

### **Effect of rapid maxillary expansion on nocturnal enuresis.**

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One of the effects of rapid maxillary expansion (RME) is a reduction in nighttime bed-wetting. The aim of this prospective study was to investigate the effects of RME on nocturnal enuresis (NE) in children who are liable to psychosocial stress conditions. Eight children (six boys and two girls) who had not responded to different conventional medical treatments were included in the study. The subjects were between eight and 11 years of age with a mean age of nine years five months, and were residents of a government orphanage. All the children wet the bed at least one time every night and previously had been subjected to unsuccessful conventional treatment modalities. Maxillary expansion was performed using a rigid acrylic RME device. Lateral and PA cephalometric films and dental casts were used in the assessment of the dentofacial and nasopharyngeal structures. Data were analyzed using a paired t-test. In seven of the eight children, remarkable improvement was observed in NE after three to six mm RME. At the end of eight months observation, the mean rate of improvement in bed-wetting in the seven successful subjects was 74.2% (57.6-87.5%). The findings also indicated significant changes in the nasomaxillary structures and nasopharyngeal airway dimensions with the use of RME. However, none of the subjects became completely dry, and the disorder is probably multicausal including psychological emotions and tensions. This study demonstrated that RME treatment could cause relief for the enuretic children. However, the long-term success rate is still questionable.

Erratum in:

- Eur J Orthod. 2004 Apr;26(2):235.

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**Social inequality and discontinuation of orthodontic treatment: is there a link?**

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The aims of this study were to investigate the effects of social inequality on the likelihood of patients discontinuing orthodontic treatment, and to determine which, if any, indicators of social inequality are of greater relevance. In this retrospective study of English and Welsh General Dental Services (GDS) cases, consecutive 'discontinued' cases collected at the Dental Practice Board (DPB) during 1990-91, were compared for age, treatment modality, and measures of social inequality, with a 2 per cent sample of cases contemporaneously submitted as 'complete'. Three deprivation indices, and occupation-based social class spectra of neighbourhoods, were compared between the groups. A model was sought to predict discontinuation/completion using logistic regression analysis. The discontinued sample represented lower social stratum spectra for home and practice areas under all indicators tested, and the subjects were a little older at the start of treatment. Fewer were treated by orthodontically qualified practitioners or with fixed appliances, but more with extra-oral traction. Occupation-based classification (patient's home) and the Carstairs Index (practice area) were selected by the analysis as explaining more of the variation than other measures of social inequality, but the model failed to predict the discontinued cases. Lower social class may be a risk factor for discontinuation of orthodontic treatment, but is not a predictor for it. Patients should be considered for, and counselled about, orthodontic treatment on an individual basis. Occupation-based social classifications and the Carstairs Index may be a little more sensitive to orthodontic applications than other indicators of social inequality.

J Public Health Dent. 2001 Summer;61(3):155-60.

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### **Measuring orthodontic treatment satisfaction: questionnaire development and preliminary validation.**

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**OBJECTIVES:** The aims of this study were to develop a reliable self-report measure of consumer satisfaction with orthodontic treatment, and to preliminarily assess its validity. **METHOD:** Transcripts of qualitative interviews with patients, their parents, and practicing orthodontists together with items from existing dental satisfaction questionnaires were used to develop a pool of 41 items assessing satisfaction with various aspects of orthodontic care. These items were paired with five-point Likert scales (1 = strongly disagree, 5 = strongly agree) and were administered to 299 parents of children who had completed orthodontic treatment at two university-based clinics. **RESULTS:** Factor analyses and reliability

