

Curriculum Vitae

Name: Bruce Harris Ziran, MD, FACS

Education and Training

Post-Graduate:

08/14	DePuy/Synthes Institute Anterior Hip Replacement Course	C. DeCook MD/ J. Matta MD
11/07	Kellogg School of Management Module 1: Leadership and Management	AOA/Kellogg Leadership Series Joel Shalowitz, MD, MBA
09/07	Kellogg School of Management Module 5: Financial Transactions	AOA/Kellogg Leadership Series Joel Shalowitz, MD, MBA
8/07-9/07	Lansdstuhl, Regional Medical Center OTA/Military Visiting Scholars Program	K. Jebson, MD, R Hayda MD
10/2006	Ilizarov Institute, Kurgan, Russia Training in Distraction Osteogenesis	Prof. Vladimir Shevstov MD Chief, Ilizarov Institute
05/2003	Ilizarov Institute, Kurgan, Russia Training in Distraction Osteogenesis	Prof. Vladimir Shevstov MD Chief, Ilizarov Institute
10/95-12/95	AO International, Inselspital (Fellow) Bern, Switzerland	Reinhold Ganz, MD Chief, Orthopaedic Surgery
8/94-10/95	Orthopaedic Traumatology (Fellow) University of California, Davis Medical Center, Sacramento	Michael W. Chapman, MD Chair, Orthopaedic Surgery
7/90-7/94	Orthopaedic Surgery (Clinical Resident) Univ. Hospitals of Cleveland/CWRU	Victor M. Goldberg, M.D Chair, Orthopaedic Surgery
6/89-7/90	Department of Orthopaedic Surgery and Biomechanics (Allen Research Fellow) Case Institute of Technology Cleveland, Ohio	Dwight T. Davy, Ph.D. Prof., Mech. & Aerospace Engineering
6/88-7/89	Combined Program of University Hospitals of Cleveland (General Surgical Internship)	G. Shuck, M.D Chair, General Surgery

Graduate:

1984-1988

Case Western Reserve University
School of Medicine
Alpha Omega Alpha
William Holden award in Surgery

Medical Doctorate

Undergraduate:

1980-1984

Case Institute of Technology,
Case Western Reserve University
Highest Honors, Phi Beta Kappa

Bachelor Science
Biomedical
Engineering

Work Experience and Appointments

Academic:

04/13- present	Hughston Clinic at Gwinnett Medical Center	Director, Orthopaedic Trauma
05/11-present	Atlanta Trauma Symposium.	Course Chairman
07/09- present	American Board of Orthopaedic Surgery (ABOS)	Oral Examiner
12/08- 04/13	Atlanta Medical Center Residency Atlanta, Georgia	Director, Orthopaedic Trauma
08/06- present	Universidad de Salud y Ciencias De San José, Bogota, Colombia	Honorary Professor Orthopaedic Surgery
02/04- 10/08	Northeastern Ohio Universities College of Medicine	Associate Professor, Orthopaedic Surgery
10/03-11/08	St. Elizabeth's Health Center Youngstown, Ohio	Director, Trauma Orthopaedic
10/99- present	Universidad Del Rosario Depto. De Cirugia Ortopedica Bogota, Colombia	Honorary Professor, Orthopaedic Surgery
12/1/95-6/30/03	University of Pittsburgh Department of Orthopaedic Surgery Division of Traumatology Pittsburgh, PA	Assistant Professor, Orthopaedic Surgery

Non-Academic:

1/12-present	Powers Medical Group	Partner/Board Member
1/11-present	Tekartis. Medical Manufacturing	Partner/Designer
6/95- present	Ostekon Inc (previously dba Ecurb Inc) Design & Development, Orthopaedic products	President/Owner
6/94-11/03	United States Naval Reserve Honorable Discharge	Lt. Commander
8/89-8/94	Metro Life Flight, Medical Air Rescue Cleveland, Ohio	Flight Surgeon (part- time)

8/90-7/92	Belkin Productions, Inc. (Entertainment Promotions)	Medical support for touring celebrity bands
8/90-8/94	Mid-Ohio Race Course (Professional Raceway)	Medical Consultant for Race Teams

Certification and Licensure

American College of Surgeons (ACS)

Fellow 10/13

American Orthopaedic Association (AOA)

Member 06/07

American Academy of Orthopaedic Surgeons (AAOS)

