



Dr. Werner Schupp & Dr. Oliver Ahlers

Germany

Orthodontic follow-up treatment with aligners after successful functional therapy

Patients with craniomandibular dysfunction (CMD) may present with misalignments of individual teeth or entire groups of teeth. These can play an important role in the pathogenesis of CMD, regardless of the various hypotheses regarding its aetiology.

In such cases, a multi-stage functional diagnostic process is first carried out – now using digital systems such as CMDfact for data acquisition and analysis. This should lead to a structured diagnosis that, in turn, forms the basis for functional therapy using occlusal splints to relax the jaw musculature while establishing a physiological temporomandibular joint position. Changes in muscle tone during functional therapy and/or the resolution of capsulitis/synovitis with a reduction in associated swelling may subsequently alter the condyle position. This requires corresponding adjustments of the occlusal splint. Functional therapy is successfully completed once symptoms have resolved and a stable jaw position can be measured. Only if a malocclusion is evident in this situation without the occlusal splint (e.g. a posterior open bite) is follow-up treatment required. In cases of caries-free teeth without restorative needs, orthodontic correction of those teeth that geometrically prevent even occlusion in the therapeutic jaw position may be considered. The aim of the presentation is to demonstrate how such situations can be treated using aligners.

To this end, we will present patients for whom, despite challenging initial conditions, we established a structured diagnosis based on multi-stage functional diagnostics, initiated functional therapy, and successfully completed it. At the end of this process, the patients in question were symptom-free while wearing a positioning splint. Without the positioning splint, a posterior open bite becomes apparent in a physiological joint position and is caused primarily by an orthodontic misalignment of the anterior teeth.



Dr. Werner Schupp & Dr. Oliver Ahlers

Germany

Orthodontic follow-up treatment with aligners after successful functional therapy

The core of the presentation is the translation of this situation into a digital treatment plan as the technical basis for the subsequent simulation of tooth movement while maintaining the corrected joint position as a prerequisite for long-term stability without the need to wear an occlusal splint.

A key challenge is maintaining the jaw position during aligner wear. We will discuss the available options for achieving this.