

9 Literatur

Alto, K., P. Slatis, E. Karaharju and P. Waris (1985). "Pin-hole changes after external fixation of tubular bone". *Arch Orthop Trauma Surg* 104 (2): 118-20.

Amling, M., and G. Delling (1996). "Cell biology of osteoclasts and molecular mechanisms of bone resorption." *Pathologie* 17 (5): 358-367.

Anderson, D. E., G. St-Jean, D. C. Richardson, R. M. DeBowes, J. K. Roush, S. R. Lowry, P. W. Toll, H. M. Aberman, D. C. Van Sickle and J. J. Hoskinson (1997). "Improved osseointegration of calcium phosphate-coated external fixation pins. Studies in calves." *Acta Orthop Scand* 68 (6): 571-576.

Anderson, J. M. (1993). "Mechanisms of inflammation and infection with implanted devices." *Cardiovasc Pathol* 2 (3 Suppl): 33S-41S.

Ansell, R. H., and J. T. Scales (1968). "A pilot study of some factors which affect the strength of screws and their insertion and holding power in bone." *J Biomech* 1: 279-302.

Aro, H. T., and E. Y. Chao (1993). "Biomechanics and biology of fracture repair under external fixation." *Hand Clin* 9 (4):531-542.

Aro, H. T., M. D. Markel and E. Y. Chao (1993). "Cortical bone reactions at the interface of external fixation half-pins under different loading conditions." *J Trauma* 35 (5): 776-785.

Aron, D. N. and C. W. Dewey (1992). "Application and postoperative management of external skeletal fixators." *Vet Clin North Am Small Anim Pract* 22 (1): 69-97.

Barka, T., and P. J. Anderson (1962). "Histochemical methods for acid phosphatase using hexazonium pararosanilin as coupler." *J Histochem Cytochem* 10: 741-753.

Bassett, C. A. L. (1962). "Current Concepts in Bone Formation." *J Bone and Joint Surg*, 44-A: 1217-1244.

Bax, B. E., J. M. Wozney and D. E. Ashhurst (1999). "Bone morphogenetic protein-2 increases the rate of callus formation after fracture of the rabbit tibia." *Calcif Tissue Int* 65: 83-89.

Beaupre, G. S., T. E. Orr and D. R. Carter (1990). "An approach for time-dependent bone modeling and remodeling-theoretical development." *J Orthop Res* 8 (5): 651-661.

Beaupre, G. S., T. E. Orr and D. R. Carter (1990). "An approach for time-dependent bone modeling and remodeling-application: a preliminary remodeling simulation." *J Orthop Res* 8 (5): 662-670.

Behrens, F. (1989). "General theory and principles of external fixation." *Clin Orthop* 241: 15-23.

Bengtsson, A. K., and E. J. Ryan (2002). "Immune function of the decoy receptor osteoprotegerin." *Crit Rev Immunol* 22 (3): 201-1215.

Benninghoff, A. (1939). "Lehrbuch der Anatomie des Menschen." Bd. I Lehmann, München, Berlin.

Bentolila, V., T. M. Boyce, D. P. Fyhrie, R. Drumb, T. M. Skerry and M. B. Schaffler (1998). "Intracortical remodeling in adult rat long bones after fatigue loading." *Bone* 23 (3): 275-281.

Biliouris, T. L., E. Schneider, B. A. Rahn, B. Gasser and S. M. Perren (1989). "The effect of radial preload on the implant-bone interface: a cadaveric study." *J Orthop Trauma* 3 (4): 323-332.

Bostman, O., E. Hirvensalo, J. Mäkinen and P. Rokkanen (1990). "Foreign-body reactions to fracture fixation implants of biodegradable synthetic polymers." *J Bone Joint Surg Br* 72 (4): 592-596.