Fellow 03/00

American Board of Orthopaedic Surgery (ABOS) Board Certification

Part I (written) 1994 – pass
Part II (oral) 1998 - pass
Recertification (oral) 2007- pass
Examiner for ABOS – 2009-present

Licenses Held:

Georgia	2008-present
Ohio	1989-1994, 2003-2009
Pennsylvania	1995-2009
California	1994, 2003-2009
Arizona	2003-2009
New Mexico	2003-2009

<u>Advanced Trauma Life Support (ATLS)</u>	2010
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Publications

Refereed/Peer Review

1. **Ziran, B.H.**, Tanaka, S.: Non-dorsal plating of complex Olecranon Fractures: Avoiding the Soft Tissue Issues. In Prep. 2012
2. **Ziran, B.H.**, Hirschfield, A.: Longitudinal Evaluation of External Fixator Pin Sites. In prep 2012
3. **Ziran B.H.**, Nourbaksh, A.: Rotational Osteotomy for Chronic Traumatic Reverse Hill-Sachs Lesion of the Humerus. In Submission. Orthopaedics.
4. **Ziran, B.H.**, Barrette-Grischow, M.K., Hull, T.F., Hileman, B.: Algorithm to Evaluate Cost of BMP Use in Open Tibia Fractures. In prep.
5. **Ziran, BH**, Feliciano, DV: History for the General Trauma Surgeon: The Evolution of Orthopaedic Trauma Care. Journal of Trauma. In press.
6. **Ziran, BH**, Becher, S., Hileman, B, Little, J: Cerclage technique for subtrochanteric fractures. In submission.
7. Difficulties and Challenges to Diagnose and Treat Post-traumatic Long Bone Osteomyelitis: Hake ME, Oh, JK, Kim JW, **Ziran BH**, Smith WR, Hak D, Mauffrey C. European J Orthop Surg Traumatol. 2014. Dec 6.
8. Roskosky M, Robinson G, Reisman W, **Ziran BH**, Shuler MS, Freedman B. Subcutaneous depth in a traumatized lower extremity. J Trauma Acute Care Surgery. 2014 Sept; 77(3 Suppl 2): S190-3.
9. **Ziran, B.H.**, Seigall, E.: En Block Joystick Reduction of Comminuted Intra-articular Distal Radius Fractures: A Technical Trick. Am. J. Ortho. 2014 August; 43(8):351-3.
10. Becher, S. Smith, M, **Ziran, B.H.**: Orthopaedic Trauma Patients and Depression: A Prospective Cohort. J. Ortho. Trauma. 2014. Epub. PMID:24736695
11. Zielinski SM, Keijsers NL, Praet SF, Heetveld MJ, Bhandari M, Wilssens JP, Patka P, Van Lieshout EM; **FAITH Trial Investigators.**: Femoral neck shortening after internal fixation of a femoral neck fracture. Orthopedics. 2013 Jul;36(7):e849-58
12. **Ziran B.H.**, Morgenstein, A.: Preventing Eccentric Reaming of the Trochanter During Trochanteric Nailing. J. Orthop. Trauma. 2013 Jul 28. Epub.
13. Herbert-Davies J, Laflamme GY, Rouleau D, **HEALTH and FAITH investigators.** Bias towards dementia: are hip fracture trials excluding too many patients? A systematic review. Injury, 2012 Dec; 43(12): 1978-1984.
14. **Ziran, B.H.**, Becher, S.: Radiographic Predictors of Compartment Syndrome in Tibial Plateau Fractures. J. Orthop. Trauma. 2013 Nov;27(11):612-615.

