

8. Literaturverzeichnis

Aickin, M. und Gensler, H. (1996). Adjusting for multiple testing when reporting research results: the Bonferroni vs Holm methods. *Am J Public Health* 86(5): 726-8.

Alkan, A., Erdem, E., Gunhan, O. und Karasu, C. (2002). Histomorphometric evaluation of the effect of doxycycline on the healing of bone defects in experimental diabetes mellitus: a pilot study. *J Oral Maxillofac Surg* 60(8): 898-904.

Allan, D. G., Russell, G. G., Moreau, M. J., Raso, V. J. und Budney, D. (1990). Vertebral end-plate failure in porcine and bovine models of spinal fracture instrumentation. *J Orthop Res* 8(1): 154-6.

Amling, M. und Dellling, G. (1996). Cell biology of osteoclasts and molecular mechanisms of bone resorption. *Pathologie* 17(5): 358-67.

Anitua, E. (1999). Plasma rich in growth factors: preliminary results of use in the preparation of future sites for implants. *Int J Oral Maxillofac Implants* 14(4): 529-35.

Anitua, E. (2001). The use of plasma-rich growth factors (PRGF) in oral surgery. *Pract Proced Aesthet Dent* 13(6): 487-93.

Antoniades, H. N. und Williams, L. T. (1983). Human platelet-derived growth factor: structure and function. *Fed Proc* 42(9): 2630-4.

Arm, D. M., Tencer, A. F., Bain, S. D. und Celino, D. (1996). Effect of controlled release of platelet-derived growth factor from a porous hydroxyapatite implant on bone ingrowth. *Biomaterials* 17: 703-9.

Aronson, N., Filtzer, D. L. und Bagan, M. (1968). Anterior cervical fusion by the smith-robinson approach. *J Neurosurg* 29(4): 396-404.

Arrington, E. D., Smith, W. J., Chambers, H. G., Bucknell, A. L. und Davino, N. A. (1996). Complications of iliac crest bone graft harvesting. *Clin Orthop*(329): 300-9.

Aspenberg, P. und Turek, T. (1996). BMP-2 for intramuscular bone induction: effect in squirrel monkeys is dependent on implantation site. *Acta Orthop Scand* 67(1): 3-6.

Bailey, R. W. und Badgley, C. E. (1960). Stabilization of the cervical spine by anterior fusion. *Am J Orthop* 42-A: 565-94.

Banwart, J. C., Asher, M. A. und Hassanein, R. S. (1995). Iliac crest bone graft harvest donor site morbidity. A statistical evaluation. *Spine* 20(9): 1055-60.

Bartmeyer, B., Schell, H., Kadow-Romacker, A., Matziolis, G., Bail, H., Horst, A. und Duda, G. (2004, unpublished). The osteogenic potential of initial hematoma after tibial osteotomy. submitted to *Bone*.

Berchtold H. (1979): A modified MANN - WHITNEY Test with improved asymptotic relative efficiency. *Biometrical Journal*, 21: 649 - 55

Bezer, M., Kocaoglu, B., Aydin, N. und Guven, O. (2004). Comparison of traditional and intrafascial iliac crest bone-graft harvesting in lumbar spinal surgery. *Int Orthop* 14: 14.

Bilk, D. (2001). Synthetische Knochenaufbaumaterialien in Kombination mit autologen Wachstumsfaktoren und Stabilisierung durch eine Titanfolie-Kasuistiken. *Dent Implantol* 5: 198-207.

Blair, H. C. (1998). How the osteoclast degrades bone. *Bioessays* 20(10): 837-46.

Blancher, C., Omri, B., Bidou, L., Pessac, B. und Crisanti, P. (1996). Nectinepsin: a new extracellular matrix protein of the pexin family. Characterization of a novel cDNA encoding a protein with an RGD cell binding motif. *J Biol Chem* 271(42): 26220-6.

Blattert, T. R., Delling, G., Dalal, P. S., Toth, C. A., Balling, H. und Weckbach, A. (2002). Successful transpedicular lumbar interbody fusion by means of a composite of osteogenic protein-1 (rhBMP-7) and hydroxyapatite carrier: a comparison with autograft and hydroxyapatite in the sheep spine. *Spine* 27(23): 2697-705.

Blattert, T. R., Delling, G. und Weckbach, A. (2003). Evaluation of an injectable calcium phosphate cement as an autograft substitute for transpedicular lumbar interbody fusion: a controlled, prospective study in the sheep model. *Eur Spine J* 12(2): 216-23.

Boden, S. D. (2000). Biology of lumbar spine fusion and use of bone graft substitutes: present, future, and next generation. *Tissue Eng* 6(4): 383-99.

Boden, S. D., Martin, G. J., Jr., Morone, M. A., Ugbo, J. L. und Moskovitz, P. A. (1999). Posterolateral lumbar intertransverse process spine arthrodesis with recombinant human bone morphogenetic protein 2/hydroxyapatite-tricalcium phosphate after laminectomy in the nonhuman primate. *Spine* 24(12): 1179-85.

Boden, S. D., Martin, G. J. J., Horton, W. C., Truss, T. L. und Sandhu, H. S. (1998). Laproscopic anterior spinal arthrodesis with rh BMP-2 in a titanium interbody threaded cage. *J Spinal Disord* 11: 95-101.

Boden, S. D. und Schimandle, J. H. (1995 a). Biologic enhancement of spinal fusion. *Spine* 20 (24 Suppl): 113-23.

Boden, S. D., Schimandle, J. H. und Hutton, W. C. (1995 b). 1995 Volvo Award in basic sciences. The use of an osteoinductive growth factor for lumbar spinal fusion. Part II: Study of dose, carrier, and species. *Spine* 20(24): 2633-44.

Boden, S. D., Zdeblick, T. A., Sandhu, H. S. und Heim, S. E. (2000). The use of rhBMP-2 in interbody fusion cages. Definitive evidence of osteoinduction in humans: a preliminary report. *Spine* 25(3): 376-81.

Bohlman, H. H., Emery, S. E., Goodfellow, D. B. und Jones, P. K. (1993). Robinson anterior cervical discectomy and arthrodesis for cervical radiculopathy. Long-term follow-up of one hundred and twenty-two patients. *J Bone Joint Surg Am* 75(9): 1298-307.

Bourque, W. T., Gross, M. und Hall, B. K. (1992). A reproducible method for producing and quantifying the stages of fracture repair. *Lab Anim Sci* 42(4): 369-74.

Brantigan, J. W., McAfee, P. C., Cunningham, B. W., Wang, H. und Orbegoso, C. M. (1994). Interbody lumbar fusion using a carbon fiber cage implant versus allograft bone. An investigational study in the Spanish goat. *Spine* 19(13): 1436-44.

Brantigan, J. W., Steffee, A. D. und Geiger, J. M. (1991). A carbon fiber implant to aid interbody lumbar fusion. Mechanical testing. *Spine* 16(6 Suppl): S277-82.

