



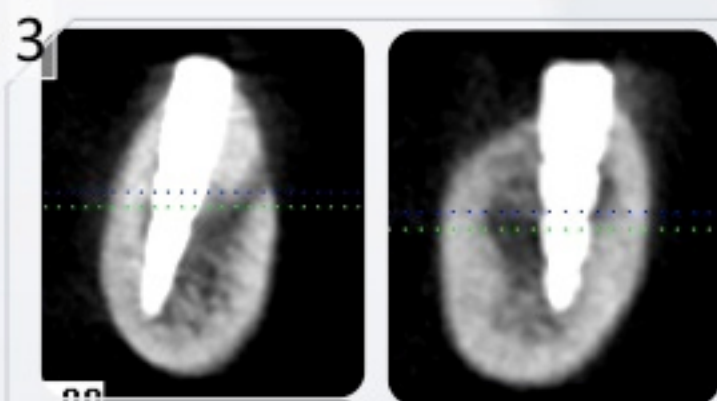
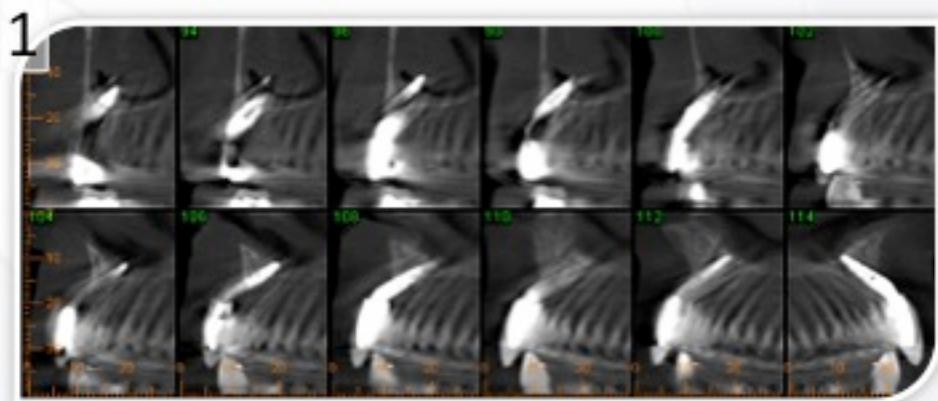
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**Introduction:** A wedge-shaped implant system (Bioform, Biomac Med, Juiz de Fora, Brazil) allow easy installation with good parallelism in places where bone topography would not allow installation of standard implants.

**Objectives:** This study aim is to determine, based on successful cases, general and area specific rates of implant usage in order to help surgery and stock planning.



**Figs 1,2 and 3:** Tc scan (Figs: 1 and 3) and superposition of figures (Fig: 2) showing adaptation of angled (Fig: 1 and 2) and straight (Fig: 3) wedge-shaped implants to reabsorbed alveolar bones. **Fig 4:** Straight wedge-shaped implant **Fig 5:** Angled wedge-shaped implants. Left: frontal angle of 25, 35 and 45 degrees. Right: lateral angle of 25, 40 and 55 degrees.

Sources: Bone photos: CRUZ RIZZOLO & MADEIRA 2004: Anatomia da face; Drawings: CRUZ, M 2006: Regeneração Guiada Tecidual

**Methods:** A retrospective review of clinical records was conducted of treated patients with those wedge-shape implants between mid-1992 and mid-2011 at the Clinest - Clinical Center of Research in Stomatology (Juiz de Fora, Minas Gerais, Brazil). Clinical histories were reviewed and data were gathered on clinical and radiographic examinations. A record was kept on angle (degrees and position) and length of the implant. Only implants that did osseointegrated and showed no permanent adverse effects such as permanent paresthesia, were included.

**TABLE 1:** Most frequent implant types. S13, S15 and S17 stands for straight 13, 15 and 17mm long implants respectively. FA25°13 and FA35°15 stands for 25° frontally angled, 13mm long implants and 35° frontally angled, 15 mm long implants, respectively.

Implant Site	Sample (n)	Most prevalent implant type/ Occurrence / Relative Frequency	2° Most prevalent implant type/ Occurrence / Relative Frequency	3° Most prevalent implant type/ Occurrence/ Relative Frequency
Maxilla and Mandible	1,321	S15 / 374 / 28.59%	S13 / 355 / 26.87%	FA35°15 / 127 / 9.61%
Maxillary Incisors	209	S15 / 87 / 41.62%	S13 / 54 / 25.8%	S17 / 33 / 15.8%
Maxillary Canine	73	S15 / 22 / 30.13%	S13 / 21 / 28.76%	S17 / 14 / 19.4%
Maxillary pre-molars	212	S15 / 62 / 29.24%	S13 / 58 / 29.1%	S11 / 21 / 10.6%
Maxillary molar	218	S13 / 44 / 20.18%	S15 / 34 / 17.3%	FA35°15 / 20 / 10.2%
Anterior mandible	89	S15 / 41 / 46.06%	S17 / 24 / 27%	FA25°13 / 12 / 13.5%
Mandibular pre-molars	193	S15 / 78 / 40.41%	S13 / 41 / 20.3%	S17 / 24 / 11.9%
Mandibular Molars	327	FA35°15 / 85 / 25.99%	FA25°13 / 55 / 16.81%	S15 / 50 / 15.29%

**Results:** A total of 1,321 implants placed in 174 patients with a mean age 55.17± 11.33 years (ranging from 20 to 87 years) were recorded. Of the implants studied, 720 implants were placed in female and 601 in male patients. The most frequent implant type found was the straight one with 15mm length (S15).

**Discussion:** Placing implants buccally to the inferior alveolar nerve or at the palate are quite common situations and request frontally angled implants. Many times, positioning the thinner apical diameter where only little bone is available, allows well placed installation of even straight implants where conical implants would not do it. Laterally angled implants are valuable in some situation, but those situations are not as common.