

## PUBLICATIONS

1. Srinivasan, S., R.K. Aaron, P. Chopra, T. Lucas and P.N. Sawyer. Effects of thrombotic and anti-thrombotic drugs on surface charge characteristics of canine blood vessels *in vivo* and *in vitro*. Surgery . 64:827, 1968.
2. Aaron, R.K., T. Lucas, S. Srinivasan and P.N. Sawyer. Alterations in vascular surface charge and propensity to thrombosis produced by blood vessel injury. Bull. N.Y. Acad. Med. 45:969, 1969.
3. Aaron, R.K., S. Srinivasan, D. Burrowes, and P.N. Sawyer. Effects of chemical compounds upon current-induced thrombosis in rat mesenteric vessels. Thromb. et Diath. Haemorr. 23:621, 1970.
4. Bennett, S., G. Geelhoed, R.K. Aaron, T. Solis and R. Hoye. Pulmonary injury resulting from perfusion with stored bank blood in the baboon and the dog. J. Surg. Res. 13:295, 1972.
5. Roberts, A.J., R.K. Aaron, D. Conkle, J. Brown, E. Stinson and C. McIntosh. Lasix and albumin therapy in the post-operative cardiac patient. Circulation 48 (Suppl):207, 1973.
6. Aaron, R.K., S. Srinivasan and P.N. Sawyer. Synthetics and Implants. In: Medical Engineering. Ed: Charles D. Ray. Year Book Medical Publishers, Chicago, Illinois. 1973.
7. Aaron, R.K., R. Beazley and G. Riggle. Hematologic integrity after intraoperative autotransfusion - a comparison with bank blood. Arch. Surg. 108:831, 1974.
8. Aaron, R.K. Reduction of Hageman factor, prekallikrein, and kininogen in surgical stress. In: The Chemistry and Biology of the Kallikrein-Kinin System in Health and Disease. Eds.: J.J. Pisano and K.F. Austen. P. 545. National Institutes of Health, DHEW 76-791, 1976.
9. Aaron, R.K., L. Ellman, A. Carvalho and W.H. Harris. Relationship of intravascular coagulation and fibrinolysis to venous thrombosis following total hip replacement. Clin. Orthop. Relat. R. 135:148, 1978.
10. Brook, I. and R.K. Aaron. Hospital-based aspergillus flavus infection in a surgical wound: A case report. Orthopaedics 3:1215, 1980.
11. Aaron, R.K. Total joint arthroplasty. Surg. Clin. N Am. 63:697, 1983.
12. Aaron, R.K. and D. McK. Ciombor. Venous thromboembolism in orthopaedic surgery. Surg.Clin. N Am. 63:529, 1983.

13. Aaron, R.K., D. McK. Ciombor, R. Glasser and S. Bruder. Quantitative histomorphometric analysis of decalcified bone matrix-induced enchondral ossification. Ann. N.Y. Acad. Sci. 435:237, 1985.
14. Aaron, R.K. and D. McK. Ciombor. Treatment of osteonecrosis of the femoral head with pulsed external magnetic fields. Ann. N.Y. Acad. Sci. 435:367, 1985.
15. Aaron, R.K. and R. Scott. Supracondylar fractures after total knee replacement. Clin. Orthop. Relat. R. 219:30, 1987.
16. Aaron, R.K., C.B. Sledge, and S. Shortkroff. Experimental arthritis induced by polysaccharide macromolecules. Arthritis Rheum. 30:679, 1987.
17. Aaron, R.K. Patients at risk for femoral osteonecrosis. Diagnosis 9:51, 1987.
18. Limbird, R.S. and R.K. Aaron. Laterally comminuted fracture dislocations of the ankle. J. Bone Joint Surg. Am. 69A:881, 1987.
19. Aaron, R.K., G. Jolly, D. McK. Ciombor, and H-J. Barrach. A histochemical method for the demonstration of calcifying cartilage. Calcified Tissue Int. 43:244, 1988.
20. Aaron, R.K., D. McK. Ciombor and G. Jolly. Stimulation of experimental endochondral ossification by low-energy pulsing electromagnetic fields. J. Bone Miner. Res. 4:227-233, 1989.
21. Froehlich, J., G.S. Dorfman, J. Cronan, P.J. Urbanek, J.H. Herndon, and R.K. Aaron. Compression ultrasound for detection of deep venous thrombosis in patients with hip fractures: A prospective study. J. Bone Joint Surg. Am. 71A:249, 1989.
22. Aaron, R.K., D. Lennox, G.E. Bunce and T. Ebert. The conservative treatment of osteonecrosis of the femoral head - A comparison of pulsed electromagnetic fields and core decompression. Seventeenth Open Meeting of the Hip Society. Clin. Orthop. Relat. R. 249:209, 1989.
23. Aaron, R.K. Basic science of fractures and fracture healing. Curr. Opin. Ortho. 1:294, 1990.
24. Savin, H. B., Zimmermann, R.K. Aaron, P. Libbey, J. Alper, and E.V. Lally. Seronegative symmetric polyarthritis in Sezary syndrome. J. Rheumatol. 18:464, 1991.