- Brantigan, J. W., Steffee, A. D., Lewis, M. L., Quinn, L. M. und Persenaire, J. M. (2000). Lumbar interbody fusion using the Brantigan I/F cage for posterior lumbar interbody fusion and the variable pedicle screw placement system: two-year results from a Food and Drug Administration investigational device exemption clinical trial. *Spine* 25(11): 1437-46.
- Braun, W. und Ruter, A. (1996). Fracture healing. Morphologic and physiologic aspects. *Unfallchirurg* 99 (1): 59-67.
- Brighton, C. T. (1984). The biology of fracture repair. *Instr Course Lect* 33: 60-82.
- Brill, T. (1992). Prä- und postoperative klinische Untersuchungen am Versuchstier. Dissertation. Fachbereich Veterinärmedizin. Ludwig Maximilian Universität München.
- Brodke, D. S., Dick, J. C., Kunz, D. N., McCabe, R. und Zdeblick, T. A. (1997). Posterior lumbar interbody fusion. A biomechanical comparison, including a new threaded cage. *Spine* 22(1): 26-31.
- Brodke, D. S. und Zdeblick, T. A. (1992). Modified Smith-Robinson procedure for anterior cervical discectomy and fusion. *Spine* 17(10 Suppl): 427-30.
- Brown, M. D., Malinin, T. I. und Davis, P. B. (1976). A roentgenographic evaluation of frozen allografts versus autografts in anterior cervical spine fusions. *Clin Orthop*(119): 231-6.
- Bubnoff von, A. und Cho, K. W. Y. (2001). Intracellular BMP signaling regulation in vertebrates: pathway or network? *Developmental Biology* 239: 1-14.
- Bucher, O. und Wartenberg, H. (1997). Cytologie, Histologie und mikroskopische Anatomie des Menschen. Seiten: 183-99 .Bern, Huber Verlag.
- Cain, C. C. und Fraser, R. D. (1995). Bony and vascular anatomy of the normal cervical spine in the sheep. *Spine* 20(7): 759-65.
- Carlson, E. R. (2000). Bone grafting the jaws in the 21st century: the use of platelet-rich plasma and bone morphogenetic protein. *Alpha Omegan* 93(3): 26-30.

Chao, E. Y., Aro, H. T., Lewallen, D. G. und Kelly, P. J. (1989). The effect of rigidity on fracture healing in external fixation. *Clin Orthop*(241): 24-35.

Cizek, G. R. und Boyd, L. M. (2000). Imaging pitfalls of interbody spinal implants. *Spine* 25(20): 2633-6.

Cloward, R. B. (1971). Complications of anterior cervical disc operation and their treatment. *Surgery* 69(2): 175-82.

Cloward, R. B. (1988). The anterior surgical approach to the cervical spine: the Cloward Procedure: past, present, and future. *Spine* 13(7): 823-7.

Cloward, R. B. (1958). The anterior approach for removal of ruptured cervical discs. *J Neurosurg* 15: 602-617.

Colterjohn, N. R. und Bednar, D. A. (1997). Procurement of bone graft from the iliac crest. An operative approach with decreased morbidity. *J Bone Joint Surg Am* 79(5): 756-9.

Cook, S. D. und Rueger, D. C. (1996). Osteogenic protein-1: biology and applications. *Clin Orthop*(324): 29-38.

Cooperman, L. und Michaeli, D. (1984). The immunogenicity of injectable collagen. I. A 1-year prospective study. *J Am Acad Dermatol* 10(4): 638-46.

Craig, W. S., Cheng, S., Mullen, D. G., Blevitt, J. und Pierschbacher, M. D. (1995). Concept and progress in the development of RGD-containing peptide pharmaceuticals. *Biopolymers* 37(2): 157-75.

Cruess, R. L. und Dumont, J. (1975). Fracture healing. *Can J Surg* 18(5): 403-13.

Cunningham, B. W., Kanayama, M. und Parker, L. M. (1999). Osteogenic protein versus autologous interbody arthrodesis in the sheep thoracic spine. A endoscopic study using the Bagby and Kuslich interbody fusion device. *Spine* 24: 509-18.

Cunningham, B. W. und Polly, D. W., Jr. (2002 a). The use of interbody cage devices for spinal deformity: a biomechanical perspective. *Clin Orthop* (394): 73-83.

Cunningham, B. W., Shimamoto, N., Sefter, J. C., Dmitriev, A. E., Orbegoso, C. M., McCarthy, E. F., Fedder, I. L und McAfee, P. C. (2002 b). Osseointegration of autograft versus osteogenic protein-1 in posterolateral spinal arthrodesis: emphasis on the comparative mechanisms of bone induction Spine J 2(1): 11-24.

Curasan (2000). Richtig und erfolgreich arbeiten mit Cerasorb. www.curasan.de.

David, S. M., Gruber, H. E., Meyer, R. A., Jr., Murakami, T., Tabor, O. B., Howard, B. A., Wozney, J. M. und Hanley, E. N., Jr. (1999). Lumbar spinal fusion using recombinant human bone morphogenetic protein in the canine. A comparison of three dosages and two carriers. Spine 24(19): 1973-9.

DeBowes, R. M., Grant, B. D., Bagby, G. W., Gallina, A. M., Sande, R. D. und Ratzlaff, M. H. (1984). Cervical vertebral interbody fusion in the horse: a comparative study of bovine xenografts and autografts supported by stainless steel baskets. Am J Vet Res 45(1): 191-9.

Delforge, D., Art, M., Gillon, B., Dieu, M., Delaive, E., Raes, M. und Remacle, J. (1996). Automated solid-phase synthesis of cyclic peptides bearing a side-chain tail designed for subsequent chemical grafting. Anal Biochem 242(2): 180-6.

DeLustro, F., Dasch, J., Keefe, J. und Ellingsworth, L. (1990). Immune responses to allogeneic and xenogeneic implants of collagen and collagen derivatives. Clin Orthop(260): 263-79.

Dennis, S., Watkins, R., Landaker, S., Dillin, W. und Springer, D. (1989). Comparison of disc space heights after anterior lumbar interbody fusion. Spine 14(8): 876-8.

DePalma, A. F., Rothman, R. H., Lewinnek, G. E. und Canale, S. T. (1972). Anterior interbody fusion for severe cervical disc degeneration. Surg Gynecol Obstet 134(5): 755-8.

Donath, K. (1995). Preparation of Histologic Sections by the Cutting-Grinding Technique for Hard Tissue and other Material not suitable to be sectioned by routine methods. Seiten: 1-23. Norderstedt, Exakt - Kulzer - Publication.

Donath, K., Hormann, K. und Kirsch, A. (1985). What is the effect of hydroxylapatite ceramics on bone formation? Dtsch Z Mund Kiefer Gesichtschir 9(6): 438-40.

Ducy, P. und Gearard, K. (2000). The family of bone morphogenetic proteins. *Kidney International* 57: 2207-14.

Duda, G. N., Eckert-Hubner, K., Sokiranski, R., Kreutner, A., Miller, R. und Claes, L. (1998). Analysis of inter-fragmentary movement as a function of musculoskeletal loading conditions in sheep. *J Biomech* 31(3): 201-10.

Duong, L. T., Lakkakorpi, P., Nakamura, I. und Rodan, G. A. (2000). Integrins and signaling in osteoclast function. *Matrix Biol* 19(2): 97-105.

