

## Cartas al editor

### Fully Versus Conventionally Guided Implant Placement By Dental Students

(Colocación de implantes guiada completamente versus convencionalmente por estudiantes de odontología)

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**Publicado online:** 11 de Junio del 2025

**Abstract.** Earlier method of osseointegration is of two stages earlier modification included parallel walled implant. Recent development included tapered implants. Micro gap occurs during loosening and retightening of retention screws leading to movement of bacteria into the implant interior.

**Keywords** - *Dental, Prosthodontics, Implants, Anatomy, Physiology*

**Resumen.** El método anterior de osteointegración constaba de dos etapas. Una modificación inicial incluía implantes de paredes paralelas. Un desarrollo reciente incluía implantes cónicos. Al aflojar y reapretar los tornillos de retención, se produce una microfisura que facilita el desplazamiento de bacterias al interior del implante.

**Palabras clave:** *Odontología, Prótesis, Implantes, Anatomía, Fisiología*

## Introduction

The earlier method of osseointegration is of two stages; an earlier modification included a parallel-walled implant paved (1,2).

## Current scenario

Recent development included tapered implants. Screw retained prosthesis from the new restorative prosthesis. Angulated screw channel preserve aesthetics (3-7). Loading is of two types - conventional and immediate (7-11). Prosthesis can be delivered with 6 month in maxilla and 3 month mandible. Immediate loading refers to functional or non-functional restoration placement on the day of surgery. Immediate loading can lead to implant failure, micro movement of a fixture, defective osseointegration, and soft tissue encapsulation (12).

## DISCUSSION

The longitudinal re-modelling of peri-implant crestal bone is influenced by bone crest , micro gap and platform (13) Immediate or delayed provisionalization is determined by insertion torque. Increased bone re modeling occurs due to high finalized insertion Barone et al. (14). Marginal bone loss is seen in the case of excessive bone torque Duyck et al (15) Peri implant bone damage is heavy in high insertion torque. Additional studies by Cha et al. (2015) and Monje, Ravidà, Wang, Helms, and Brunski (16) observed that after final prosthesis delivery 1.5mm bone re modeling occurs along with 0.2mm of bone loss (17-20).

occurs in relational to implant first torque, 1987. (21). Bi phasic pattern is defined as an early acceleration followed by quiescent phase. Bone loss around the teeth and implant occurs due to surgical trauma and periosteal elevation (1, 22-24). Marginal bone loss occurs due to disconnection and reconnection (25). Low bone re modeling occurs due to nonremoval of abutments (26). Bone

low and micro gap occurs during Loosening and re-tightening of retention screws will indirectly lead way to movement of bacteria into the implant interior (27) Fibrous encapsulation increase when forces exceed a micro motion of 100-150micrometer during healing (28).

## Referencias

1. Adell R, Lekholm U, Rockler B, Bränemark PI. A 15-year study of osseointegrated implants in the treatment of the edentulous jaw. *Int J Oral Surg*. 1981; 10: 387-416. [\[PubMed\]](#) [\[Google Scholar\]](#)
2. Bränemark PI, Hansson BO, Adell R, Breine U, Lindström J, Hallén O, Ohman A. Osseointegrated implants in the treatment of the edentulous jaw. Experience from a 10-year period. *Scand J Plast Reconstr Surg Suppl*. 1977; 16: 1-132. [\[PubMed\]](#) [\[Google Scholar\]](#)
3. Callan DP, Hahn J, Hebel K, Kwong-Hing A, Smiler D, Vassos DM, Wöhrle P, Zosky J. Retrospective multicenter study of an anodized, tapered, diminishing thread implant: success rate at exposure. *Implant Dent*. 2000; 9: 329-36. [\[PubMed\]](#) [\[Google Scholar\]](#)
4. Lazzara RJ, Porter SS. Platform switching: a new concept in implant dentistry for controlling postrestorative crestal bone levels. *Int J Periodontics Restorative Dent*. 2006; 26: 9-17. [\[PubMed\]](#) [\[Google Scholar\]](#)
5. Niznick G. The implant abutment connection: the key to prosthetic success. *Compendium*. 1991; 12: 932, 934-8. [\[PubMed\]](#) [\[Google Scholar\]](#)
6. Hebel KS, Gajjar RC. Cement-retained versus screw-retained implant restorations: achieving optimal occlusion and esthetics in implant dentistry. *J Prosthet Dent*. 1997; 77: 28-35. [\[PubMed\]](#) [\[Google Scholar\]](#)
7. Wittneben JG, Joda T, Weber HP, Brägger U. Screw retained vs. cement retained implant-supported fixed dental prosthesis. *Periodontol 2000*. 2017; 73: 141-51. [\[PubMed\]](#) [\[Google Scholar\]](#)
8. Gjelvold B, Sohrabi MM, Chrcanovic BR. Angled Screw Channel: An Alternative to Cemented Single-Implant Restorations--Three Clinical Examples. *Int J Prosthodont*. 2016; 29: 74-6. [\[PubMed\]](#) [\[Google Scholar\]](#)
9. Aparicio C, Rangert B, Sennerby L. Immediate/early loading of dental implants: a report from the Sociedad Española de Implantes World Congress consensus meeting in Barcelona, Spain, 2002. *Clin Implant Dent Relat Res*. 2003; 5: 57-60. [\[PubMed\]](#) [\[Google Scholar\]](#)
10. Degidi M, Piattelli A. Immediate functional and non-functional loading of dental implants: a 2- to 60-month follow-up study of 646 titanium implants. *J Periodontol*. 2003; 74: 225-41. [\[PubMed\]](#) [\[Google Scholar\]](#)
11. Monje A, Ravidà A, Wang HL, Helms JA, Brunski JB. Relationship Between Primary/Mechanical and Secondary/Biological Implant Stability. *Int J Oral Maxillofac Implants*. 2019 Suppl; 34: s7-s23. [\[PubMed\]](#) [\[Google Scholar\]](#)