25. Aaron, R. K., D. Lennox, G. Bunce, D. McK. Ciombor, and T. Ebert. Durability of outcome in osteonecrosis of the femoral head treated with pulsing electromagnetic fields or core decompression. In: *Electromagnetics in Medicine and Biology*. Ed: C.T. Brighton and S.R. Pollack. p.309, San Francisco Press, San Francisco, CA.1991.
26. Aaron, R.K. and M.E. Steinberg. Electrical stimulation of osteonecrosis of the femoral head. *Semin. Arthroplasty*. 2:214, 1991.
27. Aaron, R.K. and D. McK. Ciombor. Electrical stimulation of bone induction and bone grafting. In: *Bone Grafts and Bone Substitutes*. Ed.: M. Habal and A.H. Reddi. p. 192, W.B. Saunders Inc, Philadelphia, PA. 1992.
28. Gershuni, D., R.K. Aaron, C.T. Brighton, F. Magee, and C.F. Smith. Symposium - Recent Advances in Electrical Stimulation. *Contemp. Ortho*. 26:609, 1993.
29. Ciombor, D. McK. and R.K. Aaron. Influence of electromagnetic fields on endochondral bone formation. *J. Cell. Biochem*. 52:37-41, 1993.
30. Aaron, R.K. and D. McK. Ciombor. Therapeutic effects of electromagnetic fields in the stimulation of connective tissue repair. *J. Cell. Biochem*. 52:42-46, 1993.
31. Aaron, R.K. Advances in the surgical treatment of arthritis. *R.I. Med. J.* 77:16,1994.
32. Aaron, R.K. Treatment of osteonecrosis of the femoral head with electrical stimulation. AAOS Instructional Course Lectures 43:495, 1994.
33. Aaron, R.K. Treatment of osteonecrosis of the femoral head with electrical stimulation In: *Impiego Dei Campi Elettromagnetici Pulsati (CEMP) in Orthopedia E Traumatologia*. Eds. G.C. Traina, L. Romanini, L. Massari, C. Villani, and R. Cadossi. P.69, Walberti Editore, Ravenna, Italy. 1995.
34. Aaron, R.K. and D. McK. Ciombor. Acceleration of experimental endochondral ossification by biophysical stimulation of the progenitor cell pool. *J. Ortho. Res.* 14: 582-589, 1996.
35. Aaron, R.K., and D. McK. Ciombor. The role of electrical stimulation in the treatment of avascular necrosis of the femoral head. *Curr. Orthopaed.* London, UK. 11:187, 1997.
36. Aaron, R.K. Osteonecrosis: Etiology, pathophysiology and diagnosis. In: *The Adult Hip*. Eds: J. Callaghan, A. Rosenberg, and H. Rubash. p. 451, Raven Press, New York, NY. 1997.
37. Aaron, R.K., D. Lennox and B. Stulberg. The natural history of osteonecrosis of the femoral head and risk factors for progression. In: *The Etiology, Diagnosis and*