Eitel, F., Schenk, R. K. und Schweiberer, L. (1980). Cortical revascularization after medullary nailing in dog tibiae (author's transl). *Unfallheilkunde* 83(5): 202-7.

Eitel, F., Seiler, H. und Schweiberer, L. (1981). Morphologic examination of animal-experiment results: comparison with regeneration of the human bone-structure. I. Research methods (author's transl). *Unfallheilkunde* 84(6): 250-4.

Ellingsworth, L. R., DeLustro, F., Brennan, J. E., Sawamura, S. und McPherson, J. (1986). The human immune response to reconstituted bovine collagen. *J Immunol* 136(3): 877-82.

Emery, S. E., Bolesta, M. J., Banks, M. A. und Jones, P. K. (1994 a). Robinson anterior cervical fusion comparison of the standard and modified techniques. *Spine* 19(6): 660-3.

Emery, S. E., Brazinski, M. S., Koka, A., Bensusan, J. S. und Stevenson, S. (1994 b). The biological and biomechanical effects of irradiation on anterior spinal bone grafts in a canine model. *J Bone Joint Surg Am* 76(4): 540-8.

Evans, J. H. (1985). Biomechanics of lumbar fusion. *Clin Orthop*(193): 38-46.

Eymer, H. und Preusse, F.-E. (1999). Platelet-Rich-Plasma: Erste klinische Beobachtungen mit autologen Wachstumsfaktoren zur Verbesserung augmentativer Verfahren mit autologem, xenogenem sowie synthetischen Knochenersatzmaterial. *Implantologie* 4: 399-406.

Eysel, P., Furderer, S., Rompe, J. D. und Zollner, J. (2000). Initial instability of different cages for fusion of the cervical spine. *Zentralbl Neurochir* 61(4): 171-6.

Ferris, D. M., Moodie, G. D., Dimond, P. M., Gioranni, C. W., Ehrlich, M. G. und Valentini, R. F. (1999). RGD-coated titanium implants stimulate increased bone formation in vivo. *Biomaterials* 20(23-24): 2323-31.

Fischgrund, J. S., James, S. B., Chabot, M. C., Hankin, R., Herkowitz, H. N., Wozney, J. M. und Shirkhoda, A. (1997). Augmentation of autograft using rhBMP-2 and different carrier media in the canine spinal fusion model. *J Spinal Disord* 10(6): 467-72.

Frick, H., Leonhardt, H. und Strack, D. (1992). *Allgemeine Anatomie*. Seiten: 454-79. Stuttgart, New York, Thieme-Verlag.

Friedersdorff, F. (in Vorbereitung). Radiologische Evaluation eines bioaktiven Implantats zur Spondylodese der Halswirbelsäule. Dissertation. Fachbereich Medizin, Charité Universitätsmedizin Berlin.

Gelinsky, M., König, U., Sewing, A. und Pompe, W. (2004). Poröse Scaffolds aus mineralisiertem Kollagen - ein biomimetisches Knochenersatzmaterial. *Mat.-wiss u. Werkstofftech* 35(4): 229-33.

Genes, N. G., Rowley, J. A., Mooney, D. J. und Bonassar, L. J. (2004). Effect of substrate mechanics on chondrocyte adhesion to modified alginate surfaces. *Arch Biochem Biophys* 422(2): 161-7.

Goodship, A. E. und Kenwright, J. (1985). The influence of induced micromovement upon the healing of experimental tibial fractures. *J Bone Joint Surg Br* 67(4): 650-5.

Gordh, M., Alberius, P., Johnell, O., Lindberg, L. und Linde, A. (1999). Effects of rhBMP-2 and osteopromotive membranes on experimental bone grafting. *Plast Reconstr Surg* 103(7): 1909-18.

Goulet, J. A., Senunas, L. E., DeSilva, G. L. und Greenfield, M. L. (1997). Autogenous iliac crest bone graft. Complications and functional assessment. *Clin Orthop*(339): 76-81.

Grauer, J. N., Patel, T. C., Erulkar, J. S., Troiano, N. W., Panjabi, M. M. und Friedlaender, G. E. (2001). 2000 Young Investigator Research Award winner. Evaluation of OP-1 as a graft substitute for intertransverse process lumbar fusion. *Spine* 26(2): 127-33.

Hacker, R. J. (2002). Threaded cages for degenerative cervical disease. *Clin Orthop* 394: 39-46.

Hacker, R. J., Cauthen, J. C., Gilbert, T. J. und Griffith, S. L. (2000). A prospective randomized multicenter clinical evaluation of an anterior cervical fusion cage. *Spine* 25(20): 2646-54.

Harms, J. (2000). Interbody fusion with Meshed-Titanium-Cages. Cagemeeting. 26.Oktober 2000, Hamburg, Deutschland.

Hecht, B. P., Fischgrund, J. S., Herkowitz, H. N., L., P., Toth, J. M. und Shirkhoda, A. (1999). The use of recombinant human bone morphogenetic protein 2 (rhBMP-2) to promote spinal fusion in a nonhuman primate anterior interbody fusion model. *Spine* 24: 629-36.

Hee, H. T., Majd, M. E., Holt, R. T. und Myers, L. (2003). Do autologous growth factors enhance transforaminal lumbar interbody fusion? *Eur Spine J* 12(4): 400-7.

Heller, J. G., Zdeblick, T. A., Kunz, D. A., McCabe, R. und Cooke, M. E. (1993). Spinal instrumentation for metastatic disease: in vitro biomechanical analysis. *J Spinal Disord* 6(1): 17-22.

Hern, D. L. und Hubbell, J. A. (1998). Incorporation of adhesion peptides into nonadhesive hydrogels useful for tissue resurfacing. *J Biomed Mater Res* 39(2): 266-76.

Hill, N. M., Horne, J. G. und Devane, P. A. (1999). Donor site morbidity in the iliac crest bone graft. *Aust N Z J Surg* 69(10): 726-8.

Hoffmann, R., Weller, A., Helling, H. J., Krettek, C. und Rehm, K. E. (1997). Local foreign body reactions to biodegradable implants. A classification. *Unfallchirurg* 100(8): 658-66.

Hood, A. G., Hill, A. G., Reeder, G. D. und Potter, P. S. (1993). Perioperative Autologous Sequestration III: A new Physiologic Glue with Wound Healing Properties. *Proceedings of the American Academy of Cardiovascular Perfusion* 14: 126-9.

Horisaka, Y., Okamoto, Y., Matsumoto, N., Yoshimura, Y., Hirano, A., Nishida, M., Kawada, J., Yamashita, K. und Takagi, T. (1994). Histological changes of implanted collagen material during bone induction. *J Biomed Mater Res* 28(1): 97-103.

Horton, M. A. (1995). Interactions of connective tissue cells with the extracellular matrix. *Bone* 17(2 Suppl): 51-3.

Horton, M. A., Nesbit, M. A. und Helfrich, M. H. (1995). Interaction of osteopontin with osteoclast integrins. *Ann N Y Acad Sci* 760: 190-200.

