

**Maxillomandibular Relationship in TMD
Patients Before and After Short-Term Flat
Plane Bite Plate Therapy**

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ABSTRACT: This study assessed the maxillomandibular relationship in temporomandibular disorders (TMD) patients, before and after short-term, flat plane bite plate therapy. It was of interest to determine the incidence and degree of mandibular deviation in a group of TMD patients and whether the mandible would shift to the midline and consequently affect reported symptoms. Seventeen female and three male subjects (age range 19-60) were included in the study. Thirteen subjects were diagnosed with myofascial pain while seven were diagnosed as exhibiting disk displacement with reduction (Research Diagnostic Criteria). After taking impressions for these subjects, casts were fabricated and mounted.

Maxillomandibular relationship was evaluated by the Denar entric Check system (Anaheim, CA). The maxillary and mandibular labial frena were used as a reference to evaluate mandibular shift. Symptom questionnaires were used to assess temporomandibular joint pain and clicking. All subjects exhibited deviation (12 subjects to the right and 8 subjects to the left) prior to bite plate therapy. After flat plane bite plate therapy, the mandibular position of all subjects shifted toward the labial frenum midline position.

Based on the Binomial test, the shift was significant ($p < 0.001$). Measurements on the Centric Check system showed a significant movement of both condyles in the antero-posterior plane as well as the vertical plane. There was also significant reduction in TMJ pain and clicking ($p < 0.01$). The results support the hypothesis that the balanced position of the mandible is with frena aligned. When occlusal obstructions are eliminated, the mandible will drift to this position.