analyses identified three main subscales with high reliabilities: 13 items assessing satisfaction with treatment process (Cronbach's alpha = .92), seven items assessing satisfaction with psychosocial effects of treatment (Cronbach's alpha = .87), and five items assessing satisfaction with overall treatment outcome (Cronbach's alpha = .79). Relationships among these three subscales and pre- and posttreatment variables were examined in a subset of 86 parents/patients. Forward stepwise regression with backward overlook revealed no significant relationships between any satisfaction subscale and demographic variables. Posttreatment overjet was inversely related to parental satisfaction with orthodontic treatment process ( $R^2 = .13$ ;  $P < .001$ ), and parent satisfaction with treatment outcome ( $R^2 = .28$ ;  $P < .0001$ ). Improvement in esthetics as measured by improvement in IOTN Aesthetic Component scores was positively related to satisfaction with psychosocial outcomes ( $R^2 = .28$ ;  $P < .0001$ ). CONCLUSIONS: The present instrument is reliable and can be used to assess three dimensions of parental satisfaction with their child's orthodontic treatment. Relationships between visible orthodontic outcome variables and parent satisfaction provide preliminary validity support for the instrument.

Eur J Orthod. 2000 Oct;22(5):509-18.

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### **Relationship between occlusion and satisfaction with dental appearance in orthodontically treated and untreated groups. A longitudinal study.**

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The aims of this study were to assess the relationship between occlusion, satisfaction with dental appearance, and self-esteem at the ages of 11 (T1) and 15 years (T2), and to study perceived treatment effects. Separate questionnaires were completed by children and their parents to determine their attitude. The dental casts of 224 children were collected at T1 and T2, and assessed by the Aesthetic Component (AC) and Dental Health Component (DHC) of the Index of Orthodontic Treatment Need (IOTN), and Peer Assessment Rating (PAR) Index. At T2, 16 children had been treated with removable and 51 with fixed appliances, while 157 were untreated. The children in the fixed appliance group had better dental aesthetics (AC) and occlusion (DHC) than those in the two other groups. Average PAR score reduction was 71.6 per cent (T1-T2) and satisfaction with own or child's dental appearance increased significantly. The untreated group showed increased malocclusions. In spite of that, the children expressed higher satisfaction with their own dental appearance at T2 than at T1, while the parents' satisfaction level was unchanged. For the total group, orthodontic concern at T1, AC at T2, and gender accounted for 18.0 per cent of the variation in the children's

satisfaction with their own dental appearance. Parents' concern at T1 and AC at T2 accounted for 32.2 per cent of the variation in parents' satisfaction. Improvement in self-esteem from 11 to 15 years was not correlated with treatment changes. A gender difference was found. The answers to the questionnaire indicated that both children and parents rate pleasant aesthetics as an important factor for psychosocial well being.

Int J Adult Orthodon Orthognath Surg. 1999;14(2):113-24.

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### **Psychosocial predictors of high-risk patients undergoing orthognathic surgery.**

[Scott AA](#), [Hatch JP](#), [Rugh JD](#), [Rivera SM](#), [Hoffman TJ](#), [Dolce C](#), [Bays RA](#).

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The purpose of this analysis was to identify a set of predictor variables that are prospectively related to postsurgical outcomes. Specifically, psychosocial characteristics were sought to predict postsurgical outcomes. The 5 Revised Symptom Checklist-90 (SCL-90-R) scales, the neuroticism score of the Eysenck Personality Inventory (EPI), the psychosocial domain score from the Sickness Impact Profile (SIP), and 4 scales from the Oral Health Status Questionnaire (OHSQ) were used as the predictors. A total of 31 male and 86 female subjects participated in this multicenter randomized trial, which compared rigid and wire fixation. Data were collected prior to placement of orthodontic appliances, 1 to 2 weeks presurgery, and at 1 week, 8 weeks, 6 months, and 2 years after surgery. Baseline oral health was used as an indicator of postsurgical oral health functioning. A path analytic model of influences on presurgical oral health was estimated ( $R^2 = 0.43$ ). The results suggest that presurgical screening of demographic characteristics (age, sex, and ethnicity), oral health (the OHSQ), quality of life issues (SIP), and personality features (SCL-90-R), accounts for 23% to 39% of the variance in postsurgical oral health outcomes. The path analysis conducted suggests that a patient's age, ethnicity, gender, and elevated scores on the EPI have indirect effects on postsurgical health. As determined by a 2-stage least squares regression model, 3 variables--the patient's presurgical oral health (per the OHSQ), pre- and postsurgical Global Severity Index (GSI) score from the SCL-90-R, and the psychosocial scale score from the SIP--were found to have a statistically significant impact on postsurgical outcomes. Additionally, the GSI, SIP, and OHSQ are reliable measures in predicting oral health outcomes.