- Bourne, J. A.** (2000). "Immunochemistry" Laboratory DAKO Corporation, 4. Aufl., 7-13, Carpinteria, CA, USA.
- Brandt, R. B., and S. A. Siegel** (1980). "Spectrophotometric assay for D(-)lactate in plasma." *Anal Biochem* 102: 39-46.
- Branemark, P. I.** (1983). "Osteointegration and its experimental Background." *J Prosthet Dent* 50: 399-410.
- Braun, H.** (1914). "Allgemeine Operationslehre, Knochenoperationen, Vereinigung getrennter Knochen." In: Bier, A.H., Braun, H., Kümmel (Hrsg.): *Chirurgische Operationslehre*, Bd. I, Barth, Leipzig, S.136.
- Bromme, S.** (2001). "Mechanotransduktion in Osteoblasten." Marburg, Philipps-Universität, Fachbereich Humanmedizin, Diss.
- Brunner, E.** (1999). "Nichtparametrische Analyse longitudinaler Daten.", Dr. Edgar Brunner, , R. Oldenbourg Verlag München Wien, S26-27.
- Bucher, O.** (1985). "Cytologie, Histologie und mikroskopische Anatomie des Menschen." Verlag Hans Huber, 10. Auflage, Bern, Schweiz.
- Bucher, O., and H. Wartenberg,** (1997). "Cytologie, Histologie und mikroskopische Anatomie des Menschen." 12. Aufl., Huber Verlag, Bern.
- Burny, F.** (1984). "The pin as a percutaneous implant." *Orthopaedics* 7: 610-615.
- Burr, D. B., R. B. Martin, M. B. Schaffler and E. L.Radin** (1985). "Bone remodeling in response to in vivo fatigue microdamage." *J Biomech* 18 (3): 189-200.
- Caja, V. L., and A. Moroni** (1996). "Hydroxyapatite coated external fixation pins: an experimental study." *Clin Orthop* 325: 269-75.

Capper, M., C. Soutis and O. O. Oni (1994). "Comparison of the stresses generated at the pin-bone interface by standard and conical external fixator pins." *Biomaterials* 15 (6): 471-473.

Carter, D. R. (1987). "Mechanical loading history and skeletal biology." *J Biomech* 20 (11-12): 1095-1109.

Chao, E. Y. S. and K.-N. An (1982). "Biomechanical Analysis of External Fixation Devices for the Treatment of Open Bone Fractures." In *Finite Elements in Biomechanics*, Edited by R. H. Gallenger, B.R. Simon, P.c. Johnson, and J.F. Gross. New York, Wiley.

Churches, A. E., K. E. Tanner and J. D. Harris (1985). "The Oxford external fixator: fixator stiffness and the effects of bone pin loosening." *Engineer Med* 14 (1): 3-11.

Claes, L. (1990). "The biomechanics of osteosynthesis." *Aktuelle Probl Chir Orthop* 34: 32-38.

Claes, L., P. Augat, G. Suger and H. J. Wilke (1997). "Influence of size and stability of the osteotomy gap on the success of fracture healing." *J Orthop Res* 15 (4): 577-584.

Claes, L., and A. Ignatius (2002). "Development of new, biodegradable implants." *Chirurg* 73 (10): 990-996.

Clasper, J. C., S. A. Stapley, D. M. G. Bowley, C. E. Kenward, V. Taylor and P. E. Watkins (2001). "Spread of infection, in an animal model, after intramedullary nailing of an infected external fixator pin track." *J Orthop Res* 19 (1): 155-159.

Clasper, J. C., L. B. Cannon, S. A. Stapley, V. M. Taylor and P. E. Watkins (2001). "Fluid accumulation and the rapid spread of bacteria in the pathogenesis of external fixator pin track infection." *Injury* 32 (5): 377-381.

Clèries, L., J. M. FernándezPradas and J. L. Morenza (2000). "Bone ingrowth on and resorption of calcium phosphate coatings obtained by pulsed laser deposition." *J Biomed Mater Res* 49: 43-52.

Collinge, C. A., G. Goll, D. Seligson and K. J. Easley (1994). "Pin tract infections: silver vs uncoated pins." *Orthopedics* 17 (5): 445-448.

Dahme, E., and E. Weiss (1999). "Grundriß der speziellen pathologischen Anatomie der Haustiere." 5. Aufl., Enke, Stuttgart, S. 320-335.

Daniels, A. U., M. S. Taylor and J. Heller (1992). "Toxicity of absorbable polymers for fracture fixation devices." 38th Annual Meet., Orthopaedic Soc., Feb. 17-20, Washington, D.C..

David, A., A. Pommer, J. Eitenmuller, G. Muhr and M. P. Hahn (1994). "Animal experiment study of tensile strength of hydroxylapatite-coated AO/ASIF Schanz'screws for external fixators." *Unfallchirurg* 97 (8): 391-398.

DeJong, M. E., M. T. DeBerardino, D. E. Brooks, M. B. Nelson, A. A. Campbell, M. C. Bottoni, A. E. Pusateri, M. R. Walton, C. H. Guymon and A. T. McManus (2001). "Antimicrobial efficacy of external fixator pins coated with a lipid stabilized hydroxyapatite/chlorhexidine complex to prevent pin tract infection in a goat model." *J Trauma* 50 (6): 1008-1014.