- Management of Osteonecrosis of the Human Skeleton. Ed. J. Urbaniak. p. 261, AAOS, Chicago, IL. 1997.
38. Aaron, R.K., D. McK. Ciombor, and C.F. Lord. Core decompression augmented with human decalcified bone matrix graft for osteonecrosis of the femoral head. In: The Etiology, Diagnosis and Management of Osteonecrosis of the Human Skeleton. Ed. J. Urbaniak. p. 301, AAOS, Chicago, IL. 1997.
  39. Polk, C., R.K. Aaron, and D. McK. Ciombor. Therapeutic applications of low frequency electric and magnetic fields in the US. In: Treatment with Electromagnetic Fields. Ed: J.P. Stossel. Schattauer, Stuttgart, Germany. 1997.
  40. Aaron, R.K. Importance of the early diagnosis of hip pain: New approaches to hip preservation in osteonecrosis. Medicine and Health/Rhode Island 81:157, 1998.
  41. Aaron, R.K. Musculoskeletal disease (Editorial). Medicine and Health/Rhode Island. 81:154, 1998.
  42. Aaron, R.K., D. McK. Ciombor and C. Polk. Therapeutic potential of electric fields in skeletal morphogenesis. In: Skeletal Growth and Development: Clinical Issues and Basic Science Advances. Eds. J.A. Buckwalter, M.G. Ehrlich, L.J. Sandell, and S.B. Trippel. p. 589-610, AAOS, Chicago, IL. 1998.
  43. Scully, S., R.K. Aaron and J. Urbaniak. Survival analysis of hips treated with core decompression or vascularized fibular grafting because of avascular necrosis. J. Bone Joint Surg. Am. 80:1270, 1998.
  44. Carson, J.L., M.L. Terrin, F.B. Barton, R.K. Aaron, A.G. Greenberg, et al. A pilot randomized trial comparing symptomatic vs. hemoglobin-level-driven red blood cell transfusions following hip fracture. Transfusion. 38:522-29, 1998.
  45. Aaron, R.K. and D. McK. Ciombor. Electrical stimulation, demineralized bone matrix, and bone morphogenic protein. Semin. Arthroplasty. 9:221-30, 1998.
  46. Aaron, R.K., D. McK. Ciombor, H. Keeping, et al. Power frequency fields promote cell differentiation coincident with an increase in TGF $\beta$  expression. Bioelectromagnetics. 20: 453-458, 1999.
  47. Ciombor, D. McK. and R.K. Aaron. EMF stimulates cartilage differentiation in endochondral ossification coincident with an increase in TGF $\beta$  expression. In: Electricity and Magnetism in Biology and Medicine. Ed: F. Bersani p. 139-144. Kluwer Academic/Plenum Publishers, New York, NY, 1999.
  48. Aaron, R.K. and D. McK. Ciombor. Preservation of the hip in osteonecrosis of the femoral head. In: Modulazione Biofisica Della Osteogenesi Mediante Campi Elettromagnetici

Pulsati. Vol. II; Eds. G.C. Traina, F. Pipino, L. Massari, L. Molfetta, and R. Cadossi. p. 69-74. Walberti Editore, Ravenna, Italy 1999.

49. Collaborative Osteonecrosis Group. Multifocal osteonecrosis - A multicenter study. Clin. Orthop. Relat. R. 369: 312-326; 1999.
50. Aaron, R.K., B. Stulberg and D. Lennox. Clinical and radiographic outcomes in untreated symptomatic osteonecrosis of the femoral head. Techniques in Orthopaedics 16: 1-5; 2001.
51. Ciombor, D. McK. and R.K. Aaron. Biologically augmented core decompression for the treatment of osteonecrosis of the femoral head. Techniques in Orthopaedics 16: 32-38; 2001.
52. Aaron, R.K. Technique of core decompression. Techniques in Orthopaedics 16: 98-100; 2001.
53. Aaron, R.K. Concepts of the pathogenesis of osteonecrosis. Techniques in Orthopaedics 16: 101-104; 2001.
54. Aaron, R.K. and D. McK. Ciombor. Coagulopathies in osteonecrosis. Curr. Opin. Ortho. 12: 378-383; 2001.
55. Ciombor, D. McK., G. Lester, R.K. Aaron, P. Neame, and B. Caterson. Low frequency EMF regulates chondrocyte differentiation and expression of matrix proteins J. Orthop. Res. 20: 40-49; 2002.
56. Aaron, R.K., S. Wang, and D. McK. Ciombor. Upregulation of basal TGF $\beta$  levels coincident with chondrogenesis. Implications for skeletal repair and tissue engineering. J. Orthop. Res. 20: 233-240; 2002.
57. Lieberman, J., D. Berry, M. Mont, R.K. Aaron, et al. Osteonecrosis of the hip: Management in the 21<sup>st</sup> century. J. Bone Joint Surg. 84: 834-853; 2002.
58. Lieberman, J., D. Berry, M. Mont, R.K. Aaron, et al. Osteonecrosis of the hip: Management in the 21<sup>st</sup> century. AAOS Instructional Course Lectures. 52:337;2003.
59. Ciombor, D. McK., R.K. Aaron, S. Wang, and B. Simon. Modification of osteoarthritis in the guinea pig – A morphological study. Osteoarthritis and Cartilage. 11: 455-462; 2003.
60. Shalvoy, R., G. Ferguson, R.K. Aaron. Hip and Knee Pain. In: Primary Care for Women. Eds: P. Leppert and J. Peipert. p. 652-658, Lippincott-Raven, Philadelphia, PA. 2003.
61. Aaron, R.K., D. McK. Ciombor, B. Simon. Treatment of nonunions with electric and electromagnetic fields. Clin Orthop. Relat. R. 419: 21-29; 2004.

