

## Literaturliste

### **Knochenaugmentation komplexer Defekte**

*Prof. Dr. med. Dr. med. dent. Florian G. Draenert, Dominic Hütze*

Jahrbuch Implantologie 2015

1. Enlow, D.H., The Canal system in bone, in Principles of bone remodelling., D.H. Enlow, Editor 1963, Charles C Thomas Publisher: Springfield, IL, USA. p. 60-74.
2. Schiebler, T.H. and W. Schmidt, Anatomie. 3rd edition ed1987, New York, Berlin, Heidelberg, Tokyo: Springer-Verlag.
3. Hardingham, T.E. and A.J. Fosang, Proteoglycans: many forms and many functions. FASEB J, 1992. 6(3): p. 861-70.
4. Ruoslahti, E. and Y. Yamaguchi, Proteoglycans as modulators of growth factor activities. Cell, 1991. 64(5): p. 867-9.
5. Fantner, G.E., et al., Sacrificial bonds and hidden length dissipate energy as mineralized fibrils separate during bone fracture. Nat Mater, 2005. 4(8): p. 612-6.
6. Albrektsson, T. and C. Johansson, Osteoinduction, osteoconduction and osseointegration. Eur Spine J, 2001. 10 Suppl 2: p. S96-101.
7. Liu, Y.L., et al., Bone healing in porous implants: a histological and histometrical comparative study on sheep. J Mater Sci Mater Med, 2000. 11(11): p. 711-7.
8. Miclau, T., et al., Autogenous cancellous bone graft incorporation in a gap defect in the canine femur. J Orthop Trauma, 1996. 10(2): p. 108-13.
9. Lemperle, S.M., et al., Bony healing of large cranial and mandibular defects protected from soft-tissue interposition: A comparative study of spontaneous bone regeneration, osteoconduction, and cancellous autografting in dogs. Plast Reconstr Surg, 1998. 101(3): p. 660-72.
10. Haas, R., et al., Freeze-dried homogeneous and heterogeneous bone for sinus augmentation in sheep. Part I: histological findings. Clin Oral Implants Res, 2002. 13(4): p. 396-404.
11. Reuther, J.F., Druckplattenosteosynthese und freie Knochentransplantation zur Unterkieferrekonstruktion. Habilitationsschriften der ZMK1979, Berlin: Quintessenz. 85.
12. Reuther, J. and J.E. Hausamen, [System of alloplastic bridging of mandibular defects]. Dtsch Zahnärztl Z, 1977. 32(4): p. 334-7.
13. Reuther, J., [Animal experimental studies on the healing of pressure-stabilized free bone grafts in the mandible]. Dtsch Zahnärztl Z, 1980. 35(1): p. 45-8.
14. Allgoewer, M., [Osteosynthesis and Primary Bone Healing.]. Langenbecks Arch Klin Chir Ver Dtsch Z Chir, 1964. 308: p. 423-34.

