

Aim -To evaluate the effect of prosthetic framework material and cantilever length on peri-implant stresses in mandibular all-on-4 situation with different types of arch antagonist forces. . . **Methodology**- models simulating mandibular completely edentulous arch was fabricated in heat-cured acrylic resin. On the acrylic models four implants were placed in the region of 34, 32, 42, 44 simulating all on 4 implant placement. Implant-supported screw-retained fixed prosthesis frameworks were fabricated using three different material (cobalt chromium, zirconia, peek) and with three different cantilever length (0mm, 15mm, 25mm). Strain gauges (resistance 350 ohms, length 3 mm, factor 2.01) were attached buccal and lingual to each implants. Forces simulating opposing natural dentition, conventional complete denture and parafunctional habit was applied on the models. Peri implant strain in each strain gauge was recorded. . **Result** – least peri implant strains (67 microstrain) were observed when forces simulating conventional complete dentures was applied on the models and highest peri implant strains(9091 microstrain) were observed when forces simulating para functional habit was applied. . **Conclusion**- the type of framework material, cantilever length and the occlusal forces from opposing arch has an influence on peri implant strain in bone in all on four implant supported prosthesis.

DOI: 10.4103/0972-4052.246705

9. Effect of prosthetic framework material and cantilever length on peri-implant strain in all-on-four implant prostheses opposing different types of arch situation

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