Dobbins, J. J., D. Seligson and M. J. Raff (1988). "Bacterial colonization of orthopedic fixation devices in the absence of clinical infection." *J Infect Dis* 158 (1): 203-205.

Donath, K. (1987). "Die Trenn-Dünnschliff-Technik zur Herstellung histologischer Präparate von nicht schneidbaren Geweben und Materialien." Exakt & Kulzer, Norderstedt.

Duan, H., Y. Song, Z. Peng, L. Liu, C. Xiong, X. Zhang, F. Luo, X. Zhu, and D. Lin (2000). "The effect of polylactide screws on fracture." *Sheng Wu Yi Xue Gong Cheng Xue Za Zhi* 17 (4):376-379.

Duda, G. N., K. Eckert-Hubner, R. Sokiranski, A. Kreutner, R. Miller and L. Claes (1998). "Analysis of inter-fragmentary movement as a function of musculoskeletal loading conditions in sheep." *J Biomech* 31 (3): 201-210.

Duda, G. N., M. Sollmann, S. Sporrer, J. E. Hoffmann, J. P. Kassi, C. Khodadadyan and M. Raschke (2002). "Interfragmentary motion in tibial osteotomies stabilized with ring fixators." *Clin Orthop* Mar 396:163-172.

Dürselen, L., and L. Claes (1987). "Comparative Mechanical Study on Unilateral External Fixation Systems." *Chirurg. Forum f. experim. u. klin. Forsch. Berlin Heidelberg, Springer-Verlag.*

Dunlop, R. H., and P. B. Hammond (1965). "D-Lactic acidosis of ruminants." *Ann NY Acad Sci* 119: 1109-1132.

Edge, A. J., and R. A. Denham (1981). "External fixation for complicated tibial fractures." *J Bone Joint Surg Br* 63 (1): 92-7.

Edwards, C. C. (1986). "Complications of external fixation." In: *Complications in Orthopaedic Surgery*, edited by C.H. Epps, Jr. Philadelphia, J.B. Lippincott, Ed. 2, vol. 1.

Egger, E. L (1991). "Complications of external fixation." *Vet Clin North Am Small Anim Pract* 21 (4): 705-733.

Eitel, F., R. K. Schenk and L. Schweiberer (1980). "Cortical revascularization after medullary nailing in dog tibiae." *Unfallheilkunde* 83 (5): 202-207.

Eitel, F., R. K. Schenk and L. Schweiberer (1981). "Morphological examination of animal-experiment results: comparison with regeneration of the human bone-structure. II. Research results." *Unfallheilkunde* 84 (6): 255-264.

Elliott, W. H. (1959). "Amino-acetone: Its isolation and role in metabolism." *Nature* 183: 1051-1052.

Emami, A., B. Mjoberg, G. Karlstrom and S. Larsson (1995). "Treatment of closed tibial shaft fractures with unilateral external fixation." *Injury* 26 (5): 299-303.

Evans, M., J. Kenwright and K. E. Tanner (1979). "Analysis of single-sided external fracture fixation." *J Mech Engineer* 8 (3): 133-137.

Finlay, J. B., M. B. Hurtig, W. R. Hardie, A. B. Liggins and S. W. Batte (1995). "Geometrical properties of the ovine tibia: a suitable animal model to study the pin-bone interface in fracture fixation?" *Proc Inst Mech Eng [H]* 209 (1): 37-50.

Frost, H. M. (1969). "Tetracycline-based histological analysis of bone remodeling." *Calcif Tissue Res* 3 (3): 211-237.

Fukada, E. (1968). "Mechanical deformation and electrical polarization in biological substances." *Biorheology* 5:199-208.

Gallo J., P. Kaminek, V. Ticha, P. Rihakova and R. Ditmar (2002). "Particle disease. A comprehensive theory of periprosthetic osteolysis: a review." *Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub* 146 (2): 21-28.

Garberina, M. J., R. D. Fitch, E. D. Hoffmann, W. T. Hardaker, T. P. Vail and S. P. Scully (2001). "Knee arthrodesis with circular external fixation." *Clin Orthop* 382: 168-178.

Goldner, J. (1938). "A modification of the Masson trichrom technique for routine laboratory purpose." *Amer J Path* 14: 237-243.

Gondolph-Zink, B. (1998). "Effect of hydroxyapatite layering on the osteo-integration of weightbearing and non-weightbearing implants. Comparison to other microporous surfaces in animal experiments." *Orthopade* 27 (2): 96-104.

Goodship, A. E., P. E. Watkins, H. S. Rigby and J. Kenwright (1993). "The role of fixator frame stiffness in the control of fracture healing. An experimental study." *J Biomech* 26 (9): 1027-35.