15. **Ziran, BH**, Bray TJ: How To Negotiate With Your Hospital. *J. Orthop. Trauma.* 2012. Sept; 26 Suppl 1 S:14-17.
16. **Ziran, BH**, Shaer, J: A New Ankle Spanning Fixator Construct for Distal Tibia Fractures: Optimizing Visualization, Minimizing Pin Problems, and Protecting The Heel. *J Orthop Trauma.* 2013 Feb; 27(2):e45--49.
17. Becher, S, **Ziran, B.H.**: Retrograde nailing of open femoral shaft fractures: A retrospective series. *Journal of Trauma and Acute Care Surgery.* 2012. Mar; 72(3):696-8.
18. Didomenico LA, Giagnacova A, Cross DJ, **Ziran BH**: An alternative technique for transosseous calcaneal pinning in external fixation. *J Foot Ankle Surg.* 2012 Mar 2. Epub
19. **Ziran, B.H.**, Little, JE, Kinney, RC: Use of a T-Plate for spring plating of posterior wall fractures. *Technique. Jour Ortho Trauma.* 2011 Sep; 25(9):574-6.
20. Rao, N, **Ziran, B.H.** Lipsky BA: Treating Osteomyelitis. *Antibiotics and Surgery. Plast Reconstr Surg.* 2011 Jan; 127 Suppl 1:177S-187S. Review
21. **Ziran, B.H.**, Kinney, RC, Smith, W.R., Peacher, G: Sub-muscular plating of the humerus: An Emerging Technique. *Injury.* 2010. Oct; 41 (10):1047-52.
22. Marino JT, **Ziran B.H.**: Use of solid and cancellous autologous bone graft for fractures and nonunions. *Orthop Clin North Am.* 2010 Jan;41(1):15-26
23. Hirshhorn, K. Ganey, T., Schlatterer, D., **Ziran, B.H.**: DBM-Fact of Fiction? *J Orthop Trauma.* 2010 Mar;24 Suppl 1:S52-5.
24. Kinney, RC, Tanaka, S., **Ziran, B.H.**: The management of intertrochanteric fractures. *Minerva Ortopedica e Traumatologica.* 2009, 60:497-513.
25. Bhandari M, Sprague S, Schemitsch EH, International Hip Fracture Research Collaborative: Resolving controversies in hip fracture care: the need for large collaborative trials in hip fractures. *J Orthop Trauma.* 2009. Jul; 23(6): 479-84. Review.
26. **Ziran, B.H.**, Heckman, D.S., Olarte, C.M., Chou, K., Baranick, J. : Intramedullary Hip Screw versus Standard Compression Hip Screw: Early Post-Operative Rehabilitation Comparisons. *Orthopaedics.* 2009 Feb;32(2).
27. Newman, J.T., Smith, W.R., **Ziran, B.H.**, Hasenboehler, E.A., Stahel, P.F., Morgan, S.J.: Efficacy of Composite Allografts and Demineralized Bone Matrix in Treating Tibial Plateau Fractures with Bone Loss. *Orthopaedics.* 2008 Jul: 31 (7): 649.
28. **Ziran, B.H.**, Barrette-Grishow, M.K., Hull, T.F.: Hidden burdens of orthopedic injury care: the lost providers. *J Trauma.* 2009 Feb; 66(2):536-49.

