual variations were so pronounced that caution is recommended for all clinical decisions. Copyright 2013 American Association of Orthodontists. Published by Mosby, Inc. All rights reserved.
Publication Type: Comparative Study. Journal Article. Research Support, Non-U.S. Gov't.
Date Created: 20130603
Year of Publication: 2013

<9>
Unique Identifier: 23507679
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**Status**
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**Title**
Prevalence of traumatic dental injuries and associated factors among Brazilian schoolchildren.

**Source**

**Abstract**
PURPOSE: To assess the prevalence of traumatic dental injuries to permanent anterior teeth in 9- to 14-year-old schoolchildren attending public schools in Anapolis, Brazil, and to investigate the association between the occurrence of these injuries and the size of incisal overjet and type of lip coverage.

MATERIALS AND METHODS: A cross-sectional survey and a two-stage cluster sampling technique were used. The sample size included 765 9- to 14-year-old schoolchildren. Data were collected through clinical examinations and interviews carried out by a trained, calibrated dentist. Oral examinations dealt with the type of traumatic dental injury (TDI), the treatment received, the size of incisal overjet and the type of lip coverage. The teeth examined were maxillary and mandibular incisors.

RESULTS: A 16.5% prevalence of dental trauma was found. Boys experienced double the number of girls’ injuries. The maxillary central incisors were the teeth most affected, totaling 84.8%. The most frequent type of injury found was enamel fracture (66%), followed by enamel-dentin fracture (27%) and enamel cracks (5%). Only 26% of traumatised teeth were restored. Children with an overjet size > 3 mm were 1.78 times (CI= 1.18 - 2.69) more likely to have a dental injury than children with an overjet size <= 3 mm. Children with inadequate lip coverage were 2.18 times (CI= 1.27 - 3.76) more likely to experience dental trauma than children whose lip coverage was adequate.

CONCLUSION: This study shows that the prevalence of traumatic dental injuries among schoolchildren in Anapolis, Brazil is similar to that of other regions in Brazil. The teeth most affected by dental trauma are the maxillary central incisors. Boys run a 2.03-times higher risk of crown fracture than girls, and children with an overjet size > 3 mm are 1.78 times more likely to have dental injuries. In addition, children with inadequate lip coverage are 2.18 times more likely to present traumatic dental injuries than children with adequate lip coverage.

**Publication Type**
Journal Article.

**Date Created**
20130319

**Year of Publication**
2013

**Unique Identifier**
23660820

**Status**
MEDLINE

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**Title**
An uprighting auxiliary for deeply impacted mandibular molars.

**Source**

**Local Messages**
THIS JOURNAL IS AVAILABLE IN THE BDA LIBRARY

**Publication Type**
Case Reports. Journal Article.

**Date Created**
20130510

**Year of Publication**
2013

**Unique Identifier**
23540627

**Status**
MEDLINE

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**Title**
Indirect usage of miniscrew anchorage to intrude overerupted mandibular incisors in a Class II patient with a deep overbite.

**Source**
Vertical dentoalveolar discrepancies are a common problem in orthodontic patients but are often difficult to treat with traditional mechanics. This case report illustrates the successful treatment of overerupted mandibular incisors via the indirect use of miniscrew anchorage. A woman (age, 22 years 9 months) had chief complaints of maxillary incisor protrusion and crooked teeth. An excessive curve of Spee caused by elongation of the mandibular incisors was also found. The patient was diagnosed with a severe Class II Division 1 malocclusion and a deep overbite. After extraction of the mandibular first premolars and the subsequent leveling phase, the elongated incisors were intruded with a novel method, which involved the combined use of sectional archwires and miniscrews placed in the premolar areas. After the procedure, the mandibular incisors had been intruded by 6.5 mm with no undesirable side effects. The total active treatment period was 42 months. The resultant occlusion and satisfactory facial profile were maintained after 30 months of retention. Our novel intrusion approach shows potential for correcting a deep overbite. Copyright 2013 American Association of Orthodontists. Published by Mosby, Inc. All rights reserved.

INTRODUCTION: The aim of this study was to investigate whether proclination of the maxillary central incisor near a cleft leads to gingival recession in patients born with unilateral cleft lip and palate. METHODS: Forty patients with unilateral cleft lip and palate were retrospectively enrolled. By using intraoral slides, casts, and cephalograms, changes in gingival recession and proclination were measured. The 2-sample t test, correlation, and stepwise logistic regression analyses were applied. RESULTS: There were statistically significant differences in proclination variations between subjects with and without increased gingival recession (P<0.0001). A positive correlation was shown between proclination and gingival recession. Bone grafting during treatment resulted in a significant difference in gingival recession (P<0.05). Every 2 of increase in the angle between the long axis of the maxillary central incisors and the sella-nasion plane had a 3.06 times greater risk for gingival recession (odds ratio, 3.06; 95% confidence interval, 1.329-7.046; P= 0.0086). CONCLUSIONS: Proclination of the maxillary central incisor adjacent to the cleft is positively correlated with gingival recession in patients with unilateral cleft lip and palate. Proclination should be limited to prevent gingival recession and its esthetic and functional problems. It is better for a borderline cleft patient to have orthognathic surgery rather than camouflage treatment. Bone grafting during treatment might benefit gingival recession. The angle between the long axis of the maxillary central incisors and the sella-nasion plane is considered the strongest predictor of gingival recession. Copyright 2013 American Association of Orthodontists. Published by Mosby, Inc. All rights reserved.
Over-bite and vertical changes following first premolar extraction in high angle cases.