Hoshi, K., Amizuka, N., Sakou, T., Kurokawa, T. und Ozawa, H. (1997). Fibroblasts of spinal ligaments pathologically differentiate into chondrocytes induced by recombinant human bone morphogenetic protein-2: morphological examinations for ossification of spinal ligaments. *Bone* 21(2): 155-62.

Howell, T. H., Fiorellini, J. P., Paquette, D. W., Offenbacher, S., Giannobile, W. V. und Lynch, S. E. (1997). A phase I/II clinical trial to evaluate a combination of recombinant human platelet-derived growth factor-BB and recombinant human insulin-like growth factor-I in patients with periodontal disease. *J Periodontol* 68(12): 1186-93.

Hu, Y., Winn, S. R., Krajchich, I. und Hollinger, J. O. (2003). Porous polymer scaffolds surface-modified with arginine-glycine-aspartic acid enhance bone cell attachment and differentiation in vitro. *J Biomed Mater Res* 64A(3): 583-90.

Huang, H., Zhao, Y., Liu, Z., Zhang, Y., Zhang, H., Fu, T. und Ma, X. (2003). Enhanced osteoblast functions on RGD immobilized surface. *J Oral Implantol* 29(2): 73-9.

Hunt, J. A. und Williams, D. F. (1995). Quantifying the soft tissue response to implanted materials. *Biomaterials* 16(3): 167-70.

Itoh, H., Ebara, S., Kamimura, M., Tateiwa, Y., Kinoshita, T., Yuzawa, Y. und Takaoka, K. (1999). Experimental spinal fusion with use of recombinant human bone morphogenetic protein 2. *Spine* 24(14): 1402-5.

Jarcho, M. (1981). Calcium phosphate ceramics as hard tissue prosthetics. *Clin Orthop*(157): 259-78.

Johnson, E. F., Caldwell, R. W., Berryman, H. E., Miller, A. und Chetty, K. (1984). Elastic fibers in the annulus fibrosus of the dog intervertebral disc. *Acta Anat (Basel)* 118(4): 238-42.

Joos, U. und Ochs, G. (1979). Effect of dissolved heterologous collagen on human platelet aggregation. *Dtsch Zahnarztl Z* 34(1): 35-7.

Jost, B., Cripton, P. A., Lund, T., Oxland, T. R., Lippuner, K., Jaeger, P. und Nolte, L. P. (1998). Compressive strength of interbody cages in the lumbar spine: the effect of cage shape, posterior instrumentation and bone density. *Eur Spine J* 7(2): 132-41.

Junqueira, L. C. und Carneiro, J. (1996). *Histologie*. Seiten: 188-9, 291. Berlin, Heidelberg, Springer-Verlag.

Kandziora, F., Pflugmacher, R., Schafer, J., Born, C., Duda, G., Haas, N. P. und Mittlmeier, T. (2001 a). Biomechanical comparison of cervical spine interbody fusion cages. *Spine* 26(17): 1850-7.

Kandziora, F., Pflugmacher, R., Scholz, M., Schafer, J., Schollmeier, G., Schnake, K. J., Bail, H., Duda, G. und Haas, N. P. (2002 a). Experimental fusion of the sheep cervical spine. Part I: Effect of cage design on interbody fusion. *Chirurg* 73(9): 909-17.

Kandziora, F., Pflugmacher, R., Scholz, M., Schnake, K., Lucke, M., Schroder, R. und Mittlmeier, T. (2001 b). Comparison between sheep and human cervical spines: an anatomic, radiographic, bone mineral density, and biomechanical study. *Spine* 26(9): 1028-37.

Kandziora, F., Schmidmaier, G., Schollmeier, G., Bail, H., Pflugmacher, R., Gorke, T., Wagner, M., Raschke, M., Mittlmeier, T. und Haas, N. P. (2002 b). IGF-I and TGF-beta1 application by a poly-(D,L-lactide)-coated cage promotes intervertebral bone matrix formation in the sheep cervical spine. *Spine* 27(16): 1710-23.

Kandziora, F., Schollmeier, G., Scholz, M., Schaefer, J., Scholz, A., Schmidmaier, G., Schroder, R., Bail, H., Duda, G., Mittlmeier, T. und Mitarbeiter. (2002 c). Influence of cage design on interbody fusion in a sheep cervical spine model. *J Neurosurg* 96(3 Suppl): 321-32.

Kandziora, F., Scholz, M., Pflugmacher, R., Krummrey, G., Schollmeier, G., Schmidmaier, G., Schnake, K. J., Duda, G., Raschke, M. und Haas, N. P. (2002 d). Experimental fusion of the sheep cervical spine. Part II: Effect of growth factors and carrier systems on interbody fusion. *Chirurg* 73(10): 1025-38.

Kantlehner, M., Finsinger, D., Meyer, J., Schaffner, P., Jonczyk, A., Diefenbach, B., Nies, B. und Kessler, H. (1999). Selektive RGD-vermittelte Adhäsion von Osteoblasten an Implantat-Oberflächen. *Angew Chem* 111(4): 587-90.

Kantlehner, M., Schaffner, P., Finsinger, D., Meyer, J., Jonczyk, A., Diefenbach, B., Nies, B., Holzemann, G., Goodman, S. L. und Kessler, H. (2000). Surface coating with cyclic RGD peptides stimulates osteoblast adhesion and proliferation as well as bone formation. *Chembiochem* 1(2): 107-14.

Kassolis, J. D., Rosen, P. S. und Reynolds, M. A. (2000). Alveolar ridge and sinus augmentation utilizing platelet-rich plasma in combination with freeze-dried bone allograft: case series. *J Periodontol* 71(10): 1654-61.

Katthagen, B. D. und Mittelmeier, H. (1984). Experimental animal investigation of bone regeneration with collagen-apatite. *Arch Orthop Trauma Surg* 103(5): 291-302.

Kleeman, T. J., Ahn, U. M. und Talbot-Kleeman, A. (2001). Laparoscopic anterior lumbar interbody fusion with rhBMP-2: a prospective study of clinical and radiographic outcomes. *Spine* 26(24): 2751-6.

Klein, P., Schell, H., Streitparth, F., Heller, M., Kassi, J. P., Kandziora, F., Bragulla, H., Haas, N. P. und Duda, G. N. (2003). The initial phase of fracture healing is specifically sensitive to mechanical conditions. *J Orthop Res* 21(4): 662-9.

Knighton, D. R., Ciresi, K., Fiegel, V. D., Schumerth, S., Butler, E. und Cerra, F. (1990). Stimulation of repair in chronic, nonhealing, cutaneous ulcers using platelet-derived wound healing formula. *Surg Gynecol Obstet* 170(1): 56-60.

Knighton, D. R., Ciresi, K. F., Fiegel, V. D., Austin, L. L. und Butler, E. L. (1986). Classification and treatment of chronic nonhealing wounds. Successful treatment with autologous platelet-derived wound healing factors (PDWHF). *Ann Surg* 204(3): 322-30.

Knighton, D. R., Hunt, T. K., Thakral, K. K. und Goodson, W. H., 3rd (1982). Role of platelets and fibrin in the healing sequence: an in vivo study of angiogenesis and collagen synthesis. *Ann Surg* 196(4): 379-88.