29. Suzuki, T., Hak, D.J., **Ziran, B.H.**, Adams, S.A., Stahel, P.F., Morgan, S.J., Smith, W.R.: [Outcome and Complications of Posterior Transiliac Plating for Vertically Unstable Sacral Fractures](#). *Injury*, In press. Epub Dec 16, 2008.
30. Silvestri, L., **Ziran, B.H.**, Barrette-Grischow, M.K., Hull, T.F.: Is Perception of Nursing Care Among Orthopaedic Trauma Patients Influenced By Age? *Journal of Orthopaedic Nursing*. 2008. 12:64-68
31. Little, J.E., **Ziran, B.H.**, Hileman, B.M.: Inhalant Abuse of 1,1-Difluoroethane (DFE) Leading to Heterotopic Ossification: A Case Report. *Patient Safety in Surgery*. 2008 Oct 30;2(1):28
32. [Karanicolas PJ](#), [Bhandari M](#), et al: Radiographs of hip fractures were digitally altered to mask surgeons to the type of implant without compromising the reliability of quality ratings or making the rating process more difficult. *J Clin Epidemiol*. 2009 Feb;62(2):214-223.e1. Epub 2008 Sep 7.
33. **Ziran, B.H.**, Barrette-Grishow, M.K., Hull, T.F.: All level I centers are not created equal: Analysis of provided services across the United States: Analysis of level I centers across the United States. *Patient Safety in Surgery*. 2008 Jul 21: 2:28.
34. **Ziran, B.H.**, Barrette-Grishow, Hull, T., M.K. Marrucci, K, Parish, L.: Economic Value of Orthopaedic Trauma: The (Second to) Bottom Line. *J of Orthop Trauma*, 2008 Apr;22(4):227-233.
35. **Ziran, B. H.** Smith, W.R., Rao, N.: Hemipelvectomy Amputations for Recalcitrant Pelvic Osteomyelitis: A Palliative Treatment. *Injury*. 2008 Apr; 39(4):411-8.
36. Marsh JL, Slongo TF, Agel J, Broderick JS, Creevey W, DeCoster TA, Prokuski L, Sirkin MS, **Ziran B. H.**, Henley B, Audigé L.: Fracture and dislocation classification compendium - 2007: Orthopaedic Trauma Association classification, database and outcomes committee. *J. Orthop Trauma*. 2007 Nov-Dec;21(10 Suppl):S1-133.
37. Bermudez, C.A., **Ziran, B.H.**, Barrette-Grischow, MK: Use of Horizontal Rafting Plates for Posterior Elements of Complex Tibial Plateau Fractures: Description and Case Reports. *J. Trauma*. 2008 mar 17
38. **Ziran BH**, Smith WR, Anglen JO, Tornetta III P: External Fixation: How to make it work. *Instr. Course Lect*. 2008; 57:37-49.
39. Smith WR, **Ziran BH**, Anglen JO, Stahel PF: Locking Plates: Tips and Tricks. *Instr. Course. Lect*. 2008; 57:25-36.
40. Anglen, J.O., Baumgaertner, M.R., Smith, W.R., Tornetta, P 3rd, **Ziran, B.H.**: Technical tips in fracture care: Fractures of the hip. *Instructional Course Lectures* 57:17-24, 2008
41. Oakley, M.J., Smith, W.R., Morgan, S.J., Ziran, N.M., **Ziran, B.H.**: Repetitive posterior iliac crest autograft harvest resulting in an unstable pelvic fracture and infected non-union: case report and review of the literature. *Patient Safety in Surgery*. 2007 Dec 17;1 (1): 6.
42. Bacon, W., Smith, W., Morgan, S., Hasenboehler, G., Philips, G., Williams, A., **Ziran, B.**, Stahel, P.: A retrospective Analysis of Comminuted Intra-articular Fractures of the Tibial Plafond: Open Reduction and Internal Fixation versus External Ilizarov Fixation. *Injury*, 2008, Vol. 39, Issue 2, pp. 196-202

43. **Ziran, B.H.**, Smith, W.R., Morgan, S.: Use of Calcium Based DBM/Allograft for Nonunions and Post-traumatic Reconstruction of the Appendicular Skeleton: Preliminary Results and Complications. *Journal of Trauma*. 2007. Dec; 63 (6): 1324-1328.
44. Hasenboehler, E.A., Choudhry, I. K., Newman, J.T., Smith, W.R., **Ziran, B.H.**, Stahel, P.F.: Bias towards publishing positive results in orthopedic and general surgery: a patient safety issue? *Patient Safety in Surgery* 2007, 1:4 (27 November 2007)
45. Agudelo, J., Schurmann, M., Stahel, P., Helwig, P., Morgan, S.J., Zechel, W., Bahrs, C., Parekh, A., **Ziran, B.H.**, Williams, A., Smith, W.R.: Analysis of Efficacy and Failure in Proximal Humerus Fractures Treated With Locking Plates. *J Orthop Trauma*. 2007 November/December;21(10):676-681
46. Smith, W.R., **Ziran, B.H.**, Anglen, J.O., Stahel, P.F.: Locking Plates: Tips and Tricks. *JBJS (Am)* 2007, October; 89 (10): 2298-2307
47. **Ziran, B.H.**, Belangero, W. Livani, B, Pesantez, R.: Percutaneous Humeral Plating using Locked Plates: A preliminary report. *Journal of Trauma*. 2007. July; 63 (1): 205-210.
48. Bermudez, C.A., **Ziran, B.H.**, Barrette-Grischow, M.K. : Use of Achilles Tendon-Bone Allograft for Reconstruction of the Patellar Tendon in Patients with Non-Reconstructible Disruption of the Extensor Mechanism of the Knee. *Journal of Trauma*. 2007; July 63 (1): 211-216.
49. **Ziran, B.H.**, Heckman, D, Smith, W.R.: Percutaneous Placement of Iliosacral Screws using Computed Tomography for Chronic Sacroiliac Pain: A preliminary report. In press. *Journal of Trauma*. 2007 July; 63(1): 90-96.
50. **Ziran, B.H.**, Smith, W.R., Tornetta III, P., Anglen, J.O. : External Fixation: How to Make it Work. *JBJS (Am)* 2007, July; 89 (7): 1620-1632.
51. **Ziran, B.H.**: Osteomyelitis. Proceedings of San Antonio Trauma Symposium. *Journal of Trauma*. Vol 62, No. 6. Supplement 59, June, 2007.
52. **Ziran, B.H.**, Hendi, P, Smith, W.R., Westerheide, K, Agudelo, J.F.: Osseous Healing with a Composite of Allograft and Demineralized Bone Matrix: Adverse Effects of Smoking. *American Journal of Orthopaedics*, 2007, April Vol. 36, No. 4; pp: 207-209.
53. **Ziran, B.H.**, Wasan, A.D., Marks, D.M., Olson, S.A., Chapman, M.W.: Correlations between Fluoroscopic Images and Osseous Landmarks Pertaining to Sacroiliac Screw Fixation. *Journal of Trauma*. 2007 Feb; 62(2):347-56.
54. **Ziran, B.H.**, Hooks, B, Pesantez, R.: Complex Fractures of the Tibial Plateau. *Journal of Knee Surgery*, 2007, Jan; 20 (1): 67-77.
55. Rodriguez, H., **Ziran, B.H.** : Temporary antibiotic cement-covered gamma nail spacer for an infected nonunion of the proximal femur. *Clin Orthop Relat Res*. 2007 Jan;454:270-4
56. Nossa, J., Smith, W.R., **Ziran, B.H.**: Complications with the expandable hip peg. *JBJS (Am)*, 2006 July;88 (7):1615-1618..

