



Choice of functional appliance therapy – Is there any difference in treatment outcome ?



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Aims

- To compare changes during treatment and follow-up of skeletal Class II malocclusion treated with a Removable and a Fixed Functional Appliance, respectively.
- Comparison between the present study and a Randomised Clinical Trial (Tulloch et al., 1995,2004) which comprised three samples, one with one phase fixed appliance, one with two phase Bionator and one with two phase Headgear was also carried out.

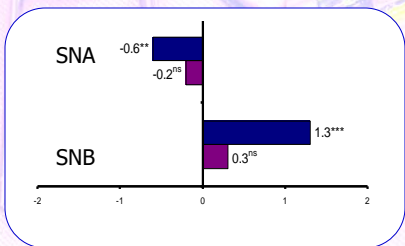
Subjects

16 consecutive male patients (mean age=11.6) treated with Headgear activator (T0-T2) were compared to 16 matched male patients (mean age=12.6) treated with Herbst Appliance (T0-T1) plus Andresen activator (T1-T2) selected from a large prospective study.

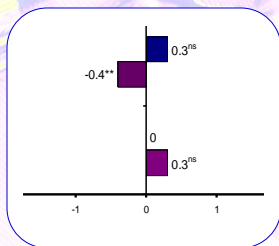
Methods

- Lateral cephalograms were obtained at start (T0), after 6 months (T6) and 12 months (T12) of treatment, and after 24 months follow-up (T36).
- All lateral cephalograms were analysed twice, the average of the two sets of data was taken for statistical analysis.
- Interpolations were made to obtain data representing exactly the same length of observation periods.

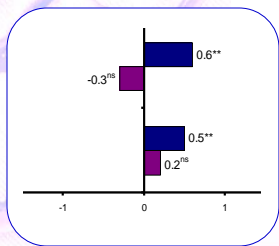
Results Statistical significant change: ■■ ; not statistical significant change: □□



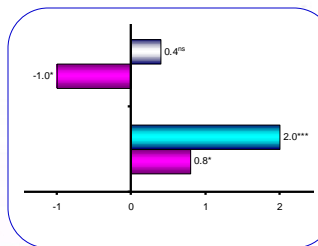
Treatment changes T0-T6



T6-T12



T12-T36



T0-T36

Conclusion: 1. Treatment with removable and fixed orthodontic devices not only modify growth in the short term, but also seemed to have the potential to cause permanent changes in the prognathism of both jaws.

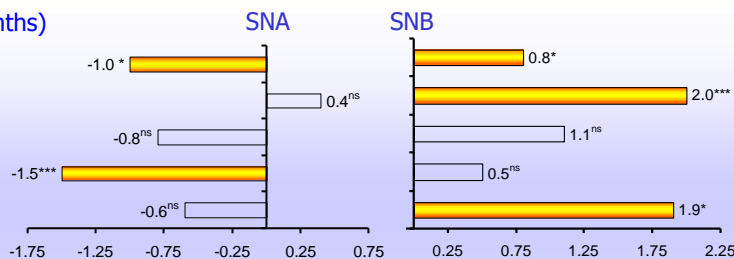
Comparison of treatment changes with Tulloch et al., 1995, 2004 with regards to maxillary and mandibular prognathism

Present Study (36-37 mths)

Headgear activator
Herbst + Andresen

RCT (41-50 mths)

Fixed
Headgear + Fixed
Bionator + Fixed



Statistical significant change: ■■ ; not statistical significant change: □□

ns- not significant, *p<0.05; **p<0.01; ***p<0.001

Discussion. Comparison with the RCT supports our observation that different orthodontic devices and treatment concepts affected maxillary and mandibular prognathism in different ways.

Conclusion: 2. Decreased prognathism in both jaws was observed in patients treated with Headgear compared to an increase in prognathism in those treated with functional appliance. No change in the prognathism in either jaw was found in patients treated with fixed appliance only.