J Orofac Orthop. 1997 Feb;58(1):44-61.

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## **Subjective assessment of dental and psychosocial effects of orthodontic treatment.**

[Article in English, German]

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The aims of the study were to relate patient satisfaction and perceived psychosocial benefit to professional assessed treatment and long-term outcome. Questionnaires were mailed to 250 patients treated previously in a postgraduate clinic. The response rate was 79%, and the mean age was 28.3 years. Professionally defined outcome was assessed according to the Index of Orthodontic Treatment Need (IOTN) and the Peer Assessment Rating (PAR) index applied to dental casts at the start of treatment (T1), at the end of active treatment (T2) and 5 to 10 years out of retention (T3). Data from 177 cases were used in comparison analysis between patients' and orthodontists' assessments. There was high patient satisfaction with dental appearance (87.0%) and treatment results (77.4%). The aesthetic component of IOTN at T2, PAR score at T3, extraction/non-extraction, pre-treatment concern for dental appearance, sex and treatment time accounted for 33% ( $R^2 = 0.33$ ) of the variability of satisfaction with own dental appearance. Explanatories for self-perceived psychosocial benefit of treatment were pre-treatment concern for dental appearance, aesthetic component at T1 and T3 and PAR score at T3, ( $R^2 = 0.22$ ). Stepwise logistic regression analysis selected change in upper anterior segment (T3-T2) as the most important component of PAR index features for grouping satisfied and dissatisfied individuals (Odds ratio = 0.65) together with satisfaction with own dental appearance (Odds ratio = 7.28). The results indicate some discrepancies between professionally assessed outcome and patient satisfaction and perceived psychosocial benefit. The aesthetic component was a stronger indicator for patient satisfaction and perceived benefit than the PAR index.

J Behav Med. 1994 Feb;17(1):81-98.

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## **Psychological and social effects of orthodontic treatment.**

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Adolescents with commonly occurring forms of malocclusion often are presumed to be at risk for negative self-esteem and social maladjustment. A randomized

control group design was used to assess the psychosocial effects of orthodontic treatment for esthetic impairment. Ninety-three participants, 11 to 14 years old, with mild to moderate malocclusions, were randomly assigned to receive orthodontic treatment immediately or after serving as delayed controls. A battery of psychological and social measures was administered before treatment, during treatment, and three times after completion of treatment, the last occurring one year after termination. Repeated measures analyses of variance assessed group differences at the five time points. Parent-, peer-, and self-evaluations of dental-facial attractiveness significantly improved after treatment, but treatment did not affect parent- and self-reported social competency or social goals, nor subjects' self-esteem. In summary, dental-specific evaluations appear to be influenced by treatment, while more general psychosocial responses are not.

Soc Sci Med. 1989;28(6):583-91.

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### **An evaluation of the psychological and social effects of malocclusion: some implications for dental policy making.**

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Initial findings are reported from a longitudinal study investigating the effects of malocclusion on dental health and psychological well-being and the effectiveness of orthodontic treatment. Implicit in the orthodontic intervention decision process is the view that there are discernible social and psychological benefits of good occlusion. This view has not been adequately validated. The primary psychological question addressed by this study concerns the relationship between adolescents' orthodontic status and their psychological status and well-being. Empirical evidence allowed an examination of the major hypothesis that children with poor occlusion are likely to be socially and psychologically disadvantaged. Ratings of dental status and physical attractiveness, and measures of psychosocial well-being were obtained for sample of 1018, 11-12-year-old children and the associations between these variables were examined. The results provide little support for the major hypothesis that children 'suffer' psychologically from having poor dentition. Several points of caution are made with regard to this conclusion and some implications for dental policy making are considered.