Kon, T., Yamazaki, M., Tagawa, M., Goto, S., Terakado, A., Moriya, H. und Fujimura, S. (1997). Bone morphogenetic protein-2 stimulates differentiation of cultured spinal ligament cells from patients with ossification of the posterior longitudinal ligament. *Calcif Tissue Int* 60(3): 291-6.

Köster, K., Ehard, H., Kubicek, J. und Heide, H. (1979). Experimentelle Anwendung von Calciumphosphatgranulat zur Substitution von konventionellen Knochentransplantaten. *Z Orthop* 118: 398-403.

Kuboki, Y., Saito, T., Murata, M., Takita, H., Mizuno, M., Inoue, M., Nagai, N. und Poole, A. R. (1995). Two distinctive BMP-carriers induce zonal chondrogenesis and membranous ossification, respectively; geometrical factors of matrices for cell-differentiation. *Connect Tissue Res* 32(1-4): 219-26.

Kuslich, S. D., Danielson, G., Dowdle, J. D., Sherman, J., Fredrickson, B., Yuan, H. und Griffith, S. L. (2000). Four-year follow-up results of lumbar spine arthrodesis using the Bagby and Kuslich lumbar fusion cage. *Spine* 25(20): 2656-62.

Kuslich, S. D., Ulstrom, C. L., Griffith, S. L., Ahern, J. W. und Dowdle, J. D. (1998). The Bagby and Kuslich method of lumbar interbody fusion. History, techniques, and 2year follow-up results of a United States prospective, multicenter trial. *Spine* 23(11): 1267-78.

Laing, R. J., Ng, I., Seeley, H. M. und Hutchinson, P. J. (2001). Prospective study of clinical and radiological outcome after anterior cervical discectomy. *Br J Neurosurg* 15(4): 319-23.

Landesberg, R., Roy, M. und Glickman, R. S. (2000). Quantification of growth factor levels using a simplified method of platelet-rich plasma gel preparation. *J Oral Maxillofac Surg* 58(3): 297-300.

Lange, M., Philipp, A., Fink, U. und Oeckler, R. (2000). Anterior cervical spine fusion using RABEA-Titan-Cages avoiding iliac crest spongiosa: first experiences and results. *Neurol Neurochir Pol* 34(6 Suppl): 64-9.

Laursen, M., Hoy, K., Hansen, E. S., Gelineck, J., Christensen, F. B. und Bunger, C. E. (1999). Recombinant bone morphogenetic protein-7 as an intracorporal bone growth stimulator in unstable thoracolumbar burst fractures in humans: preliminary results. *Eur Spine J* 8(6): 485-90.

Lee, E. J., Hung, Y. C., Lee, M. Y., Yan, J. J., Lee, Y. T., Chang, J. H., Chang, G. L. und Chung, K. C. (1999). Kinematics of cervical spine discectomy with and without bone grafting: quantitative evaluation of late fusion in a sheep model. *Neurosurgery* 44(1): 139-46.

Lee, Y. M., Park, Y. J., Lee, S. J., Ku, Y., Han, S. B., Klokkevold, P. R. und Chung, C. P. (2000). The bone regenerative effect of platelet-derived growth factor-BB delivered with a chitosan/tricalcium phosphate sponge carrier. *J Periodontol* 71(3): 418-24.

Li, H., Zou, X., Laursen, M., Egund, N., Lind, M. und Bunger, C. (2002). The influence of intervertebral disc tissue on anterior spinal interbody fusion: an experimental study on pigs. *Eur Spine J* 11(5): 476-81.

Li, H., Zou, X., Xue, Q., Egund, N., Lind, M. und Bunger, C. (2004). Anterior lumbar interbody fusion with carbon fiber cage loaded with bioceramics and platelet-rich plasma. An experimental study on pigs. *Eur Spine J* 17: 17.

Liebich, J. (1999). Funktionelle Histologie der Haussäugetiere. Seiten: 72-84. Stuttgart, Schattauer.

Lind, M. (1998). Growth factor stimulation of bone healing. Effects on osteoblasts, osteomies, and implants fixation. *Acta Orthop Scand Suppl* 283: 2-37.

Lowery, G. L. und Harms, J. (1996). Titanium surgical mesh for vertebral defect replacement and intervertebral spacers. Thalgott JS, Aebi M (eds) *Manual of internal fixation of the spine*. Lippincott-Raven Publishers, Philadelphia: 127-46.

Lowery, G. L., Kulkarni, S. und Pennisi, A. E. (1999). Use of autologous growth factors in lumbar spinal fusion. *Bone* 25(2 Suppl): 47-50.

Lund, T., Oxland, T. R., Jost, B., Cripton, P., Grassmann, S., Etter, C. und Nolte, L. P. (1998). Interbody cage stabilisation in the lumbar spine: biomechanical evaluation of cage design, posterior instrumentation and bone density. *J Bone Joint Surg Br* 80(2): 351-9.

Magin, M. N. und Delling, G. (2001). Improved lumbar vertebral interbody fusion using rhOP-1: a comparison of autogenous bone graft, bovine hydroxylapatite (Bio-Oss), and BMP-7 (rhOP-1) in sheep. *Spine* 26(5): 469-78.

Marsh, D. R. und Li, G. (1999). The biology of fracture healing: optimising outcome. *Br Med Bull* 55(4): 856-69.

Martin, G. J., Jr., Boden, S. D., Marone, M. A. und Moskovitz, P. A. (1999). Posterolateral intertransverse process spinal arthrodesis with rhBMP-2 in a nonhuman primate: important lessons learned regarding dose, carrier, and safety. *J Spinal Disord* 12(3): 179-86.

Marx, R. E., Carlson, E. R., Eichstaedt, R. M., Schimmele, S. R., Strauss, J. E. und Georgeff, K. R. (1998). Platelet-rich plasma: Growth factor enhancement for bone grafts. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 85(6): 638-46.

McAfee, P. C., Regan, J. J., Farey, I. D., Gurr, K. R. und Warden, K. E. (1988). The biomechanical and histomorphometric properties of anterior lumbar fusions: a canine model. *J Spinal Disord* 1(2): 101-10.

Meyer, R. A., Jr., Gruber, H. E., Howard, B. A., Tabor, O. B., Jr., Murakami, T., Kwiatkowski, T. C., Wozney, J. M. und Hanley, E. N., Jr. (1999). Safety of recombinant human bone morphogenetic protein-2 after spinal laminectomy in the dog. *Spine* 24(8): 747-54.

Mimatsu, K., Kishi, S. und Hashizume, Y. (1997). Experimental chronic compression on the spinal cord of the rabbit by ectopic bone formation in the ligamentum flavum with bone morphogenetic protein. *Spinal Cord* 35(11): 740-6.

Mittelmeier, H., Hanser, U. und Harms, J. (1980). Zur Lösung des Zementproblems mittels Apatit-Carbonfaser-Knochenzement. *Z Orthop* 118: 658.

Netter, F. (2003). *Atlas der Anatomie des Menschen*. Tafeln 165-6. Stuttgart, Thieme Verlag.

Nibu, K., Panjabi, M. M., Oxland, T. und Cholewicki, J. (1997). Multidirectional stabilising potential of BAK interbody spinal fusion system for anterior surgery. *J Spinal Disord* 10: 357-62.

