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THEMA: Customized Bone Regeneration mit individualisiertem CAD/CAM-Titangitter

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## LITERATUR

1. Urban, I.A., S.A. Jovanovic, and J.L. Lozada, Vertical ridge augmentation using guided bone regeneration (GBR) in three clinical scenarios prior to implant placement: a retrospective study of 35 patients 12 to 72 months after loading. *Int J Oral Maxillofac Implants*, 2009. 24(3): p. 502-10.
2. Lambert FE, Weber HP, Susarla SM, Belser UC, Gallucci GO. Descriptive analysis of implant and prosthodontic survival rates with fixed implant-supported rehabilitations in the edentulous maxilla. *J Periodontol*. 2009 Aug;80(8):1220-30.
3. Fiorellini JP, Nevins ML. Localized ridge augmentation/preservation. A systematic review. *Ann Periodontol*. 2003 Dec; 8(1):321-7.
4. Ricci L, Perrotti V, Ravera L, Scarano A, Piattelli A, Iezzi G. Rehabilitation of deficient alveolar ridges using titanium grids before and simultaneously with implant placement: a systematic review. *J Periodontol*. 2013 Sep; 84(9):1234-42.
5. Aloy-Prósper A, Peñarrocha-Oltra D, Peñarrocha-Diago M, Peñarrocha-Diago M. The outcome of intraoral onlay block bone grafts on alveolar ridge augmentations: a systematic review. *Med Oral Patol Oral Cir Bucal*. 2015 Mar 1; 20(2):e251-8.
6. Esposito M, Grusovin MG, Felice P, Karatzopoulos G, Worthington HV, Coulthard P. The efficacy of horizontal and vertical bone augmentation procedures for dental implants - a Cochrane systematic review. *Eur J Oral Implantol*. 2009 Autumn; 2(3):167-84.
7. Polini, F., et al., Bifunctional sculpturing of the bone graft for 3-dimensional augmentation of the atrophic posterior mandible. *J Oral Maxillofac Surg*, 2009. 67(1): p. 174-7.
8. Dahlin, C., et al., Generation of new bone around titanium implants using a membrane technique: an experimental study in rabbits. *Int J Oral Maxillofac Implants*, 1989. 4(1): p. 19-25.
9. Boyne, P.J. and T.E. Mikels, Restoration of alveolar ridges by intramandibular transposition osseous grafting. *J Oral Surg*, 1968. 26(9): p. 569-76.

10. Pieri, F., et al., Alveolar ridge augmentation with titanium mesh and a combination of autogenous bone and anorganic bovine bone: a 2-year prospective study. *J Periodontol*, 2008. 79(11): p. 2093-103.
11. Sanz-Sánchez I, Ortiz-Vigón A, Sanz-Martín I, Figuero E, Sanz M. Effectiveness of Lateral Bone Augmentation on the Alveolar Crest Dimension: A Systematic Review and Meta-analysis. *J Dent Res*. 2015 Sep; 94(9 Suppl):128S-42S.
12. Milinkovic I, Cordaro L. Are there specific indications for the different alveolar bone augmentation procedures for implant placement? A systematic review. *Int J Oral Maxillofac Surg*. 2014 May; 43(5):606-25.
13. Clementini M, Morlupi A, Canullo L, Agrestini C, Barlattani A. Success rate of dental implants inserted in horizontal and vertical guided bone regenerated areas: a systematic review. *Int J Oral Maxillofac Surg*. 2012 Jul; 41(7):847-52.
14. Jensen SS, Terheyden H. Bone augmentation procedures in localized defects in the alveolar ridge: clinical results with different bone grafts and bone-substitute materials. *Int J Oral Maxillofac Implants*. 2009; 24 Suppl: 218-36.
15. McAllister BS, Haghghat K. Bone augmentation techniques. *J Periodontol*. 2007 Mar; 78(3):377-96.
16. Esposito M, Grusovin MG, Coulthard P, Worthington HV. The efficacy of various bone augmentation procedures for dental implants: a Cochrane systematic review of randomized controlled clinical trials. *Int J Oral Maxillofac Implants*. 2006 Sep-Oct; 21(5):696-710.
17. Boyne, P.J., Restoration of osseous defects in maxillofacial casualties. *J Am Dent Assoc*, 1969. 78(4): p. 767-76.
18. Rocuzzo, M., et al., Autogenous bone graft alone or associated with titanium mesh for vertical alveolar ridge augmentation: a controlled clinical trial. *Clin Oral Implants Res*, 2007. 18(3): p. 286-94.
19. Louis, P.J., Vertical ridge augmentation using titanium mesh. *Oral Maxillofac Surg Clin North Am*, 2010. 22(3): p. 353-68, v.
20. Her, S., T. Kang, and M.J. Fien, Titanium mesh as an alternative to a membrane for ridge augmentation. *J Oral Maxillofac Surg*, 2012. 70(4): p. 803-10.
21. Aytaç S, Ozbek S, Kahveci R, Ozgenel Y, Akin S, Ozcan M. Titanium mesh fracture in mandibular reconstruction. *J Craniofac Surg*. 2005 Nov; 16(6):1120-2.
22. Rasia-dal Polo M, Poli PP, Rancitelli D, Beretta M, Maiorana C. Alveolar ridge reconstruction with titanium meshes: a systematic review of the literature. *MedOral Patol Oral Cir Bucal*. 2014 Nov 1; 19(6):e639-46.