57. Smith, W.R., **Ziran, B.H.**, Agudelo, J.F., Morgan, S.J., Lahti, Z, Vanderheiden, T, Williams A.: Expandable Intramedullary Nailing for Tibial and Femoral Fractures: A Preliminary Analysis of Perioperative Complications. *J Orthop Trauma*. 2006 May;20(5):310-314
58. **Ziran, B.H.**, Agudelo, J.F., Morgan, S., Smith, W.R.: Percutaneous Femoral Nailing: Technique and Preliminary Result. *Orthopedics*. 2005 Oct; 28(10):1182-6.
59. **Ziran, B.H.**, Agudelo, JF, Smith, WR, Scalamogna, D: Use of a Sliding Trochanteric Osteotomy for Supra-Cotyloid Exposure of Posterior-Superior Acetabular Fracture Patterns. *Orthopedics*. 2005 Sep;28(9):908-12
60. **Ziran, B.H.**, Cheung S., Smith, W.R., Westerheide, K.H.: Comparative Efficacy of Two Different Demineralized Bone Matrix Allografts in Treating Long Bone Non-unions in Heavy Tobacco Smokers. *American Journal of Orthopaedics*. 2005 July, 34(7): 329-332.
61. **Ziran, B.H.**, Chamberlin, E., Shuler, F.D., Shah, M.: Delays and difficulties in the diagnosis of lower urologic injuries in the context of pelvic fractures. *J Trauma*. 2005 Mar; 58(3):533-7.
62. **Ziran, B.H.**, Smith, W.R., Balk, M. L., Manning, C.M., Agudelo, J. F.: A True Triceps Splitting Approach for Treatment of Distal Humerus Fractures: A Preliminary Report. *J Trauma*. 2005 Jan; 58(1):70-5.
63. Rao N., **Ziran, B.H.**, Hall, R.A., Santa, E.R.: Successful treatment of chronic bone and joint infections with oral linezolid. *Clin Orthop Relat Res*. 2004 Oct ;(427):67-71.
64. **Ziran, B.H.**, Darowish, M, Klatt, BA, Agudelo JF, Smith, W.R.: Intramedullary nailing in open tibia fractures: a comparison of two techniques. *International Orthopedics*. *Int Orthop*. 2004 Aug;28(4):235-8
65. Rao N, **Ziran BH**, Wagener MM, Santa ER, Yu VL: Similar hematologic effects of long-term linezolid and vancomycin therapy in a prospective observational study of patients with orthopedic infections. *Clin Infect Dis*. 2004 Apr 15; 38(8):1058-64.
66. **Ziran, B.H.**, Rao, N., Hall, R.A.: A dedicated team approach enhances outcomes of osteomyelitis treatment. *Clin Orthop*. 2003 Sep ;(414):31-6.
67. Cheung, S., Westerheide, K., **Ziran, B. H.**, Efficacy of Contained Metaphyseal and Periarticular Defects Treated with Two Different Demineralized Bone Matrix Allografts. *International Orthopaedics (SICOT)*, Vol 27, No. 1, 2003.
68. Olarte, C.M., Darowish, M., **Ziran, B. H.**: Radial Nerve Transposition with Humeral Fracture Fixation: Preliminary Results. *Clin. Ortho. and Related Research*, 2003 Aug ;(413):170-4.
69. Scioscia, T., **Ziran, B. H.**: Use of Vertical Trans-Articular Pin for Stabilization of Severe Ankle Fractures. *American Journal of Orthopaedics* 2003, Volume 23, No.1.
70. **Ziran, B.H.**, Smith, W. R., Morgan S., CT Guided SI screw Fixation with Local Anesthesia and Conscious Sedation. *JBJS (Br)* 2003 Apr; 85(3):411-8.
71. **Ziran, B. H.**, Rohde, R. H., Wharton, A. R.: Lateral and Anterior Plating of Intra-Articular Distal Femoral Fractures Treated via an Anterior Approach. *International Orthopaedics*, Vol. 26, No. 6, 2002.