Gordon, J. E., J. Kelly-Hahn, C. J. Carpenter and P. L. Schoenecker (2000). "Pin site care during external fixation in children: results of a nihilistic approach." *Pediatr Orthop* 20 (2): 163-165.

Green, S. A., and M. J. Ripley (1984). "Chronic osteomyelitis in pin tracks." *J Bone Joint Surg Am* 66 (7): 1092-1098.

Grosse-Siestrup, C., and K. Affeld (1984). "Design criteria for percutaneous devices." *J Biomed Mater Res* 18: 357-382.

Hall, C. W., P. A. Cox and S. R. Mc Fareland (1984). "Some factors that influence prolonged interfacial continuity." *J Biomed Mater Res* 18: 383-393.

Hansmann, C. (1886). "Eine neue Methode der Fixierung der Fragmente bei complicierten Frakturen." *Verh Dtsch Ges Chir* 15.

Hardy, N., F. Burny and G. A. Deutsch (1984). "Pin tract histology study: Preliminary clinical investigations." *Orthopedics* 7: 616-618.

Helmus, N. M. (2002). "Biomaterials in Design and Reliability of Medical Devices." Boston Scientific, Natick, MA, USA.

Hench, L. L., and J. Wilson (1984). "Surface-active biomaterials." *Science* 9 226 (4675): 630-636.

Hench, L. L., and J. M. Polak (2002). "Third-generation biomedical materials." *Science* 8 295 (5557): 1014-1017.

Hente, R., J. Cordey, B. A. Rahn, M. Maghsudi, S. von Gumpfenberg and S. M. Perren (1999). "Fracture healing of the sheep tibia treated using a unilateral external fixator. Comparison of static and dynamic fixation." *Injury* 30 Suppl 1: A44-51.

Hermanns, W. (1986). "Identification of osteoclasts and their differentiation from mononuclear phagocytes by enzyme histochemistry." *Histochemistry* 86: 225-227.

Hierholzer, G., and R. Kleining (1982). "Theoretical principles and biomechanics of external fixator osteosynthesis." *Langenbecks Arch Chir* 358: 105-112.

Hoentzsch, D. (1997). "Fixateur externe-Montagen mit dem AO-Rohrsystem." *OP-Journal* 13: 18-28.

Hofmann, G. O., H. Liedtke, G. Ruckdeschel and G. Lob (1990). "The influence of bacterial contaminations on the biodegradation of PLA implants." *Clin Mater* 6 (2): 137-150.

Huiskes, R. and E. Y. Chao (1986). "Guidelines for external fixation frame rigidity and stresses." *J Orthop Res* 4 (1): 68-75.

Hunt, J. A. and D. F. Williams (1995). "Quantifying the soft tissue response to implanted materials." *Biomaterials* 16 (3):167-170.

Huré, G., and K. Donath (1996). "Does Titanium surface treatment influence the bone-implant interface? SEM and Histomorphometry in a 6-month sheep study." *Int J Oral Maxillofac Implants* 11: 506-511.

Hyldahl, C., S. Pearson, S. Tepic and S. M. Perren (1991). "Induction and prevention of pin loosening in external fixation: an in vivo study on sheep tibiae." *J Orthop Trauma* 5 (4): 485-492.

Ignatius, A. A., P. Augat and L. E. Claes (2001). "Degradation behavior of composite pins made of tricalcium phosphate and poly(L,DL-lactide)." *J Biomater Sci Polym Ed* 12 (2): 185-194.

Ilizarov, G. A. (1992). "Transosseous Osteosynthesis. Theroretical and clinical aspects of the regeneration and growth of tissue." Springer, Berlin.

Jukema, G. N., and G. Hierholzer (1997). "Geschichte und Entwicklung der Fixateur externe-Osteosynthese." *OP-Journal* 13 (1): 4-9.

Kamke, D., and W. Walcher (1994). "Physik für Mediziner." 2. Auflage, B. G. Teubner, Stuttgart, S. 617-639.

Kay, M. W., S. C. Roe, L. F. Stikeleather, A. Mahmoud and C. F. Abrams (1998). "Axial vibration of threaded external fixation pins: detection of pin loosening." *Ann Biomed Eng* 26 (3): 361-368.

Klein, P., H. Schell, F. Streitparth, M. Heller, J. P. Kassi, F. Kandziorra, H. Bragulla, N. P. Haas and G. N. Duda (2002). "The initial phase of fracture healing is specifically sensitive to mechanical conditions." submitted: *J Orthop Res*.