15. Einhorn, T.A., The science of fracture healing. *J Orthop Trauma*, 2005. 19(10 Suppl): p. S4-6.
16. Ai-Aql, Z.S., et al., Molecular mechanisms controlling bone formation during fracture healing and distraction osteogenesis. *J Dent Res*, 2008. 87(2): p. 107-18.
17. Schindeler, A., et al., Bone remodeling during fracture repair: The cellular picture. *Semin Cell Dev Biol*, 2008. 19(5): p. 459-66.
18. Matsumoto, T., et al., Circulating endothelial/skeletal progenitor cells for bone regeneration and healing. *Bone*, 2008. 43(3): p. 434-9.
19. Sottile, V., et al., Stem cell characteristics of human trabecular bone-derived cells. *Bone*, 2002. 30(5): p. 699-704.
20. Zaidi, N. and A.J. Nixon, Stem cell therapy in bone repair and regeneration. *Ann N Y Acad Sci*, 2007. 1117: p. 62-72.
21. Post, S., et al., Demonstration of the presence of independent pre-osteoblastic and pre-adipocytic cell populations in bone marrow-derived mesenchymal stem cells. *Bone*, 2008. 43(1): p. 32-9.
22. Ikada, Y., Challenges in tissue engineering. *J R Soc Interface*, 2006. 3(10): p. 589-601.
23. Keramatis, N.C., et al., Fracture vascularity and bone healing: a systematic review of the role of VEGF. *Injury*, 2008. 39 Suppl 2: p. S45-57.
24. Segovia-Silvestre, T., et al., Advances in osteoclast biology resulting from the study of osteopetrosis mutations. *Hum Genet*, 2009. 124(6): p. 561-77.
25. Creuzet, S., G. Couly, and N.M. Le Douarin, Patterning the neural crest derivatives during development of the vertebrate head: insights from avian studies. *J Anat*, 2005. 207(5): p. 447-59.
26. Cobourne, M.T. and P.T. Sharpe, Tooth and jaw: molecular mechanisms of patterning in the first branchial arch. *Arch Oral Biol*, 2003. 48(1): p. 1-14.
27. Kimmel, C.B., C.T. Miller, and R.J. Keynes, Neural crest patterning and the evolution of the jaw. *J Anat*, 2001. 199(Pt 1-2): p. 105-20.
28. Cobourne, M.T., Construction for the modern head: current concepts in craniofacial development. *J Orthod*, 2000. 27(4): p. 307-14.
29. Kawaguchi, H., et al., Local application of recombinant human fibroblast growth factor-2 on bone repair: a dose-escalation prospective trial on patients with osteotomy. *J Orthop Res*, 2007. 25(4): p. 480-7.
30. Komaki, H., et al., Repair of segmental bone defects in rabbit tibiae using a complex of beta-tricalcium phosphate, type I collagen, and fibroblast growth factor-2. *Biomaterials*, 2006. 27(29): p. 5118-26.
31. Yamada, K., et al., Potential efficacy of basic fibroblast growth factor incorporated in biodegradable hydrogels for skull bone regeneration. *J Neurosurg*, 1997. 86(5): p. 871-5.

32. Kale, A.A. and P.E. Di Cesare, Osteoinductive agents. Basic science and clinical applications. *Am J Orthop*, 1995. 24(10): p. 752-61.
33. Urist, M.R., Bone: formation by autoinduction. 1965. *Clin Orthop Relat Res*, 2002(395): p. 4-10.
34. Urist, M.R., Bone: formation by autoinduction. *Science*, 1965. 150(698): p. 893-9.
35. Urist, M.R., T.H. Wallace, and T. Adams, The Function of Fibrocartilaginous Fracture Callus. Observations on Transplants Labelled with Tritiated Thymidine. *J Bone Joint Surg Br*, 1965. 47: p. 304-18.
36. Tsuji, K., et al., BMP2 activity, although dispensable for bone formation, is required for the initiation of fracture healing. *Nat Genet*, 2006. 38(12): p. 1424-9.
37. Jackson, R.A., V. Nurcombe, and S.M. Cool, Coordinated fibroblast growth factor and heparan sulfate regulation of osteogenesis. *Gene*, 2006. 379: p. 79-91.
38. Bessa, P.C., M. Casal, and R.L. Reis, Bone morphogenetic proteins in tissue engineering: the road from the laboratory to the clinic, part I (basic concepts). *J Tissue Eng Regen Med*, 2008. 2(1): p. 1-13.
39. Bessa, P.C., M. Casal, and R.L. Reis, Bone morphogenetic proteins in tissue engineering: the road from laboratory to clinic, part II (BMP delivery). *J Tissue Eng Regen Med*, 2008. 2(2-3): p. 81-96.
40. Gruber, R.M., et al., Sinus floor augmentation with recombinant human growth and differentiation factor-5 (rhGDF-5): a pilot study in the Goettingen miniature pig comparing autogenous bone and rhGDF-5. *Clin Oral Implants Res*, 2008.
41. Warnke, P.H., et al., Growth and transplantation of a custom vascularised bone graft in a man. *Lancet*, 2004. 364(9436): p. 766-70.
42. Terheyden, H., et al., Mandibular reconstruction with prefabricated vascularized bone grafts using recombinant human osteogenic protein-1: an experimental study in miniature pigs. Part II: transplantation. *Int J Oral Maxillofac Surg*, 2001. 30(6): p. 469-78.
43. Terheyden, H., et al., Mandibular reconstruction with a prefabricated vascularized bone graft using recombinant human osteogenic protein-1: an experimental study in miniature pigs. Part I: Prefabrication. *Int J Oral Maxillofac Surg*, 2001. 30(5): p. 373-9.
44. Kubler, N.R., et al., [Comparative studies of sinus floor elevation with autologous or allogeneic bone tissue]. *Mund Kiefer Gesichtschir*, 1999. 3 Suppl 1: p. S53-60.
45. Wurzler, K.K., et al., [Mandibular reconstruction with autologous bone and osseointductive implant in the Gottingen minipig]. *Mund Kiefer Gesichtschir*, 2004. 8(2): p. 75-82.
46. Govender, S., et al., Recombinant human bone morphogenetic protein-2 for treatment of open tibial fractures: a prospective, controlled, randomized study of four hundred and fifty patients. *J Bone Joint Surg Am*, 2002. 84-A(12): p. 2123-34.