Nickel, R., Schummer, A. und Seiferle, E. (1992). *Lehrbuch der Anatomie der Haustiere*. Band 1 Bewegungsapparat. Seiten: 30-8, 555-63. Berlin, Hamburg, Verlag Paul Parey.

Nizard, M. (1981). Knochengewebsneubildung durch Collagen-Apatit-Implantation. Habilitationsschrift aus der orthopädischen Universitätsklinik und Poliklinik. Homburg/Saar.

Noble, B. S. und Reeve, J. (2000). Osteocyte function, osteocyte death and bone fracture resistance. *Mol Cell Endocrinol* 159(1-2): 7-13.

Noda, M. (1998). In vivo stimulation of bone formation by transforming growth factor β . *Endocrinology* 124: 2991-4.

Osborn, J. F. (1979). Biomaterials and their application to implantation. *SSO Schweiz Monatsschr Zahnheilkd* 89(11): 1138-9.

Osborn, J. F. (1987). Die biologischer Leistung der Hydroxylapatitkeramik-Beschichtung auf dem Femurschaft einer Titan-Endoprothese - erste histologische Auswertung eines Humanimplantates. *Biomech Tech* 32: 177.

Osti, O. L., Vernon-Roberts, B. und Fraser, R. D. (1990). 1990 Volvo Award in experimental studies. Anulus tears and intervertebral disc degeneration. An experimental study using an animal model. *Spine* 15(8): 762-7.

Paar, O., Andereya, S., Staatz, G., Ambacher, T. und Erli, H. J. (2001). Value of human recombinant osteogenetic proteins as bone replacement materials in lumbar spondylodesis. Results of an animal experiment study. *Unfallchirurg* 104(8): 700-9.

Palmer, R. H., Hulse, D. A., Hyman, W. A. und Palmer, D. R. (1992). Principles of bone healing and biomechanics of external skeletal fixation. *Vet Clin North Am Small Anim Pract* 22(1): 45-68.

Paramore, C. G., Laurysen, C., Rauzzino, M. J., Wadlington, V. R., Palmer, C. A., Brix, A., Cartner, S. C. und Hadley, M. N. (1999). The safety of OP-1 for lumbar fusion with decompression-- a canine study. *Neurosurgery* 44(5): 1151-5.

Parthiban, J. K., Singhanian, B. K. und Ramani, P. S. (2002). A radiological evaluation of allografts (ethylene oxide sterilized cadaver bone) and autografts in anterior cervical fusion. *Neurol India* 50(1): 17-22.

Patel, T. C., Erulkar, J. S., Grauer, J. N., Troiano, N. W., Panjabi, M. M. und Friedlaender, G. E. (2001). Osteogenic protein-1 overcomes the inhibitory effect of nicotine on posterolateral lumbar fusion. *Spine* 26(15): 1656-61.

Pettersson, K., Hildingsson, C., Toolanen, G., Fagerlund, M. und Bjornebrink, J. (1997). Disc pathology after whiplash injury. A prospective magnetic resonance imaging and clinical investigation. *Spine* 22(3): 283-7.

Pflugmacher, R., Eindorf, T., Scholz, M., Gumnior, S., Krall, C., Schleicher, P., Haas, N. P. und Kandziora, F. (2004). Biodegradable cage Osteointegration in spondylodesis of the sheep cervical spine. *Chirurg* 14: 14.

Pierschbacher, M. D. und Ruoslahti, E. (1984). Cell attachment activity of fibronectin can be duplicated by small synthetic fragments of the molecule. *Nature* 309(5963): 30-3.

Pitzen, T., Kranzlein, K., Steudel, W. I. und Strowitzki, M. (2004). Complaints and findings at the iliac crest donor site following anterior cervical fusion. *Zentralbl Neurochir* 65(1): 7-12

Profeta, G., de Falco, R., Ianniciello, G., Profeta, L., Cigliano, A. und Raja, A. I. (2000). Preliminary experience with anterior cervical microdiscectomy and interbody titanium cage fusion (Novus CT-Ti) in patients with cervical disc disease. *Surg Neurol* 53: 417-26.

Rapoff, A. J., Ghanayem, A. J. und Zdeblick, T. A. (1997). Biomechanical comparison of posterior lumbar interbody fusion cages. *Spine* 22: 2375-9.

Rapoff, A. J., Johnson, W. M., Handel, J. und Woo, R. (2003). Interbody allograft in a skeletally immature spine model. *Eur Spine J* 12(3): 307-13.

Reinacker, M. in Dahme, E. und Weiss, E. (1999). Grundriß der speziellen pathologischen Anatomie der Haustiere. Seite: 320. Stuttgart, Enke.

Remedios, A. (1999). Bone and bone healing. *Vet Clin North Am Small Anim Pract* 29(5): 1029-44.

Rezania, A. und Healy, K. E. (1999 a). Biomimetic peptide surfaces that regulate adhesion, spreading, cytoskeletal organization, and mineralization of the matrix deposited by osteoblast-like cells. *Biotechnol Prog* 15(1): 19-32.

Rezania, A. und Healy, K. E. (1999 b). Integrin subunits responsible for adhesion of human osteoblast-like cells to biomimetic peptide surfaces. *J Orthop Res* 17(4): 615-23.

Ripamonti, U. (1991). The induction of bone in osteogenic composites of bone matrix and porous hydroxyapatite replicas: an experimental study on the baboon (*Papio ursinus*). *J Oral Maxillofac Surg* 49(8): 817-30.

Robey, P. G. (1996). Vertebrate mineralized matrix proteins: structure and function. *Connect Tissue Res* 35(1-4): 131-6.

Robinson, R. und Smith, G. (1955). Antero-lateral cervical disc removal and interbody fusion for cervical disc syndrome. *Bull John Hopkins Hosp* 96: 223-4.

Robinson, R. A., Wiecking, D. K., Walker, A. E. und Ferlic, D. C. (1962). The results of anterior interbody fusion of the cervical spine. *J Bone Joint Surg Am* 44(A): 1569-87.

Rueger, J. M. (1992). Knochenersatzmittel. *Hefte Unfallheilkd* 213: 32-5.

Ruoslahti, E. und Pierschbacher, M. D. (1987). New perspectives in cell adhesion: RGD and integrins. *Science* 238(4826): 491-7.

Sandhu, H. S., Kanim, L. E., Kabo, J. M., Toth, J. M., Zeegen, E. N., Liu, D., Delamarter, R. B. und Dawson, E. G. (1996 a). Effective doses of recombinant human bone morphogenetic protein-2 in experimental spinal fusion. *Spine* 21(18): 2115-22.

Sandhu, H. S., Kanim, L. E., Toth, J. M., Kabo, J. M., Liu, D., Delamarter, R. B. und Dawson, E. G. (1997). Experimental spinal fusion with recombinant human bone morphogenetic protein-2 without decortication of osseous elements. *Spine* 22(11): 1171-80.

Sandhu, H. S., Khan, S. N., Suh, D. Y. und Boden, S. D. (2001). Demineralized bone matrix, bone morphogenetic proteins, and animal models of spine fusion: an overview. *Eur Spine J* 10(Suppl 2): S122-31.