72. **Ziran, B. H.**, Wasan, A.D., Chapman, M.W.: Proximal Cross-Locking Through the Femoral Neck in Intramedullary Nailing. *International Orthopedics*. 25(6):367-70, 2001.
73. **Ziran, B. H.**, Editorial Comment on "Low Intensity Pulsed Ultrasound in the Treatment of Nonunions". *Journal of Trauma*, 2001 Oct; 51(4):693-702; discussion 702-3. .
74. Hoyne RF, **Ziran B. H.**, Basilious S, Wall R, Tandon N, Hultman J: Six providers speak out about managed care, reimbursement, and real life. Roundtable discussion. *Cost Qual*. 2001, Jun: 26-9, 36-8.
75. Rohde, R., **Ziran, B. H.**, Obturator Internus Tendonitis as a Source of Chronic Hip Pain. *Orthopedics*. 2003 Apr; 26(4):425-6.
76. Lee J.Y., Peng H., Usas A., Musgrave, D., Cummins, J., Pelinkovic, D., Jankowski, R., **Ziran, B.H.**, Robbins, P., Huard, J.: Enhancement of bone healing based on ex vivo gene therapy using human muscle-derived cells expressing bone morphogenetic protein 2. *Hum Gene Ther*. 2002 Jul 1;13(10):1201-11
77. **Ziran, B. H.**, Abidi, N., Scheel, M: Medial Malleolar Osteotomy for Exposure of Complex Talar Body Fractures. *Journal of Orthopaedic Trauma*, 2001, Sep-Oct; (15)7: 513-518.
78. **Ziran, B. H.**, Scheel, M, Keith, M: Pin Reduction and Fixation of Volar Distal Radius Fracture Fragments, Fractures through the Flexor Carpi Radialis Tendon. *Journal of Trauma*, September 2000, Volume 49, (3):pp. 433-9.
79. **Ziran, B.H.**, Shuler, F.D., Zlotolow, D.: Antegrade Femoral Nailing Using a New and True Percutaneous Technique. *Pittsburgh Orthopaedic Journal*, 2000, Volume 11, pp.166-167.
80. Musgrave, D.S., **Ziran, B. H.**: Monoarticular Acromioclavicular Joint Gout. *American Journal of Orthopaedics*, 2000; Volume 29, Number 7, pp. 544-548.
81. Musgrave, D. S.; Bosch, P.; Puchnic, R.; Ghivizzani, S.; Robbins, P. D.; Lowenstein, J.; Evans, C. H.; **Ziran, B. H.**; Huard, J. Human Skeletal Muscle Cells in Ex Vivo Gene Therapy to Deliver BMP-2. *The Journal of Bone and Joint Surgery*. British Volume-84(1): 120-7, January 2002.
82. Day, C. S., Bosch, P., Kasemkijwattana, C., Menetrey, J., Moreland, M. S., Fu, F.H. , **Ziran, B. H.**, Huard, J. Use of Muscle Cells to Mediate Gene Transfer to the Bone Defect. *Tissue Eng.*, 1999; 5(2):119-125.
83. Baltzer, A.W., Whalen, J. D., Stefanovic-Racic, M., **Ziran, B. H.**, Robbins, P. D., Evans, C. H. Adenoviral Transduction of Human Osteoblastic Cell Cultures: A New Perspective for Gene Therapy of Bone Diseases. *Acta Orthopaedic Scand.*, October 1999; 70(5):419-24.
84. Siebenrock, K.A., Gautier E., **Ziran, B. H.**, Ganz, R.: Trochanteric Flip Osteotomy for Cranial Extension and Muscle Protection in Acetabular Fracture Fixation Using a Kocher-Langenbeck Approach. *Journal of Orthopaedic Trauma*, 1998 Aug; (12) 6: 387-91.
85. Gautier, E., **Ziran, B. H.**, Egger, B., Slogan, T., Jakob, R. P.: Growth Disturbances after Injuries of the Proximal Tibial Epiphysis. *Arch Orthopaedic Trauma Surgery* 118 (1998), pp. 37-41.