47. Burkhart, K.J. and P.M. Rommens, Intramedullary application of bone morphogenetic protein in the management of a major bone defect after an Ilizarov procedure. *J Bone Joint Surg Br*, 2008. 90(6): p. 806-9.
48. Hofmann, A., et al., Extracorporeal shock wave-mediated changes in proliferation, differentiation, and gene expression of human osteoblasts. *J Trauma*, 2008. 65(6): p. 1402-10.
49. Garcia, A.J. and C.D. Reyes, Bio-adhesive surfaces to promote osteoblast differentiation and bone formation. *J Dent Res*, 2005. 84(5): p. 407-13.
50. Kim, J.B., et al., Reconciling the roles of FAK in osteoblast differentiation, osteoclast remodeling, and bone regeneration. *Bone*, 2007. 41(1): p. 39-51.
51. Petrie, T.A., et al., The effect of integrin-specific bioactive coatings on tissue healing and implant osseointegration. *Biomaterials*, 2008. 29(19): p. 2849-57.
52. ten Dijke, P., et al., Controlling cell fate by bone morphogenetic protein receptors. *Mol Cell Endocrinol*, 2003. 211(1-2): p. 105-13.
53. Derynck, R. and Y.E. Zhang, Smad-dependent and Smad-independent pathways in TGF-beta family signalling. *Nature*, 2003. 425(6958): p. 577-84.
54. Nohe, A., et al., Signal transduction of bone morphogenetic protein receptors. *Cell Signal*, 2004. 16(3): p. 291-9.
55. Shi, Y. and J. Massague, Mechanisms of TGF-beta signaling from cell membrane to the nucleus. *Cell*, 2003. 113(6): p. 685-700.
56. Wagner, W., U.W. Wahlmann, and S. Janicke, [Morphometrical comparison of bone reaction to tricalcium phosphate, hydroxyapatite and Ceravital]. *Dtsch Zahnärztl Z*, 1988. 43(1): p. 108-12.
57. Wagner, W., [Comparing the different calciumphosphate ceramics] Vergleich der verschiedenen Calciumphosphatkeramiken. Habilitation, University of Mainz, Germany, 1988: p. 1-263.
58. Esposito, M., et al., Interventions for replacing missing teeth: bone augmentation techniques for dental implant treatment. Cochrane database of systematic reviews, 2008(3): p. CD003607.
59. Hallman, M. and A. Thor, Bone substitutes and growth factors as an alternative/complement to autogenous bone for grafting in implant dentistry. *Periodontol 2000*, 2008. 47: p. 172-92.
60. Browaeys, H., P. Bouvry, and H. De Bruyn, A literature review on biomaterials in sinus augmentation procedures. *Clin Implant Dent Relat Res*, 2007. 9(3): p. 166-77.
61. Cawood, J.I., P.J. Stoelinga, and T.K. Blackburn, The evolution of preimplant surgery from preprosthetic surgery. *Int J Oral Maxillofac Surg*, 2007. 36(5): p. 377-85.
62. Khoury, F. and R. Buchmann, Surgical therapy of peri-implant disease: a 3-year follow-up study of cases treated with 3 different techniques of bone regeneration. *J Periodontol*, 2001. 72(11): p. 1498-508.

