# ABSTRACT SECTION

## 1. Functional treatment of snoring based on the tongue-repositioning manoeuvre

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### Abstract

Orofacial biofunction comprises muscular and physical effects, which may contribute to stabilization of the oropharyngeal airway. The tongue-repositioning manoeuvre (TRM) provides physical stabilization of the tongue and the soft palate together with, as a prerequisite, a nasal breathing mode. The aim of the present study was to evaluate the influence of a TRM treatment concept on primary snoring.

The TRM was used to achieve a closed biofunctional rest position of the orofacial system and to re-educate the nasal breathing pattern. Pressure indicating oral shields were used for home exercises as a biofeedback instrument and to support nocturnal mouth closure. Treatment was undertaken on 125 consecutive primary snorers [101 males, mean age 52.4 years, range 34–75, mean body mass index (BMI) 28.1, range 18.9–38.5, and 24 females, mean age 55.2 years, range 36–70, mean BMI 26.8, range 22.7–31.9]. Bed partner ranking was performed, and snoring was judged using a 10-cm visual analogue scale (VAS).

The VAS score was 8.4 (range 6–10) before treatment and decreased to 4.1 (range 0–10) after treatment [mean observation time 4.6 months (1–10)]. Analysis of variance showed a significant influence of treatment in subjects with a normal body weight (BMI 18.5–25).

The data provide evidence that dynamic stabilization of the orofacial system with the TRM in conjunction with nocturnal wear of an oral shield is beneficial for reducing the symptoms in primary snorers with a normal BMI.

## 2. Effects of the zygoma anchorage system on canine retraction

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### Abstract

The aim of this study was to compare the effects of the Gjessing (PG) retraction spring used with and without the zygoma anchorage system (ZAS) on canine retraction.

Thirty patients, with an Angle Class I or Class II malocclusion, whose upper first premolars were scheduled for extraction, were divided into two equal groups. Group 1 comprised maximum anchorage cases (nine females and six males with a mean age of 16 years 8 months) in which the ZAS was used to improve posterior anchorage and the PG retraction springs for canine retraction. Moderate anchorage cases (10 females and 5 males with a mean age of 15 years 5 month) were included in group 2 and canine retraction was achieved using only PG retraction springs. Study models and lateral cephalometric radiographs obtained at the initial and final stages of canine retraction were used for comparison of the groups to determine the effects of zygoma anchorage on canine retraction. All measurements were evaluated statistically using a Student's *t*-test, 2 × 2 repeated measures analysis of variance, Bonferroni-adjusted *t*-test, and Mann–Whitney *U* and Wilcoxon tests according to the normality of the distribution of the variables.

Mesial crown movement of the molars was 0.63 mm ($P < 0.05$) in group 1 and 1.50 mm ($P < 0.001$) in group 2. There was a statistically significant difference ($P < 0.05$) between the groups. No significant difference was observed between the groups for the rate of canine retraction or sagittal and vertical movement of the canines.

The ZAS is a reliable and successful anchorage reinforcement method for canine retraction in extraction cases.