## Posterior space limitation for dental implant placement

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The off-axis implant placement may cause disadxantage effect of implant-supported prosthesis. The objective of this study was to find the relationship between the maximum length of implant drills in different implant systems and the posterior space limitation for placing implants perpendicularly with occlusal plane or direct to its long axis. The lengths of different implant drill attached in the handpiece were recorded. The posterior space limitation in each posterior teeth of maxillary and mandibular arch were measured from the middle of gingival margin to the opposite occlusal plane at the maximum mouth opening. The maximum required length of implant drills attached in the handpiece for each system were 3.77 cm. (Ankylos), 3.97 cm. (Frialit-2), 3.77 cm. (Replace Select), and 3.85 cm. (Paragon). These drill length data were compared with the posterior space limitation of 100 male and 100 female subjects who were between 18-22 years old. The result shown that space in first premolars (4.72 cm. In maxillary and 4.48 in mandibular) and second premolars (4.29 cm. In maxillary and 4.08 cm. In mandibular) were adequate for placement of implant drill but molars (3.67 cm. in maxillary first molar, 3.64 cm. in maxillary second molar, 3.11 cm. in mandibular first molar, 3.21 cm. in mandibular second molar) were not enough for correct direction of drill placement, except the first molar without teeth in opposite arch. In conclusion, the space required for dental implant surgical drills were lesser than the limited space in the premolar area allow the dentist to place the implant correctly in long axis direction.

Supported by Dental Research Fund, Dental research project 3205-312 # 22 / 2002 Faculty of Dentistry, Chulalongkorn University