86. **Ziran, B. H.**, Le, T., Zhou, H., Fallon, W., Wilber, J.: The Impact of the Quantity of Skeletal Injury on Mortality and Pulmonary Morbidity. *Journal of Trauma*. 43(6), pp. 916-21, 1997.
87. **Ziran, B. H.**, Sharkey, N.A., Smith, T.S., Wang, G., Chapman, M.W.: Modified Transverse Locking Nail Fixation of Proximal Femoral Fractures. *Clin. Ortho. and Related Research*. No. 339, pp.82-91, 1997.
88. **Ziran, B. H.**, Makley, J.T., Carter, J.R: Primary Retroperitoneal Sarcomas: Common Symptoms, Common Diagnoses, Uncommon Disease. *Clin. Ortho. and Related Research*. No. 331, pp.277-282, 1996.
89. **Ziran, B. H.**, Goodfellow, D.B., Deluca, L.S., Heiple, K.G.: Cruciform Repair of the Extensor Mechanism after Patellectomy. *Clin. Ortho. and Related Research*.. No. 302, pp. 138-146, 1994.
90. **Ziran, B. H.**, Marcus, R.E.: Biologic Fixation of Osteochondritis Desiccans of the Knee. *International Orthopedics*. Nov/Dec, Vol.2, No. 6, pp.527-532, 1994.
91. **Ziran, B. H.**, Pineda, S.H., Pokharna, H., Mansour J., Moskowitz, R. W.: Biomechanical Radiographic, and Histopathologic Correlations in the Pathogenesis of Experimental Intervertebral Disc Disease. *Spine*, Vol. 19, No. 19, pp. 2159-2163, Oct. 1994.
92. Pazirandeh, M., **Ziran, B. H.**, Khandeval, R., Reynolds, T., Khan, M.: Relapsing Polychondritis and Spondylarthropathies. *Jour. Rheum*. 15:4, pp. 630-632, 1988.
93. Pazirandeh, M., **Ziran, B. H.**: Dissecting Aortic Aneurysm in a Patient with Systemic Lupus Erythematosus. *Case Report. Jour. Rheum*. 15:3, pp. 525-527, 1988.

Senior Editor of Volume:

1. **Ziran, B.H.**, Smith, W.R., Dickson K, Reilly M.: Fractures of the Pelvis. In preparation.
2. **Ziran, B.H.**, Smith, W.R, Dickson K, Reilly M.: Fractures of the Acetabulum. In preparation.
3. W.R. Smith, **Ziran, B.H.** , Morgan, S. (editors): Surgical Management of Acetabular Fractures. In Fractures of the Pelvis and Acetabulum, Marcel-Decker Publishers. Informa Healthcare Publishers. New York. 2007.
4. **Ziran, B.H.** , W.R. Smith (editors): Fractures of the Upper Extremity. Marcel-Decker Publishers, New York, 2004.
5. **Ziran, B.H.**, Rao, Nalini (editors) : Operative Techniques in Orthopaedics. New Concepts in Musculoskeletal Infections. W.B. Saunders, publishers. Volume 12, Number 4, 2003.