Klinkmann, H., and D. Falkenhagen (1989). "Biokompatibilität: Die Notwendigkeit einer komplexen Betrachtung." *Wiss Infor Aktuelle Nephrologie* 22: 115-130.

Knabe, C. (1990). "Lokale Reaktionen der marginalen Haut um perkutane Implantate." Berlin, Freie Univ., Fachber. Zahnmed., Diss.

Koskikare, K., T. Toivonen and P. Rokkanen (1998). "Tissue response to bioabsorbable self-reinforced polylevolactide and polyglycolide pins implanted intra-articularly and directly into the bone on different levels. An experimental study on rats." *Arch Orthop Trauma Surg* 118 (3): 149-155.

Kossa, J. V. (1901). "Über die im Organismus künstlich erzeugbaren Verkalkungen." *Ziegler's Beitr path Anat* 29: 163-202.

Krischak, G. D., A. Janousek, S. Wolf, P. Augat, L. Kinzl and L. E. Claes (2002). "Effects of one-plane and two-plane external fixation on sheep osteotomy healing and complications." *Clinical Biomechanics* 17: 470-476.

Lanyon, L. E., W. G. J. Hampson, A. E. Goodship and J. S. Shah (1975). "Bone deformation recorded in vivo from strain gauges attached to the human tibial shaft." *Acta Orthop Scand* 46: 256-268.

Lanyon, L. E., and S. Bourn (1979). "The influence of mechanical function on the development and remodelling of the tibia." *J. Bone Jt Surg* 61-A (2): 263-273.

Leenslag, J. W., and A. J. Pennings (1987). "Resorbable materials of poly(L-lactide). VI Plates and screws for internal fracture fixation." *Biomaterials* 8: 70-73.

Lewallen, D. G., E. Y. S. Chao and P. J. Kelly (1982). "External Skeletal Fixation vs. Dynamic Compression Plating of Canine Tibial Fractures: A Comparison of the Biomechanics, Histology, and Physiology of Fracture Healing." *Trans Orthop Res Soc* 7: 183.

Liebich, J. (1999). "Funktionelle Histologie der Haussäugetiere." 3. Auflage, Schattauer, Stuttgart, S. 46-64.

Lind, M., S. Overgaard, C. Bunger and K. Soballe (1999). "Improved bone anchorage of hydroxyapatite coated implants compared with tricalcium-phosphate coated implants in trabecular bone in dogs." *Biomaterials* 20 (9): 803-808.

Lucke, M., G. Schmidmaier, S. Sadoni, B. Wildemann, R. Schiller, N. P. Haas and M. Raschke (2002). "Gentamycin Coating of metallic Implants Reduces Implant Related Osteomyelitis in Rats." submitted to *Bone*.

Mahan, J., D. Seligson, S. L. Henry, P. Hynes and J. Dobbins (1991). "Factors in pin tract infections." *Orthopedics* 14 (3): 305-308.

Mainil-Varlet, P., C. Hauke, V. Maquet, G. Printzen, S. Arens, T. Schaffner, R. Jerme, S. Perren and U. Schlegel (2001). "Polylactide implants and bacterial contamination: an animal study." *J Biomed Mater Res* 54 (3): 335-343.

Mainil-Varlet, P., B. Rahn and S. Gogolewski (1997). "Long-term in vivo degradation and bone reaction to various polylactides. 1. One-year results." *Biomaterials* 18 (3): 257-266.

Maki, D. G., C. E. Weise and H. W. Sarafin (1977). "A semiquantitative method for identifying intravenous-catheter-related infection." *N Eng J Med* 296 (23):1035-09.

Martin, A. B. (1987). "Osteonal remodeling in response to screw implantation in canine femora." *J Orthop Res* 5: 445-452.

Martin, R. B. (2000). "Toward a unifying theory of bone remodeling." *Bone* 26 (1): 1-6.

Masse, A., A. Bruno, M. Bosetti, A. Biasibetti, M. Cannas and P. Gallinaro (2000). "Prevention of pin track infection in external fixation with silver coated pins: clinical and microbiological results." *J Biomed Mater Res* 53 (5): 600-604.

Matter, P, J. Brennwald and S. M. Perren (1975). "Healing of bone defects following removal of osteosynthesis screws." *Z Unfallmed Berufskr* 68 (2): 104-107.

Matthews, L. S., C. A. Green and S. A. Goldstein (1984). "The thermal effects of skeletal fixation-pin insertion in bone." *J Bone Joint Surg Am* 66 (7): 1077-83.