62. Aaron, R.K., B. Boyan, D. McK. Ciombor, Z. Schwartz, B. Simon. Stimulation of growth factor synthesis by electric and electromagnetic fields. Clin Orthop Relat. R. 419: 30-37; 2004.
63. Aaron, R.K., and D. McK. Ciombor. Pain in osteoarthritis. Medicine and Health/RI. 87: 205-209; 2004.
64. Aaron, R.K. and M. Bolander (eds.). Physical Regulation of Skeletal Repair. American Academy of Orthopaedic Surgeons, Chicago, IL. 2005.
65. Paek, H.J., A.B. Campaner, J.L. Kim, R.K. Aaron, D. Ciombor, J. Morgan, M. Lysaght. In-vitro characterization of TGF $\beta$ <sub>1</sub> release from genetically modified fibroblasts in calcium alginate microcapsules. ASAIO. 51: 379-384, 2005.
66. Ciombor, D. McK. and R.K. Aaron. The role of electrical stimulation in bone repair. Foot and Ankle Clinics. 10: 579- 593; 2005.
67. Aaron, R.K., E. Bluman, M.G. Ehrlich, P.G. Trafton. The Pelvis, Hip and Thigh. In: Netter Textbook of Orthopaedics. Ed: W. Greene. p. 363-394, Elsevier Saunders, Philadelphia, PA. 2006.
68. Aaron, R.K., A. Skolnick, S. Reinert, D. McK. Ciombor. Arthroscopic debridement for osteoarthritis of the knee. J. Bone Joint Surg. 88A: 936-943; 2006.
69. Aaron, R.K., D. McK. Ciombor, S. Wang. Clinical biophysics: The promotion of skeletal repair by physical forces. Ann. N.Y. Acad. Sci. 1068: 513-531; 2006.
70. Ciombor, D. McK., A Jaklenec, A. Liu, C. Thanos, N. Rahman, P. Weston, R. Aaron, E. Mathiowitz. Encapsulation of BSA using a W/O/O emulsion solvent removal method. J. Microencap. 23: 183-194; 2006.
71. Paek, H.J., A.B. Campaner, J.L. Kem, L. Golden, R.K. Aaron, D. McK. Ciombor, J. Morgan, M. Lysaght. Microencapsulated cells genetically modified to overexpress human transforming growth factor-beta1: viability and functionality in allogeneic and xenogeneic implant models. Tissue Eng. 12: 1733-9; 2006.
72. Aaron, R.K., H. Herr, D. McK. Ciombor, L. Hochberg, J. Donoghue, C. Briant, J. Morgan, M. Ehrlich. Horizons in prosthetic development for restoration of limb function. J. Am. Acad. Orthop. Surg. 14: S198-204; 2006
73. Aaron, R.K. and D. McK. Ciombor. Orthopaedic complications of solid organ transplantation. Surg. Clin. N Am. 86: 1237-1255; 2006.
74. Aaron, R.K. and R. Gray. Osteonecrosis: Etiology, Natural History, Pathophysiology and Diagnosis. In: The Adult Hip, 2<sup>nd</sup> edition. Eds: J. Callaghan, A. Rosenberg, and H. Rubash. Lippincott Williams & Wilkins, Philadelphia, PA. v. 1 pg 463-476; 2007.