Sandhu, H. S., Toth, J. M., Diwan, A. D., Seim, H. B., 3rd, Kanim, L. E., Kabo, J. M. und Turner, A. S. (2002). Histologic evaluation of the efficacy of rhBMP-2 compared with autograft bone in sheep spinal anterior interbody fusion. *Spine* 27(6): 567-75.

Sandhu, H. S., Turner, S., Kabo, J. M., Kanim, L. E., Liu, D., Nourparvar, A., Delamarter, R. B. und Dawson, E. G. (1996 b). Distractive properties of a threaded interbody fusion device. An in vivo model. *Spine* 21(10): 1201-10.

Sankoh, A. J., Huque, M. F. und Dubey, S. D. (1997). Some comments on frequently used multiple endpoint adjustment methods in clinical trials. *Stat Med* 16(22): 2529-42.

Sasano, Y., Ohtani, E., Narita, K., Kagayama, M., Murata, M., Saito, T., Shigenobu, K., Takita, H., Mizuno, M. und Kuboki, Y. (1993). BMPs induce direct bone formation in ectopic sites independent of the endochondral ossification in vivo. *Anat Rec* 236(2): 373-80.

Savolainen, S., Usenius, J. P. und Hernesniemi, J. (1994). Iliac crest versus artificial bone grafts in 250 cervical fusions. *Acta Neurochir (Wien)* 129(1-2): 54-7.

Schaffner, P. und Dard, M. M. (2003). Structure and function of RGD peptides involved in bone biology. *Cell Mol Life Sci* 60(1): 119-32.

Schaffner, P., Meyer, J., Dard, M., Wenz, R. und Nies, B. (1999). Induced tissue integration of bone selective RGD-peptides in vitro and in vivo studies. *Journal of Materials Science: Materials in Medicine* 10: 837-9.

Schebitz, H., Brass, W. und Wintzer, H.-J. (1993). *Allgemeine Chirurgie für Tierärzte und Studierende*. Seiten: 165-8. Berlin, Hamburg, Paul Parey Verlag.

Schell, H (2003) Einfluss des Osteosynthese-Implantats auf die Frakturheilung im Tibia-Defektmodell - Vergleich eines medial montierten Fixateur externe mit einem kranio-medial montierten Fixateur externe und einer unaufgebohrten Marknagelung - Eine biomechanische, radiologische und histologische Studie im Schafsmodell, Dissertation, Fachbereich Veterinärmedizin, Freie Universität - Berlin.

Schenk, R. K. und Willenegger, H. R. (1977). Histology of primary bone healing: modifications and limits of recovery of gaps in relation to extent of the defect (author's transl). *Unfallheilkunde* 80(5): 155-60.

Schliephake, H., Scharnweber, D., Dard, M., Rossler, S., Sewing, A., Meyer, J. und Hoogestraat, D. (2002). Effect of RGD peptide coating of titanium implants on periimplant

bone formation in the alveolar crest. An experimental pilot study in dogs. *Clin Oral Implants Res* 13(3): 312-9.

Schnee, C. L., Freese, A., Weil, R. J. und Marcotte, P. J. (1997). Analysis of harvest morbidity and radiographic outcome using autograft for anterior cervical fusion. *Spine* 22(19): 2222-7.

Schneider, G. B., Zaharias, R. und Stanford, C. (2001). Osteoblast integrin adhesion and signaling regulate mineralization. *J Dent Res* 80(6): 1540-4.

Schnürer, S. M., Gopp, U., Kühn, K.-D. und Breusch, S. J. (2003). Knochenersatzwerkstoffe. *Orthopäde* 32: 2-10.

Schönmayr, R., Ant, M. R. und Melzer, M. (2001 a). Anterior Cervical Interbody Fusion with PEEK-Plate-Cages (Scient'x). Wiesbaden, Germany, Department of Neurosurgery, Dr.-Horst-Schmidt-Kliniken GmbH. Posterpräsentation auf dem 12. Weltkongress für Neurochirurgie, Sydney 09.2001.

Schönmayr, R., Schmieder, K., Goetz, C., Weinzierl, F. und Eysel, P. (2001 b). Anterior Cervical Interbody Fusion with new Titanium-Cages (WING). Wiesbaden, Germany, Department of Neurosurgery, Dr.-Horst-Schmidt-Kliniken GmbH. Posterpräsentation auf dem 12. Weltkongress für Neurochirurgie, Sydney 09.2001.

Schweiberer, L. und Schenk, R. (1977). Histomorphology and vascularization of secondary healing of bone fractures with emphasis on tibial shaft fractures (author's transl). *Unfallheilkunde* 80(7): 275-86.

Shimamoto, N., Cunningham, B. W., Dmitriev, A. E., Minami, A. und McAfee, P. C. (2001). Biomechanical evaluation of stand-alone interbody fusion cages in the cervical spine. *Spine* 26: 432-6.

Shono, Y., McAfee, P. C., Cunningham, B. W. und Brantigan, J. W. (1993). A biomechanical analysis of decompression and reconstruction methods in the cervical spine. Emphasis on a carbon-fiber-composite cage. *J Bone Joint Surg Am* 75(11): 1674-84.

Silver, I. A., Murrills, R. J. und Etherington, D. J. (1988). Microelectrode studies on the acid microenvironment beneath adherent macrophages and osteoclasts. *Experimental Cell Research* 175: 266-76.

Simmons, D. J. (1985). Fracture healing perspectives. *Clin Orthop*(200): 100-13.

Slater, R., Nagel, D. und Smith, R. L. (1988). Biochemistry of fusion mass consolidation in the sheep spine. *J Orthop Res* 6(1): 138-44.

Slijper, E. J. (1946). Comparative biological-anatomical investigations on the vertebral column and spinal musculature of mammals. *Kon Ned Akad Wet Verh.* 42: 1-128.

Smit, T. H., Odgaard, A. und Schneider, E. (1997). Structure and function of vertebral trabecular bone. *Spine* 22(24): 2823-33.

Sorensen, T. S., Sorensen, A. I. und Merser, S. (1990). Rapid release of gentamicin from collagen sponge. In vitro comparison with plastic beads. *Acta Orthop Scand* 61(4): 353-6.

Spiro, R. C., Thompson, A. Y. und Poser, J. W. (2001). Spinal fusion with recombinant human growth and differentiation factor-5 combined with a mineralized collagen matrix. *Anat Rec* 263(4): 388-95.

Springorum, H. W. (1980). Tierexperimentelle Untersuchungen der Knochenregeneration nach Kollagenimplantation in standardisierten Knochendefekten an der Ratte, am Kaninchen, an wachsenden und ausgewachsenen Hunden und an Affen. Habilitationsschrift aus der Orthopädischen Klinik und Poliklinik der Universität Heidelberg. Heidelberg.

Street, J., Winter, D., Wang, J. H., Wakai, A., McGuinness, A. und Redmond, H. P. (2000). Is human fracture hematoma inherently angiogenic? *Clin Orthop*(378): 224-37.

Stryer, L. (1996). *Biochemie*. Seite: 23. 4. Auflage, München, Spektrum Akademischer Verlag.