McDonald, D. E., R. H. Palmer, D. A. Hulse, J. S. Neigut, W. A. Hyman and M. R. Slater (1994). "Holding power of threaded external skeletal fixation pins in the near and far cortices of cadaveric canine tibiae." *Vet Surg* 23 (6): 488-493.

Meinig, R. P., B. Rahn, S. M. Perren and S. Gogolewski (1996). "Bone regeneration with resorbable polymeric membranes: treatment of diaphyseal bone defects in the rabbit radius with poly(L-lactide) membrane. A pilot study." *J Orthop Trauma* 10 (3): 178-190.

Melcher, A. H., and J. T. Irving (1962). "The healing mechanism in artificially created circumscribed defects in the femora of albino rats." *J Bone Joint Surg* 44 B (4): 928-936.

Moroni, A., V. L. Caja, M. C. Maltarello, L. Savarino, F. Marinelli, S. Stea, M. Visentin and S. Giannini (1997). "Biomechanical, scanning electron microscopy, and microhardness analyses of the bone-pin interface in hydroxyapatite coated versus uncoated pins." *J Orthop Trauma* 11 (3): 154-61.

Moroni, A., S. Toksvig-Larsen, M. C. Maltarello, L. Orienti, S. Stea and S. Giannini (1998). "A comparison of hydroxyapatite-coated, titanium-coated, and uncoated tapered external-fixation pins. An in vivo study in sheep." *J Bone Joint Surg Am* 80 (4): 547-554.

Moroni, A., P. Aspenberg, S. Toksvig-Larsen, G. Falzarano and S. Giannini (1998). "Enhanced fixation with hydroxyapatite coated pins." *Clin Orthop* (346): 171-177.

Moroni, A., J. Heikkila, G. Magyar, S. Toksvig-Larsen and S. Giannini (2001). "Fixation strength and pin tract infection of hydroxyapatite-coated tapered pins." *Clin Orthop* Jul 388: 209-217.

Morton, D. B., and P. H. M. Griffiths (1985). "Guidelines on the recognition and assessment of pain, distress and discomfort in experimentell animals and on hypothesis for assessment." *Vet Rec* (116): 431-436.

Mosimann, W., und T. Kohler (1990). "Zytologie, Histologie, mikroskop Anatomie der Haussäugetiere." Paray Verlag, Berlin, Hamburg, Germany.

Mouzin, O., K. Soballe and J. E. Bechtold (2001). "Loading improves anchorage of hydroxyapatite implants more than titanium implants." *J Biomed Mater Res* 58 (1): 61-68.

Nelson, J. P. (1977). "The operating room environment and its influence on deep wound infection." *The Hip: Proceedings of the Fifth Open Scientific Meeting of The Hip Society*, St. Luis, C.V. Mosby.

Newman, R. J., R. B. Duthie and M. J. Francis (1985). "Nuclear magnetic resonance studies of fracture repair." *Clin Orthop* 198: 297-303.

Ng, K. W., E. Romas, L. Donnan and D. M. Findlay (1997). "Bone biology." Baillieres Clin Endocrinol Metab 11 (1): 1-22.

Nickel, R., A. Summer und E. Seiferle (1992). "Lehrbuch der Anatomie der Haustiere." Band I, 6. Auflage, Verlag Paul Parey, Berlin und Hamburg, Germany, S. 15-23.

Nomura, S. and T. Takano-Yamamoto (2000). "Molecular events caused by mechanical stress in bone." Matrix Biol 19 (2): 91-96.

Nordstrom, P., H. Pihlajamaki, T. Toivonen, P. Tormala and P. Rokkanen (1998). "Tissue response to polyglycolide and polylactide pins in cancellous bone." Arch Orthop Trauma Surg 117 (4-5): 197-204.

Oni, O. O., M. Capper and C. Soutis (1993). "Bending stiffness of conical and standard external fixator pins." Biomaterials 14 (13): 1036-1038.

Paivarinta, U., O. Bostman, A. Majola, T. Toivonen, P. Tormala, P and P. Rokkanen (1993). "Intraosseous cellular response to biodegradable fracture fixation screws made of polyglycolide or polylactide." Arch Orthop Trauma Surg 112 (2): 71-4.

Palay, D. (1990). "Problems, obstacles and complications of limb lengthening by the Ilizarov technique." Clin Orthop 250: 94-98.

Panagiotopoulos E., M. Dauner, Y. Missirlis, L. Caramaro, H. Plank and L. Khaldi (1997). "Soft tissue and cancellous bone reaction to the implantation of novel biodegradable pins and plates in rabbits." Acta Orthop Scand Suppl 275: 119-22.

