

stress showed a wide variation. Mean stiffness was three times of proper one, and mean stress was double of the fatigue limit of Co-Cr alloys. Only 6 clasps of 23 were regarded to be appropriate in both stiffness and stress. This variation might be caused by the lack of science-based criteria of a preferable shape of I-bar clasps.

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### Case Report on Jaw Opening Limitation with No Disc Displacement of the TMJ-Arthroscopic Findings and Mandibular Tracking Pattern

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Two cases having opening limitation even though there were no disc displacement of the TMJ were pursued in this study. The first patient was a 41-year-old man(Case 1) and the other was a 43-year-old woman(Case 2). Both patients visited Tsurumi University Hospital with complaining of pain around the right temporomandibular joint during chewing and opening limitation. Ranges of opening motion were 24mm(Case 1) and 30mm(Case 2) respectively. They revealed no deformity of condyle on X-ray examination, and besides neither disc displacement and nor deformity of the disc on MRI. First of all, we performed splint therapy to reduce load to the TMJ, but, that was not effective. At this point of time, mandibular tracking at the incisal point was recorded. It showed unstable maximum opening position that could be evidence of fibrous adhesion of the synovial wall in high frequency. Thus we performed diagnostic arthroscopy under local anesthesia. In both cases, there were fibrous adhesion of the synovial wall in high frequency. Thus we performed diagnostic arthroscopy under local anesthesia. In both cases, there were fibrous adhesion of the synovial wall was detected, especially at the anterolateral portion of the upper joint compartment. So that, we performed arthroscopic surgery(lysis and lavag). Seven days later, the pain and dysfunction were alleviated. Three months later, ranges of opening motion were 48mm(Case 1) and 52mm(Case 2), and there was no evidence of limitation on mandibular tracking pattern. In addition, there were no morbid findings on X-ray examination and MRI. There has been no recurrence of sign and symptom for these 4 years.

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### Overlay Partial Denture with Stud Attachment

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When only a few teeth are remained overdenture or overlay partial denture is one of the choice of treatment in that situation. Periodontal condition of remaining teeth is usually not so good for supporting the load. In the case of anterior long span modification space of Kennedy class III, we have difficulty in fabricating and functional prostheses.

In these case the retention, stability & support of denture could be improved with stud attachment on anterior pier abutment. Lateral force applied on overdenture abutment teeth can be released by reducing the crown/root ratio, so we can be convinced of good prognosis of anterior pier abutment. Solving the unestet-