75. Aaron, R.K. and J. Morgan. Biohybrid Limbs: New materials and new properties Medicine and Health/Rhode Island. 90: 4; 2007.
76. Aaron, R.K., D. McK. Ciombor, M. Lysaght, E. Mathiowitz, M. Ehrlich Regenerative medicine for limb trauma. Medicine and Health/Rhode Island. 90: 6; 2007.
77. Aaron, R.K., J. Dyke, D. McK. Ciombor, D. Ballon, J. Lee, E. Jung, G. Tung Perfusion abnormalities in subchondral bone association with marrow edema, osteoarthritis and avascular necrosis. Ann. NY Acad. Sci. 117: 124-137; 2007.
78. Bilgen B, E. Orsini, R.K. Aaron, D. McK. Ciombor. FBS suppresses TGF-beta1-induced chondrogenesis in synoviocyte pellet cultures while dexamethasone and dynamic stimuli are beneficial. J. Tissue Eng. Regen. M., 1: 436 – 442; 2007.
79. Covey, D. R.K. Aaron, C. Born, J. Calhoun, T. Einhorn, H. Frisch, L. Levin, M. Mazurek, E. Schwartz, J. Wenke, E. Powell. Orthopaedic war injuries from combat casualty care to definitive treatment: a current review of the basic science, clinical advances and research opportunities. AAOS Instructional Course Lectures. 57: 65; 2008.
80. Jaklenec A, A. Hinckfuss, B. Bilgen, D. McK. Ciombor, R.K. Aaron, E. Mathiowitz. Sequential release of bioactive IGF-I and TGF-beta(1) from PLGA microsphere-based scaffolds. Biomaterials.10:1518-25; 2008.
81. Ciombor, D. McK., R.K. Aaron. Electric, electromagnetic, and acoustic treatment for avascular necrosis of the femoral head. Techniques in Orthopaedics. 23: 11-17; 2008.
82. Covey, D. C. Born, R.K. Aaron, D. McK. Ciombor, et. al. Regenerative and restorative techniques to treat severe limb trauma orthopaedic war injuries: New developments in treatments and research. AAOS Instructional Course Lectures. 58: 117-129; 2009.
83. Lee, J.H., J. Dyke, D. Ballon, D. McK. Ciombor, G. Tung, R.K. Aaron. Assessment of bone perfusion with contrast-enhanced magnetic resonance imaging. Ortho Clin N Am. 40: 249-257; 2009.
84. Lee, J.H., J. Dyke, D. Ballon, D. McK. Ciombor, M. Rosenwasser, R.K. Aaron. Subchondral fluid dynamics in a model of osteoarthritis: Use of dynamic contrast-enhanced magnetic resonance imaging. Osteoarthritis and Cartilage. 17: 1350-1355; 2009.
85. Bilgen B, Y. Ren, M. Pei, R.K. Aaron, D. McK. Ciombor. CD14-Negative isolation enhances chondrogenesis in synovial fibroblasts. Tissue Eng. 15: 3261-3270; 2009.
86. Puckett, S., P.P. Lee, D. McK. Ciombor, R.K. Aaron, T. Webster. Nanotextured titanium surfaces for enhancing skin growth. Acta Biomaterialia. In Press.
87. Dyke, J.P., R.K. Aaron. Non-invasive methods of measuring bone blood perfusion. Ann. NY Acad. Sci. In Press.

88. Chen, Y., R. Pareta, B. Bilgen, A. Myles, H. Fenniri, D. Mck. Ciombor, R.K. Aaron, T. Webster. Electrospinning self-assembled rosette nanotubes for cartilage tissue engineering. Tissue Eng. In Press.
89. Gerin-Lajoie, M., D. McK. Ciombor, W. Warren, R.K. Aaron. Using ambulatory virtual environments for the assessment of functional gait impairment: A proof-of-concept study. Gait and Posture. In Press.