Perren, S. M. (1992). "Biomechanical basis of fracture treatment." Orthopade 21 (1): 3-10.

Perren S. M., M. Russenberger, S. Steinemann, M. E. Muller and M. Allgower (1969). "A dynamic compression plate." Acta Orthop Scand Suppl 125: 31-41.

Pettine, K. A., E. Y. Chao and P. J. Kelly (1993). "Analysis of the external fixator pin-bone interface." *Clin Orthop* 293: 18-27.

Petty W, S. Spanier, J. J. Shuster and C. Silverthorne (1985). "The influence of skeletal implants on incidence of infection. Experiments in a canine model." *J Bone Joint Surg Am* 67 (8): 1236-1244.

Pommer, A., A. David, P. Barczik and G. Muhr (1998). "Loosening of Schanz'screws in external fixator montage of the lower extremity." *Unfallchirurg* 101 (9): 708-712.

Prokop, A., A. Jubel, H. J. Helling, C. Udomkaewkanjana, H.G. Brochhagen and K. E. Rehm (2002). "New biodegradable polylactide implants (Polypin-C) in therapy for radial head fractures." *Chirurg* 73 (10): 997-1004.

Raschke, M. J., S. F. Kolbeck, M. Dahne, T. Lindner, K. Raun and H. Bail (2000). "Recombinant growth hormone accelerates regenerate consolidation in distraction osteosynthesis." *Chirurg* 71 (9):1009-1015.

Reinacher, M. (1999). "Stütz- und Bewegungsapparat." Dahme E, Weiss E, Grundriß der speziellen pathologischen Anatomie der Haustiere, 5. Aufl., Enke, Stuttgart, Germany.

Remedios, A. (1999). "Bone and bone healing." *Vet Clin North Am Small Anim Pract* 29 (5): 1029-1044.

Respet, P. J., P. G. Kleinman and B. P. Meinhard (1987). "Pin tract infections: a canine model." *J Orthop Res* 5 (4): 600-603.

Rhineland, F. W. (1974). "Tibial blood supply in relation to fracture healing." *Clin Orthop* 105 (0): 34-81.

Riede, U. N. (1993). "Entzündungspathologie." In: *Allgemeine und spezielle Pathologie*, Thieme Verlag, Stuttgart, Germany.

Roberts W. E., R. K. Smith, Y. Zilberman, P. G. Mozsary and R. S. Smith (1984). "Osseous adaptation to continuous loading of rigid endosseous implants." *Am J Orthod* 86 (2): 95-111.

Rommens, P. M., P. L. Broos, K. Stappaerts and J. A. Gruwez (1988). "Internal stabilization after external fixation of fractures of the shaft of the tibia: sense or nonsense?" *Injury* 19 (6): 432-5.

Romppanen, T. (1982). "Practical approach to a morphometric study." *Morphometry in morphological diagnosis*. University press, Kupio.

Sax, N. J. (1984). "Dangerous properties of industrial materials." Van Nostrand Reinhold Company, New York.

Schatzker, J., J. G. Horne and G. Sumner-Smith (1975). "The effect of movement on the holding power of screws in bone." *Clin Orthop* 111: 257-262.

Schatzker, J., J. G. Horne and G. Sumner-Smith (1975). "The reaction of cortical bone to compression by screw threads." *Clin Orthop* 111: 263-265.

Schatzker, J. (1995) "Osseointegration of metal." *Can J Surg* 38 Suppl 1: 49-54.

Schmidmaier, G., B. Wildemann, A. Stemberger, N. P. Haas and M. Raschke (2001). "Biodegradable poly(D,L-lactide) coating of implants for continuous release of growth factors." *J Biomed Mater Res* 58 (4): 449-455.

Schmidmaier, G., B. Wildemann, H. Bail, M. Lucke, T. Fuchs, A. Stemberger, A. Flyvbjerg, N. P. Haas and M. Raschke (2001). "Local application of growth factors (Insulin-like growth factor-1 and transforming growth factor- β 1) from a biodegradable Poly(D,L-lactide) coating of osteosynthetic implants accelerates fracture healing in rats." *Bone* 28 (4): 341-350.

Schweiberer, L., R. Baumgart and S. Deiler (1999). "The biological reaction in atrophic and hypertrophic pseudarthrosis of diaphysis of long bone. Causes and forms of appearance." *Chirurg* 70 (11): 1193-1201.

Shim, S. S. (1968). "Physiology of blood circulation of bone." *JBJS Vol 50-A*, 4: 812-824.