63. Goodman, J.L., The safety and availability of blood and tissues--progress and challenges. *N Engl J Med*, 2004. 351(8): p. 819-22.
64. Schepers, E.J., et al., Bioactive glass particles of narrow size range: a new material for the repair of bone defects. *Implant Dent*, 1993. 2(3): p. 151-6.
65. Saffar, J.L., M.L. Colombier, and R. Detienne, Bone formation in tricalcium phosphate-filled periodontal intrabony lesions. Histological observations in humans. *J Periodontol*, 1990. 61(4): p. 209-16.
66. Hislop, W.S., P.M. Finlay, and K.F. Moos, A preliminary study into the uses of anorganic bone in oral and maxillofacial surgery. *Br J Oral Maxillofac Surg*, 1993. 31(3): p. 149-53.
67. Khouri, F., H. Antoun, and P. Missika, Bone augmentation in oral implantology 2007, New Malden, UK: Quintessence Publishing Co. Ltd.
68. Warren, S.M., et al., Tools and techniques for craniofacial tissue engineering. *Tissue Eng*, 2003. 9(2): p. 187-200.
69. Warnke, P.H., et al., Man as living bioreactor: fate of an exogenously prepared customized tissue-engineered mandible. *Biomaterials*, 2006. 27(17): p. 3163-7.
70. Springer, I.N., et al., Bone graft versus BMP-7 in a critical size defect--cranioplasty in a growing infant model. *Bone*, 2005. 37(4): p. 563-9.
71. Springer, I.N., et al., Two techniques for the preparation of cell-scaffold constructs suitable for sinus augmentation: steps into clinical application. *Tissue Eng*, 2006. 12(9): p. 2649-56.
72. Hofmann, A., et al., The effect of human osteoblasts on proliferation and neo-vessel formation of human umbilical vein endothelial cells in a long-term 3D co-culture on polyurethane scaffolds. *Biomaterials*, 2008. 29(31): p. 4217-26.
73. James Kirkpatrick, C., et al., Cell culture models of higher complexity in tissue engineering and regenerative medicine. *Biomaterials*, 2007. 28(34): p. 5193-8.
74. Tremoleda, J.L., et al., Bone tissue formation from human embryonic stem cells in vivo. *Cloning Stem Cells*, 2008. 10(1): p. 119-32.
75. Petersen, T. and L. Niklason, Cellular lifespan and regenerative medicine. *Biomaterials*, 2007. 28(26): p. 3751-6.
76. Sanzenbacher, R., et al., European regulation tackles tissue engineering. *Nat Biotechnol*, 2007. 25(10): p. 1089-91.
77. Khouri, F., Augmentation of the sinus floor with mandibular bone block and simultaneous implantation: a 6-year clinical investigation. *Int J Oral Maxillofac Implants*, 1999. 14(4): p. 557-64.
78. Misch, C.M., Comparison of intraoral donor sites for onlay grafting prior to implant placement. *Int J Oral Maxillofac Implants*, 1997. 12(6): p. 767-76.