Source

Abstract
AIMS AND OBJECTIVES: Orthodontists generally agree that nonextraction treatment is associated with downward and backward rotation of the mandible and an increase in the lower anterior face height (LAFH). They also agree that extraction line of treatment is associated with upward and forward rotation of the mandible and decrease in the LAFH. The intent of this cephalometric investigation was to examine the wedge hypothesis, that the vertical dimension collapses after first bicuspid extraction. The present study was undertaken to evaluate the cephalometric overbite and vertical changes following first premolar extraction in high angle cases.

MATERIALS AND METHODS: Forty-five adult patients having high mandibular plane angle, i.e. Gogn--SN more than or equal to 32 having class I molar and canine relation were included. Pre and post-treatment lateral cephalograms were measured and compared to analyze the cephalometric changes.

RESULTS: There was no decrease in the overbite and vertical changes following first premolar extraction in high angle cases.

CLINICAL SIGNIFICANCE: The facial complex does increase in size with growth, but mandibular plane while moving inferiorly, remain essentially parallel to its pretreatment position due to residual growth and treatment mechanics.

CONCLUSION: The study concluded that, There was no decrease in the vertical facial dimension, overbite and mandibular plane angle. However, it should be interpreted with caution, given the small sample size.
This paper describes the clinical orthodontic treatment of two cases treated by the recipient of the 2010 Membership in Orthodontics William Houston Gold Medal of the Royal College of Surgeons of Edinburgh. The first case describes a three-phase treatment approach to correct a class II division 2 malocclusion on a non-extraction basis. The second case describes the treatment of a class III malocclusion with a notable unilateral crossbite using a quad-helix, a single premolar extraction and upper and lower pre-adjusted fixed appliances.

**Publication Type**
- Case Reports. Journal Article.

**Date Created**
- 20120917

**Year of Publication**
- 2012

**<16>**
- Unique Identifier: 23395896
- Status: MEDLINE
- Authors: Tai K. Park JH. Tanino M. Ikeda K.
- Authors Full Name: Tai, Kiyoshi. Park, Jae Hyun. Tanino, Masahiro. Ikeda, Kazuhisa.
- Institution: Arizona School of Dentistry and Oral Health, Mesa, AZ 85206, USA.
- Title: Bimaxillary dentoalveolar protrusion treated with lingual appliances and temporary anchorage devices.
- Local Messages: THIS JOURNAL IS AVAILABLE IN THE BDA LIBRARY

**<18>**
- Unique Identifier: 23413639
- Status: MEDLINE
- Authors: Al-Falahi BA. Hammad SM. El-Kenawy MH. Fouda MA.
- Authors Full Name: Al-Falahi, Bilal A. Hammad, Shaza M. El-Kenawy, Mohammed H. Fouda, Maher A.
- Institution: bilalm2004@yahoo.com
- Title: Intrusion of maxillary incisors by mini-screw anchorage of Angle Class II division 2 malocclusion cases.
- Abstract: OBJECTIVES: to evaluate the effects of the upper incisor teeth intrusion by mini-screw on the amount of overbite and on the dental and skeletal parameters of the jaws.

MATERIAL AND METHODS: Ten patients were selected from the outpatient clinic of the Department of Orthodontics, Faculty of Dentistry, Mansoura University with Angle's Class II division 2 malocclusions. Ages ranged from 13 to 19 years with deep overbite of 4mm or more requiring intrusion of the maxillary incisors. Alignment of the upper and lower dental arches was done with a pre-adjusted edgewise technique, then a mini-screw as anchorage for the intrusion of the upper incisor segment was inserted for every patient below the anterior nasal spine connected to a utility arch wire.
RESULTS: The overbite was corrected from 6 mm to 1.8 mm (p<.001) by upper incisor intrusion and the gummy smile was improved. No extrusion of upper first permanent molars was observed.

CONCLUSIONS: The maxillary incisors were effectively intruded by using miniscrews as orthodontic anchorage. Good occlusion and facial esthetics were achieved with no counteactive movements in the molars.

Abstract
A Class II division 2 incisor malocclusion may be a cause of aesthetic and/or functional concern for some affected patients. Their particular concerns may include dark spaces around the misaligned teeth or uneven gingival contours. Orthodontic and/or orognathic treatment can address some of these problems but frequently involves lengthy and expensive treatment in the adult dentition. Sadly, such treatment often produces an unstable result, with significant drawbacks such as the requirement for long-term retention. This article aims to describe alternative strategies for managing patients with this incisor malocclusion. Clinical Relevance: This paper outlines a quicker, pragmatic and minimally destructive restorative treatment alternative to conventional orthodontic treatment and the associated long-term retention.