Sisk, T. D. (1983). "General principles and techniques of external skeletal fixation." *Clin Orthop* 180: 96-100.

Soballe, K. (1993). "Hydroxyapatite ceramic coating for bone implant fixation: Mechanical and histological studies in dogs." *Acta Orthopaedica Scandinavica Suppl 255* (64): 13-14.

Steinmann, R., H. Gerngross and W. Hartel (1990). "The use of bioresorbable implants (Biofix) in surgery. The indications, technic and initial clinical results." *Aktuelle Traumatol* 20 (2): 102-107.

Stürmer, K. M. (1993). "Measurement of intramedullary pressure in an animal experiment and propositions to reduce the pressure increase." *Injury* 24 Suppl 3: S.7-21.

Stürmer, K. M., and W. Schuchardt (1980). "New aspects of closed intramedullary nailing and marrow cavity reaming in animal experiments. III. Bone-healing, revascularisation and remodeling." *Unfallheilkunde* 83 (9): 433-5.

Stürmer, K. M. (1984). "Histologic finding of fracture healing using external fixation and its clinical significance." *Unfallchirurgie* 10 (3): 110-22.

Summer, K. (1993). "Toxicological Evaluation of the Incorporation of Polymers and Copolymers Based on L- and D-Lactide and Glycolide." Neuherberg, Germany.

Suter, P. F. (1994). "Unfallhund" Niemand, H. G. und Suter P. F. (Hrsg.), "Praktikum der Hundeklinik" 8. Aufl., Blackwell Wissenschafts-Verlag, Berlin, S. 173-174.

Tielinen, L., M. Manninen, P. Puolakkainen, H. Pihlajamaki, T. Pohjonen, J. Rautavuori and P. Tormala (1998). "Polylactide pin with transforming growth factor beta 1 in delayed osteotomy fixation." *Clin Orthop* 355: 312-322.

Tubbs, P. K. (1965). "The metabolism of D-a-hydroxy acids in animal tissues." *Ann NY Acad Sci* 119: 920-926.

Ungersböck, A., O. E. Pohler and S. M. Perren (1996). "Evaluation of soft tissue interface at Titanium implants with different surface treatments: Experimental study on rabbits." *Bio Med Mater Eng* 4 (4): 317-325.

Vangsness, C.T. Jr., D. R. Carter and V. H. Frankel (1981). "In vitro evaluation of the loosening characteristics of self-tapped and non-self-tapped cortical bone screws." *Clin Orthop* 157: 279-286.

Van Sliedregt, A., A. M. Radder and C. A. van Blitterswijk (1992). "In vitro biocompatibility testing of polylactides. Part I proliferation of different cell types." *J Mater Sci: Mater Med* 3: 365-370.

Vercaigne, S., J. G. Wolke, I. Naert and J. A. Jansen (1998). "Histomorphometrical and mechanical evaluation of titanium plasma-spray-coated implants placed in the cortical bone of goats." *J Biomed Mater Res* 41 (1): 41-48.

Voos, K., B. Rosenberg, M. Fagrhi and D. Seligson (1999). "Use of a tobramycin-impregnated polymethylmethacrylate pin sleeve for the prevention of pin-tract infection in goats." *J Orthop Trauma* 13 (2): 98-101.

Ward, P. (1998). "Care of skeletal pins: a literature review." *Nurs Stand* 12 (39): 34-38.

Williams, D. F. (1996). "Implantable materials and infection." *Injury* 27 Suppl 3: SC1-4.

Winiwarter, H. v., and G. Sainmout (1908). "Erfahrungen über die Flemmingsche Dreifachfärbung." *Z wiss Mikr* 25: 157-162.

Wolfensohn, S., und M. Lloyd (1994). "Recognition of pain and distress in laboratory animals." Handbook of laboratory animal management and welfare. S. Wolfensohn und M. Lloyd, Oxford, New York, Tokyo, Oxford University Press 1:174-180.

Wolff, J. (1892). "Das Gesetz der Transformation der Knochen." Hirschwald, Berlin, Germany, S. 1-152.

Wu, J. J., H. S. Shyr, E. Y. Chao and P. J. Kelly (1984). "Comparison of osteotomy healing under external fixation devices with different stiffness characteristics." J Bone Joint Surg Am 66 (8): 1258-1264.

Yasuda, I. (1958). "Study on bone dynamics." J Bone Joint Surg Am 40: 227.

Zych, G. A., and J. J. Hutson (1995). "Diagnosis and management of infection after tibial intramedullary nailing." Clin Orthop 315: 153-162.