23. Jung, R.E., et al., Cone beam computed tomography evaluation of regenerated buccal bone 5 years after simultaneous implant placement and guided bone regeneration procedures--a randomized, controlled clinical trial. *Clin Oral Implants Res*, 2015. 26(1): p. 28-34.
24. Pieri, F., et al., Esthetic outcome and tissue stability of maxillary anterior single-tooth implants following reconstruction with mandibular block grafts: a 5-year prospective study. *Int J Oral Maxillofac Implants*, 2013. 28(1): p. 270-80.
25. Nkenke E, Neukam FW. Autogenous bone harvesting and grafting in advanced jaw resorption: morbidity, resorption and implant survival. *Eur J Oral Implantol*. 2014 Summer; 7 Suppl 2:S203-17.
26. Jensen OT, Kuhlke L, Bedard JF, White D. Alveolar segmental sandwich osteotomy for anterior maxillary vertical augmentation prior to implant placement. *J Oral Maxillofac Surg*. 2006 Feb; 64(2):290-6. Erratum in: *J Oral Maxillofac Surg*. 2006 Jun; 64(6):997.
27. Felice P, Piattelli A, Iezzi G, Degidi M, Marchetti C. Reconstruction of an atrophied posterior mandible with the inlay technique and inorganic bovine bone block: a case report. *Int J Periodontics Restorative Dent*. 2010 Dec;30(6):583-91.
28. Terheyden H, Simon B, Behfar L, Rieger M, Behrens E. Interpositionsosteoplastik des zahnlosen Ober- und Unterkiefers – Eine therapeutische Alternative bei Knochenverlust durch aggressive Parodontitis. *Implantologie* 2007; 15(3):297-304.
29. Mohan N, Wolf J, Dym H. Maxillary sinus augmentation. *Dent Clin North Am*. 2015 Apr; 59(2):375-88.
30. Carrao V, DeMatteis I. Maxillary sinus bone augmentation techniques. *Oral Maxillofac Surg Clin North Am*. 2015 May; 27(2):245-53.
31. Rocchietta I, Fontana F, Simion M. Clinical outcomes of vertical bone augmentation to enable dental implant placement: a systematic review. *J Clin Periodontol*. 2008 Sep; 35(8 Suppl):203-15.
32. McAllister BS, Gaffaney TE. Distraction osteogenesis for vertical bone augmentation prior to oral implant reconstruction. *Periodontol* 2000. 2003; 33:54-66.
33. Ciocca, L., et al., CAD/CAM guided secondary mandibular reconstruction of a discontinuity defect after ablative cancer surgery. *J Craniomaxillofac Surg*, 2012. 40(8): p. e511-5.
34. Lehman, H. and N. Casap, Rapid-prototype titanium bone forms for vertical alveolar augmentation using bone morphogenetic protein-2: design and treatment planning objectives. *Int J Oral Maxillofac Implants*, 2014. 29(2): p. e259-64.

35. Merli, M., F. Lombardini, and M. Esposito, Vertical ridge augmentation with autogenous bone grafts 3 years after loading: resorbable barriers versus titanium-reinforced barriers. A randomized controlled clinical trial. *Int J Oral Maxillofac Implants*, 2010. 25(4): p. 801-7.
36. Stricker, A., et al., Ridge preservation after ridge expansion with simultaneous guided bone regeneration: a preclinical study. *Clin Oral Implants Res*, 2015.
37. Shin SI, Herr Y, Kwon YH, Chung JH. Effect of a collagen membrane combined with a porous titanium membrane on exophytic new bone formation in a rabbit calvarial model. *J Periodontol*. 2013 Jan;84(1):110-6.
38. Funato A, Ishikawa T, Kitajima H, Yamada M, Moroi H. A novel combined surgical approach to vertical alveolar ridge augmentation with titanium mesh, resorbable membrane, and rhPDGF-BB: a retrospective consecutive case series. *Int J Periodontics Restorative Dent*. 2013 Jul-Aug;33(4):437-45.
39. Jensen T, Schou S, Svendsen PA, Forman JL, Gundersen HJ, Terheyden H, Holmstrup P. Volumetric changes of the graft after maxillary sinus floor augmentation with Bio-Oss and autogenous bone in different ratios: a radiographic study in minipigs. *Clin Oral Implants Res*. 2012 Aug;23(8):902-10.
40. Jung, G.U., et al., Preliminary evaluation of a three-dimensional, customized, and preformed titanium mesh in peri-implant alveolar bone regeneration. *J Korean Assoc Oral Maxillofac Surg*, 2014. 40(4): p. 181-7.