

Dental side effects of mandibular advancement appliances - a 2-year follow-up.

[Article in English, German]

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Source

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Abstract

BACKGROUND AND OBJECTIVES:

Mandibular advancement appliances are employed in treating snoring and various forms of obstructive sleep apnea syndrome (OSAS). The splints facilitate the displacement of the mandible anteriorly and widens the pharyngeal lumen during sleep. Two-splint systems are anchored on the dental arches in the maxilla and mandible. The resulting reciprocal forces are transferred onto the teeth, leading to dental side effects when used long-term. We retrospectively examined the dental changes that occurred after patients had worn the Thornton Adjustable Positioner (TAP) for over two years.

PATIENTS AND METHODS:

We enrolled all patients consecutively in whom the diagnosis of OSAS was made following polysomnography in a sleep laboratory between January 2004 and December 2005 and who had been treated primarily with a TAP. We compared the patients' baseline findings with follow-up findings after more than 24 months of continuous appliance wear.

RESULTS:

24/47 of the patients were still wearing the splints regularly after an average of 33 +/- 9.1 months. Overbite was highly significantly reduced ($p = 0.006$). We noted a reduction in the frontal overbite of more than 1 mm in ten patients (47.6%), and the overbite of one patient decreased by 4 mm. The maxillary front teeth showed significant palatal tipping and those in the mandible significant labial tipping.

CONCLUSIONS:

Clinically small but statistically significant dental side effects predominantly affecting the incisors' inclination occur after long-term wear of a TAP appliance. The clinical relevance of these dental changes to the patient can only be judged individually within the scope of an entire assessment.