

## ABSTRACTS

### External bleaching effect on the colour and luminosity of inactive white-spot lesions after fixed orthodontic appliances

Knösel, M., Attin, R., *et al.*

#### Abstract

#### Objective

To evaluate the effect of external bleaching on the colour and luminosity of inactive white-spot lesions (WSLs) present after fixed orthodontic appliance treatment, as a means for achieving colour matching of the WSLs with adjacent tooth surfaces.

#### Materials and methods

Ten patients with inactive WSLs after therapy with fixed orthodontic appliances were selected. At baseline, the lightness of maxillary incisors and canines was assessed with a colorimeter. Colour determinations were performed in the area of the initial lesions (F1) and at adjacent, sound enamel areas (F2). Then, anterior teeth were bleached once with a bleaching gel for 60 minutes. After a break of 14 days, in-office bleaching was followed by a two-week home bleaching period with daily home bleaching for one hour. After this, colour determinations were repeated. Additionally, patients were asked to fill out a questionnaire to provide information about their degree of contentment with the treatment.

#### Results

The lightness values of both the F1 and F2 regions were significantly higher after bleaching as compared with baseline. F2 L-values increased significantly more as compared with F1, indicating a better colour matching of these two areas in comparison with baseline. All patients were satisfied with the outcome of the bleaching therapy.

#### Conclusion

External bleaching is able to satisfactorily camouflage WSLs visible after therapy with fixed orthodontic appliances.

The Angle Orthodontist, 2007, volume 77, issue 4, pages 646-652.

### Infant orthopaedics and facial appearance: a randomised clinical trial (Dutchcleft)

Prahl, C., Prahl-Andersen, B., *et al.*

#### Objective

To study the effect of infant orthopaedics on facial appearance.

#### Design

Prospective two-arm randomised controlled trial in parallel with three participating academic cleft palate centres. Treatment allocation was concealed and performed by means of a computerised balanced allocation method.

#### Setting

Cleft Palate Centers of Amsterdam, Nijmegen, and Rotterdam, the Netherlands.

#### Patients

Infants with complete unilateral cleft lip and palate, no other malformations.

#### Interventions

One group (IO+) wore passive maxillary plates during the first year; the other group (IO-) did not.

#### Main outcome measure(s)

Two metrical response modalities were used (i.e., visual analogue scales and reference scores) to score facial appearance. Full face and cropped photographs were compared with reference photographs and were judged. The photographs were judged by 45 judges: 24 laypeople and 21 professionals. Transformation of the scores into z-scores was applied to compare and to pool both response modalities. The validity of each individual judge was evaluated, as was the reliability of the scales. Differences between the treatment groups were evaluated by means of t-tests.

#### Results

Photographs were available of 41 subjects, 21 with and 20 without infant orthopaedics. No significant differences were found between groups. Mean z-score values for the full-face photographs were: group IO+ = 0.10 (SD = 0.73) and group IO- = -0.03 (SD = 0.48); for the cropped photographs values were: group IO+ = 0.12 (SD = 0.71) and group IO- = -0.06 (SD = 0.55).

#### Conclusions

Infant orthopaedics have no effect on facial appearance.

The Cleft Palate-Craniofacial Journal, 2006, volume 43, issue 6, pages 659-664.

## Post-natal stem cells for dental and craniofacial repair

Robey, P.G.

The postnatal bone marrow contains a subset of stromal cells (skeletal stem cells) that have the ability to form bone, cartilage, haematopoietic stroma, adipocytes and perhaps other tissues as determined by clonal analysis and in vivo transplantation into immunocompromised mice. Similar, but not identical, cells have also been isolated from peripheral blood, although they are rare in humans. Dental pulp of permanent and deciduous teeth, and periodontal ligament, also contain stem cells that have the ability to regenerate a dentin/pulp-like complex, and cementum and periodontal ligament-like structures, respectively. Using appropriate ex vivo expansion conditions and scaffolds, animal models have been created to demonstrate the efficacy of ex vivo expanded populations that contain skeletal stem cells to regenerate a number of tissues. With these techniques in hand, it is possible to consider the recreation of a viable tooth and supporting structures for restoration of normal masticatory function.

Oral Biosciences & Medicine, 2005, volume 2, issue 2, pages 83-90.

## The atraumatic restorative treatment (ART) approach for managing dental caries: a meta-analysis

van 't Hof, M.A., Frencken, J.E., *et al.*

### Abstract

The number of publications reporting on the survival of atraumatic restorative treatment (ART) sealants and ART restorations has increased considerably in recent years. A systematic investigation of their longevity is therefore warranted. Based on three exclusion criteria, a literature search in the electronic libraries Pubmed and Medline revealed 28 eligible publications for inclusion in a meta-analysis. High mean survival rates for single-surface ART restorations using high-viscosity glass-ionomer in primary dentitions over three years were found (95% after one year to 86% after three years). These rates were statistically significantly higher than for those of multiple-surface ART restorations in primary dentitions ( $p < 0.0001$ ). High mean survival rates for single-surface ART restorations using high-viscosity glass-ionomer in permanent dentitions over six years were found (97% after one year to 72% after six years). The mean annual failure rates for single-surface ART restorations using high-viscosity glass-ionomer in primary and permanent dentitions, and for multiple-surface ART restorations in primary dentitions, are 4.7%, 4.7% and 17%, respectively. The number of studies reporting on the retention and caries preventive effect of ART sealants was low. It is concluded that single-surface ART restorations using high-viscosity glass-ionomer in both primary and permanent dentitions show high survival rates. Medium-viscosity glass-ionomer should not be used for ART restorations.

International Dental Journal, 2006, volume 56, issue 6, pages 345-351.