12. Strub JR, Jurdzik BA, Tuna T. Prognosis of immediately loaded implants and their restorations: a systematic literature review. *J Oral Rehabil.* 2012; 39: 704-17. [\[PubMed\]](#) [\[Google Scholar\]](#)
13. Oh, T. J., Yoon, J., Misch, C. E., & Wang, H. L.. The causes of early implant bone loss: Myth or science. *Journal of Periodontology*, 2002; 73: 322-33. [\[PubMed\]](#) [\[Google Scholar\]](#)
14. Barone A, Alfonsi F, Derchi G, Tonelli P, Toti P, Marchionni S, Covani U. The Effect of Insertion Torque on the Clinical Outcome of Single Implants: A Randomized Clinical Trial. *Clin Implant Dent Relat Res.* 2016; 18: 588-600. [\[PubMed\]](#) [\[Google Scholar\]](#)
15. Duyck J, Corpora L, Vermeiren S, Ogawa T, Quirynen M, Vandamme K, Jacobs R, Naert I. Histological, histomorphometrical, and radiological evaluation of an experimental implant design with a high insertion torque. *Clin Oral Implants Res.* 2010; 21: 877-84. [\[PubMed\]](#) [\[Google Scholar\]](#)
16. Monje A, Ravidà A, Wang HL, Helms JA, Brunski JB. Relationship Between Primary/Mechanical and Secondary/Biological Implant Stability. *Int J Oral Maxillofac Implants.* 2019 Suppl; 34: s7-s23. [\[PubMed\]](#) [\[Google Scholar\]](#)
17. Consolo U, Travaglini D, Todisco M, Trisi P, Galli S. Histologic and biomechanical evaluation of the effects of implant insertion torque on peri-implant bone healing. *J Craniofac Surg.* 2013; 24: 860-5. [\[PubMed\]](#) [\[Google Scholar\]](#)
18. Grandi T, Guazzi P, Samarani R, Grandi G. Clinical outcome and bone healing of implants placed with high insertion torque: 12-month results from a multicenter controlled cohort study. *Int J Oral Maxillofac Surg.* 2013; 42: 516-20. [\[PubMed\]](#) [\[Google Scholar\]](#)
19. Khayat PG, Arnal HM, Tourbah BI, Sennerby L. Clinical outcome of dental implants placed with high insertion torques (up to 176 Ncm). *Clin Implant Dent Relat Res.* 2013; 15: 227-33. [\[PubMed\]](#) [\[Google Scholar\]](#)
20. Trisi P, Todisco M, Consolo U, Travaglini D. High versus low implant insertion torque: a histologic, histomorphometric, and biomechanical study in the sheep mandible. *Int J Oral Maxillofac Implants.* 2011 Jul-Aug; 26: 837-49. [\[PubMed\]](#) [\[Google Scholar\]](#)
21. Jung YC, Han CH, Lee KW. A 1-year radiographic evaluation of marginal bone around dental implants. *Int J Oral Maxillofac Implants.* 1996; 11: 811-8. [\[PubMed\]](#) [\[Google Scholar\]](#)
22. Donnenfeld OW, Hoag PM, Weissman DP. A clinical study on the effects of osteoplasty. *J Periodontol.* 1970; 41: 131-41. [\[PubMed\]](#) [\[Google Scholar\]](#)
23. Ramfjord SF, Costich ER. Healing after exposure of periosteum on the alveolar process. *J Periodontol.* 1968; 39: 199-207. [\[PubMed\]](#) [\[Google Scholar\]](#)
24. Wilderman MN, Pennel BM, King K, Barron JM. Histogenesis of repair following osseous surgery. *J Periodontol.* 1970; 41: 551-65. [\[PubMed\]](#) [\[Google Scholar\]](#)
25. Koutouzis T, Gholami F, Reynolds J, Lundgren T, Kotsakis GA. Abutment Disconnection/Reconnection Affects Peri-implant Marginal Bone Levels: A Meta-Analysis. *Int J Oral Maxillofac Implants.* 2017 May/June; 32: 575-81. [\[PubMed\]](#) [\[Google Scholar\]](#)
26. Degidi M, Nardi D, Piattelli A. One abutment at one time: non-removal of an immediate abutment and its effect on bone healing around subcrestal tapered implants. *Clin Oral Implants Res.* 2011; 22: 1303-7. [\[PubMed\]](#) [\[Google Scholar\]](#)
27. do Nascimento C, Pedrazzi V, Miani PK, Moreira LD, de Albuquerque RF Jr. Influence of repeated screw tightening on bacterial leakage along the implant-abutment interface. *Clin Oral Implants Res.* 2009 20: 1394-7 [\[PubMed\]](#) [\[Google scholar\]](#)

28. Schincaglia GP, Marzola R, Giovanni GF, Chiara CS, Scotti R. Replacement of mandibular molars with single-unit restorations supported by wide-body implants: immediate versus delayed loading. A randomized controlled study. *Int J Oral Maxillofac Implants*. 2008; 23: 474-80. [\[PubMed\]](#) [\[Google Scholar\]](#)

**How to cite this article:** *Shunmugavelu K, Jeevanandam L, Fully Versus Conventionally Guided Implant Placement By Dental Students. Avan Biomed* 2025; 14: 5-8



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