

## Comparison Of One And Two Endosseous Implants In The Mandible

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**Purpose:** A mandibular complete denture supported by two implants is usually successful biologically and psychologically, but we do not know whether similar support and success can be achieved from one mandibular implant alone. Consequently, we designed this clinical trial to compare for one year the biological and subjective response of subjects who have complete dentures associated with one or two endosseous implants in the mandible.

**Methods & Materials:** 58 healthy self-selected subjects (27men; 31women) with technically acceptable complete dentures were assigned randomly to a group who received either one implant in the midline of the mandible, or one in both canine regions of the mandible. All implants were ad modum Straumann-ITI (Solid Screw, SLA surface), and inserted by one oral and maxillofacial surgeon. Two months after surgery, one prosthodontist connected the mandibular denture to the implants with a Straumann-ITI spherical stud Retentive Anchor and Gold matrix. Subjects were not charged for the treatment, and they recorded their satisfaction with the dentures on a visual analogue scale (VAS) at baseline, two months after connecting the dentures to the implants, and finally one year later. On each occasion the prosthodontist examined the mouth and dentures.

**Results:** To date, 28 subjects (12 men; 16 women) have used their dentures for one year with one implant each, and 30 subjects (15 men; 15 women) with two implants each. There is no significant difference in age or other demographic variables between groups. Four implants failed - all in subjects with two implants, and two in one subject. Two months after connecting the implants and dentures, satisfaction on the 1-100 VAS had increased significantly ( $p < 0.05$  Wilcoxon signed-rank test) by an average of 34 points in the 2-implant group, and by 51 points in the 1-implant group, which was not significantly different between groups. Overall, the increased satisfaction remained moderately stable for the following year.

**Conclusion:** The biological performance and psychological satisfaction offered by one and by two endosseous implants in the mandible were similar for a period of one year.