79. Misch, C.M., et al., Reconstruction of maxillary alveolar defects with mandibular symphysis grafts for dental implants: a preliminary procedural report. *Int J Oral Maxillofac Implants*, 1992. 7(3): p. 360-6.
80. Simion, M., et al., Long-term evaluation of osseointegrated implants inserted at the time or after vertical ridge augmentation. A retrospective study on 123 implants with 1-5 year follow-up. *Clin Oral Implants Res*, 2001. 12(1): p. 35-45.
81. Kessler, P., et al., Harvesting of bone from the iliac crest--comparison of the anterior and posterior sites. *Br J Oral Maxillofac Surg*, 2005. 43(1): p. 51-6.
82. Nkenke, E., et al., Morbidity of harvesting of bone grafts from the iliac crest for preprosthetic augmentation procedures: a prospective study. *Int J Oral Maxillofac Surg*, 2004. 33(2): p. 157-63.
83. Sandor, G.K., et al., Clinical success in harvesting autogenous bone using a minimally invasive trephine. *J Oral Maxillofac Surg*, 2003. 61(2): p. 164-8.
84. Eufinger, H. and H. Leppanen, Iliac crest donor site morbidity following open and closed methods of bone harvest for alveolar cleft osteoplasty. *J Craniomaxillofac Surg*, 2000. 28(1): p. 31-8.
85. Ahlmann, E., et al., Comparison of anterior and posterior iliac crest bone grafts in terms of harvest-site morbidity and functional outcomes. *J Bone Joint Surg Am*, 2002. 84-A(5): p. 716-20.
86. Neukam, F.W. and S. Schulze-Mosgau, *Implantate bei ausgedehnten Knochendefekten*, in *Praxis der Zahnheilkunde: Implantologie*., B. Koeck and W. Wagner, Editors. 2004, Urban & Fischer: München, Jena. p. 184-233.
87. Steinhauer, E.W., [Retrospective view of the development of malocclusion surgery and prospects]. *Mund-, Kiefer- und Gesichtschirurgie : MKG*, 2003. 7(6): p. 371-9.
88. Batal, H.S. and D.A. Cottrell, Alveolar distraction osteogenesis for implant site development. *Oral and maxillofacial surgery clinics of North America*, 2004. 16(1): p. 91-109, vii.
89. Triaca, A., et al., Segmental distraction osteogenesis of the anterior alveolar process. *J Oral Maxillofac Surg*, 2001. 59(1): p. 26-34; discussion 34-5.
90. Schettler, D., [Sandwich technic with cartilage transplant for raising the alveolar process in the lower jaw]. *Fortschritte der Kiefer- und Gesichts-Chirurgie*, 1976. 20: p. 61-3.
91. Schettler, D., [Long time results of the Sandwich-technique for mandibular alveolar ridge augmentation]. *Deutsche Stomatologie*, 1991. 41(10): p. 376-8.
92. Dahlin, C., et al., Healing of bone defects by guided tissue regeneration. *Plast Reconstr Surg*, 1988. 81(5): p. 672-6.
93. Dahlin, C., et al., Healing of maxillary and mandibular bone defects using a membrane technique. An experimental study in monkeys. *Scand J Plast Reconstr Surg Hand Surg*, 1990. 24(1): p. 13-9.