Suh, D. Y., Boden, S. D., Louis-Ugbo, J., Mayr, M., Murakami, H., Kim, H. S., Minamide, A. und Hutton, W. C. (2002). Delivery of recombinant human bone morphogenetic protein-2 using a compression-resistant matrix in posterolateral spine fusion in the rabbit and in the non-human primate. *Spine* 27(4): 353-60.

Takaoka, K., Koezuka, M. und Nakahara, H. (1991). Telo peptide-depleted bovine skin collagen as a carrier for bone morphogenetic protein. *J Orthop Res* 9(6): 902-7.

Takaoka, K., Nakahara, H., Yoshikawa, H., Masuhara, K., Tsuda, T. und Ono, K. (1988). Ectopic bone induction on and in porous hydroxyapatite combined with collagen and bone morphogenetic protein. *Clin Orthop*(234): 250-4.

Tashjian, A. H., Jr., Hohmann, E. L., Antoniades, H. N. und Levine, L. (1982). Platelet-derived growth factor stimulates bone resorption via a prostaglandin-mediated mechanism. *Endocrinology* 111(1): 118-24.

Tay, B. K., Le, A. X., Heilman, M., Lotz, J. und Bradford, D. S. (1998). Use of a collagen-hydroxyapatite matrix in spinal fusion. A rabbit model. *Spine* 23(21): 2276-81.

Tencer, A. F., Hampton, D. und Eddy, S. (1995). Biomechanical properties of threaded inserts for lumbar interbody spinal fusion. *Spine* 20: 2408-14.

Thomsen, J. S., Ebbesen, E. N. und Mosekilde, L. I. (2002). Age-related differences between thinning of horizontal and vertical trabeculae in human lumbar bone as assessed by a new computerized method. *Bone* 31(1): 136-42.

Togawa, D., Bauer, T. W., Lieberman, I. H., Lowery, G. L. und Takikawa, S. (2003). Histology of tissues within retrieved human titanium mesh cages. *Spine* 28(3): 246-53.

Trippel, S. B. (1997). Growth factors as therapeutic agents. *Instr Course Lect* 46: 473-6.

Urist, M. R. (1965). Bone: formation by autoinduction. *Science* 150(698): 893-9.

Urist, M. R., DeLange, R. J. und Finerman, G. A. (1983). Bone cell differentiation and growth factors. *Science* 220(4598): 680-6.

Urist, M. R., Nilsson, O., Rasmussen, J., Hirota, W., Lovell, T., Schmalzreid, T. und Finerman, G. A. (1987). Bone regeneration under the influence of a bone morphogenetic protein (BMP) beta tricalcium phosphate (TCP) composite in skull trephine defects in dogs. *Clin Orthop*(214): 295-304.

Wang, E. A., Rosen, V., Cordes, P., Hewick, R. M., Kriz, M. J., Luxenberg, D. P., Sibley, B. S. und Wozney, J. M. (1988). Purification and characterization of other distinct bone-inducing factors. *Proc Natl Acad Sci U S A* 85(24): 9484-8.

Weibrich, G., Buch, R. S., Kleis, W. K., Hafner, G., Hitzler, W. E. und Wagner, W. (2002 a). Quantification of thrombocyte growth factors in platelet concentrates produced by discontinuous cell separation. *Growth Factors* 20(2): 93-7.

Weibrich, G., Hansen, T., Kleis, W., Buch, R. und Hitzler, W. E. (2004). Effect of platelet concentration in platelet-rich plasma on peri-implant bone regeneration. *Bone* 34(4): 665-71.

Weibrich, G., Kleis, W. K. und Hafner, G. (2002 b). Growth factor levels in the platelet-rich plasma produced by 2 different methods: curasan-type PRP kit versus PCCS PRP system. *Int J Oral Maxillofac Implants* 17(2): 184-90.

Weibrich, G., Kleis, W. K., Hafner, G. und Hitzler, W. E. (2002 c). Growth factor levels in platelet-rich plasma and correlations with donor age, sex, and platelet count. *J Craniomaxillofac Surg* 30(2): 97-102.

Weiner, B. K. und Fraser, R. D. (1998). Spine update lumbar interbody cages. *Spine* 23(5): 634-40.

Wenisch, S., Stahl, J. P., Horas, U., Heiss, C., Kilian, O., Trinkaus, K., Hild, A. und Schnettler, R. (2003). In vivo mechanisms of hydroxyapatite ceramic degradation by osteoclasts: fine structural microscopy. *J Biomed Mater Res* 67A(3): 713-8.

Wheater, P. R., Burkitt, H. G. und Daniels, V. G. (1987). *Funktionelle Histologie*. Seite: 160. München-Wien-Baltimore, Urban & Schwarzenberg.

Wilke, H. J., Kettler, A. und Claes, L. (2000). Primary stabilizing effect of interbody fusion devices for the cervical spine: an in vitro comparison between three different cage types and bone cement. *Eur Spine J* 9(5): 410-6.

Wilke, H. J., Kettler, A. und Claes, L. E. (1997 a). Are sheep spines a valid biomechanical model for human spines? *Spine* 22(20): 2365-74.

Wilke, H. J., Kettler, A., Wenger, K. H. und Claes, L. E. (1997 b). Anatomy of the sheep spine and its comparison to the human spine. *Anat Rec* 247(4): 542-55.

Willenegger, H., Perren, S. M. und Schenk, R. (1971). Primary and secondary healing of bone fractures. *Chirurg* 42(6): 241-52.

Winn, S. R., Uludag, H. und Hollinger, J. O. (1999). Carrier systems for bone morphogenetic proteins. *Clin Orthop* (367 Suppl): 95-106.

Wissing, H., Stürmer, K. M. und Breidenstein, G. (1990). Die Wertigkeit verschiedener Versuchstierspezies für experimentelle Untersuchungen am Knochen. *Unfallheilkd.* 212: 479-88.

Wolff, J. V. (1870). Über die innere Architektur der Knochen und ihre Bedeutung für die Frage vom Knochenwachstum. *Archiv für Pathologische Anatomie und Physiologie und für Klinische Medizin.* 50: 389-453.

Yamanouchi, K., Satomura, K., Gotoh, Y., Kitaoka, E., Tobiume, S., Kume, K. und Nagayama, M. (2001). Bone formation by transplanted human osteoblasts cultured within collagen sponge with dexamethasone in vitro. *J Bone Miner Res* 16(5): 857-67.

Yu, J., Winlove, P. C., Roberts, S. und Urban, J. P. (2002). Elastic fibre organization in the intervertebral discs of the bovine tail. *J Anat* 201(6): 465-75.

Zdeblick, T. A., Ghanayem, A. J., Rapoff, A. J., Swain, C., Bassett, T., Cooke, M. E. und Markel, M. (1998). Cervical interbody fusion cages. An animal model with and without bone morphogenetic protein. *Spine* 23(7): 758-65.

Zegzula, H. D., Buck, D. C., Brekke, J., Wozney, J. M. und Hollinger, J. O. (1997). Bone formation with use of rhBMP-2 (recombinant human bone morphogenetic protein-2). *J Bone Joint Surg Am* 79(12): 1778-90.