94. Buser, D., et al., Localized ridge augmentation with autografts and barrier membranes. *Periodontol* 2000, 1999. 19: p. 151-63.
95. Hammerle, C.H. and N.P. Lang, Single stage surgery combining transmucosal implant placement with guided bone regeneration and bioresorbable materials. *Clin Oral Implants Res*, 2001. 12(1): p. 9-18.
96. Zitzmann, N.U., R. Naef, and P. Scharer, Resorbable versus nonresorbable membranes in combination with Bio-Oss for guided bone regeneration. *Int J Oral Maxillofac Implants*, 1997. 12(6): p. 844-52.
97. Buser, D., et al., Localized ridge augmentation using guided bone regeneration. 1. Surgical procedure in the maxilla. *Int J Periodontics Restorative Dent*, 1993. 13(1): p. 29-45.
98. Pallesen, L., et al., Influence of particle size of autogenous bone grafts on the early stages of bone regeneration: a histologic and stereologic study in rabbit calvarium. *Int J Oral Maxillofac Implants*, 2002. 17(4): p. 498-506.
99. Gellrich, N.C., et al., Alveolar zygomatic buttress: A new donor site for limited preimplant augmentation procedures. *Journal of oral and maxillofacial surgery : official journal of the American Association of Oral and Maxillofacial Surgeons*, 2007. 65(2): p. 275-80.
100. Draenert, F.G., et al., Bone augmentation in dental implantology using press-fit bone cylinders and twin-principle diamond hollow drills: a case series. *Clinical Implant Dentistry and Related Research*, 2011. 13(3): p. 238-43.
101. Giesenhausen, B., Die einzeitige vertikale Augmentation mit ringförmigen Knochentransplantaten in Z Zahnärztl Implantol2008. p. 43-46.
102. Cawood, J.I. and R.A. Howell, A classification of the edentulous jaws. *International Journal of Oral and Maxillofacial Surgery*, 1988. 17(4): p. 232-6.
103. Watzek, G. and G. Mailath-Pokorny, *Zahn-Mund-Kieferheilkunde*, Band 3: *Zahnärztliche Chirurgie*, in Stuttgart; New York: Thieme,, N. Schwenzer and M. Ehrenfeld, Editors. 2000. p. 132.
104. Lekholm, U., Surgical considerations and possible shortcomings of host sites. *J Prosthet Dent*, 1998. 79(1): p. 43-8.
105. Malo, P., B. Rangert, and M. Nobre, All-on-4 immediate-function concept with Branemark System implants for completely edentulous maxillae: a 1-year retrospective clinical study. *Clinical Implant Dentistry and Related Research*, 2005. 7 Suppl 1: p. S88-94.
106. Aparicio, C., P. Perales, and B. Rangert, Tilted implants as an alternative to maxillary sinus grafting: a clinical, radiologic, and periotest study. *Clinical Implant Dentistry and Related Research*, 2001. 3(1): p. 39-49.
107. Tonetti, M.S. and C.H. Hammerle, Advances in bone augmentation to enable dental implant placement: Consensus Report of the Sixth European Workshop on Periodontology. *J Clin Periodontol*, 2008. 35(8 Suppl): p. 168-72.

108. De Rouck, T., K. Collys, and J. Cosyn, Single-tooth replacement in the anterior maxilla by means of immediate implantation and provisionalization: a review. *Int J Oral Maxillofac Implants*, 2008. 23(5): p. 897-904.
109. John, V., R. De Poi, and S. Blanchard, Socket preservation as a precursor of future implant placement: review of the literature and case reports. *Compend Contin Educ Dent*, 2007. 28(12): p. 646-53; quiz 654, 671.
110. Noelken, R., et al., Soft and hard tissue alterations around implants placed in an alveolar ridge with a sloped configuration. *Clinical Oral Implants Research*, 2012.
111. Noelken, R., M. Kunkel, and W. Wagner, Immediate implant placement and provisionalization after long-axis root fracture and complete loss of the facial bony lamella. *The International journal of periodontics & restorative dentistry*, 2011. 31(2): p. 175-83.
112. Araujo, M.G., J.L. Wennstrom, and J. Lindhe, Modeling of the buccal and lingual bone walls of fresh extraction sites following implant installation. *Clin Oral Implants Res*, 2006. 17(6): p. 606-14.
113. Araujo, M.G., et al., Tissue modeling following implant placement in fresh extraction sockets. *Clin Oral Implants Res*, 2006. 17(6): p. 615-24.
114. Araujo, M.G., et al., Ridge alterations following implant placement in fresh extraction sockets: an experimental study in the dog. *J Clin Periodontol*, 2005. 32(6): p. 645-52.
115. Schropp, L., et al., Bone healing and soft tissue contour changes following single-tooth extraction: a clinical and radiographic 12-month prospective study. *Int J Periodontics Restorative Dent*, 2003. 23(4): p. 313-23.
116. Tatum, H., Jr., Maxillary and sinus implant reconstructions. *Dent Clin North Am*, 1986. 30(2): p. 207-29.
117. Becker, S.T., et al., Prospective observation of 41 perforations of the Schneiderian membrane during sinus floor elevation. *Clin Oral Implants Res*, 2008. 19(12): p. 1285-9.
118. Summers, R.B., A new concept in maxillary implant surgery: the osteotome technique. *Compendium*, 1994. 15(2): p. 152, 154-6, 158 passim; quiz 162.
119. Summers, R.B., The osteotome technique: Part 3--Less invasive methods of elevating the sinus floor. *Compendium*, 1994. 15(6): p. 698, 700, 702-4 passim; quiz 710