Chapter in Volume:

1. **Ziran, B.H.**, Hirschfield, A. : Infections on the Elderly. Ring, Court-Brown, McQueen eds.
2. **Ziran, B.H.**, Booth, C.: Damage Control Orthopaedics. Gorczyca ed.
3. **Ziran. B.H.**: Fractures and Dislocations. In Manual of Medical Terminology. Editor F. Nelson. In press.
4. **Ziran, B.H.**, Reisman W.: Anterior Fractures of the Acetabulum. In. Fractures of the Acetabulum. Ziran and Smith Eds. In prep.
5. Stoneback, J, **Ziran, B.H.**: Hip Trauma. OKU. In press.
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Published Abstracts and Presentations

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2. **Ziran, B.H.** Tibial Plateau ICL (Wolinsky, Yoo, Tejwani). Initial Evaluation and Mangement. AAOS. March 2014. New Orleans, LA
3. **Ziran, B.H.:** The Best of AAOS: Trauma. AAOS 2013, Chicago, Ill.
4. **Ziran, B.H.:** Pelvic Fracture Fixation. American College of Surgeons. Symposium on Devastating Pelvic Trauma. American College of Surgeons. Chicago, Ill, October, 2012.
5. **Ziran B.H.:** Open Pelvic Fractures. Symposium on Devastating Pelvic Trauma. American College of Surgeons. Chicago, Ill, October, 2012.
6. Feliciano DV, **Ziran BH:** Scintigraphic Diagnosis of Acute Bone Infection: Is The Red Cell Scan Necessary? AAST Sept. 2012
7. Feliciano DV, **Ziran BH:** Acetabular Fractures in the Elderly over 65 Years of Age: Assessment of Peri-operative Mortality Risks. AAST Sept. 2012
8. **Ziran, B.H.,** Becher, S.: Radiographic predictors of compartment syndrome in tibial plateau fractures. AAOS 2012, San Francisco.
9. Agnew, S.G., **Ziran, B.H.:** Hospital Employment. Master or Servant. AAOS Specialty Day. AAOS, 2011, San Diego, Ca.
10. **Ziran, B.H.,** Barrette-Grishow, M.K., Shaer, J., Hull, T.: Are Cerclage Wiring of Subtrochanteric Fractures the Device of the Devil? Georgia Orthopaedic Society, 2010.
11. **Ziran, B.H.,** Smith, W.R., Peacher, G: Anterior Sub-muscular plating of the humerus. Georgia Orthopaedic Society, 2010.
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14. **Ziran, B.H.,** Morrison, T: A New Ankle Spanning Fixator Construct for Distal Tibia Fractures: Optimizing Visualization, Minimizing Pin Problems, and Protecting the Heel. OTA, Baltimore, 2010.
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17. Horwitz, D., **Ziran, B.,** Smith, W.: Lower Extremity Limb Salvage Symposium. OTA, San Diego, 2009.

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91. Nelson, D.L., Heiple, K.G., Shaffer, J.W., Keith, M.W., Lacey, S.H., Davy, D.T., and **Ziran, B.H.**: The Effects of Intermittent Passive Motion on Flexor Tendon Repair. Presented at the 31st Meeting of the Orthopaedic Research Society, Las Vegas, NV. February, 1985.
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Other Publications

Osteomyelitis: Internet ID rounds. N Rao MD, co-author
 Orthopedics Today: Roundtable discussion- Bone Graft
 Orthopedics Today: Interview – Alternatives to Bone Grafting
 Orthopedics Today: Interview – Infection team discussion

Invited Lectureships

1. AO Basic Course: Non-Unions. Atlanta, Georgia, October, 2014
2. Grand Rounds. Emory Orthopaedic Surgery Department. Pelvic Fractures. August, 29, 2014.
3. Air Life/EMS Annual Meeting. Pelvis Fractures. Gainesville, GA. March, 6, 2013.
4. Colombian Limb Deformity/Trauma Reconstruction Course. 1) Osteomyelitis-Pathogenesis, 2) Proximal Humerus Fractures 3) Peri-articular elbow fractures 4) Acetabular and Pelvic Fractures 5) Bone Graft Alternatives 6) Percutaneous Humeral Plating. Medellin, Colombia, November, 2013
5. Southeast Fracture Symposium. 1) Tips and Tricks for IM Nailing of the Femur and Tibia. 2) External Fixation and Damage Control. Destin, Florida, August, 2013
6. AO International. Chinese Pelvic/Acetabulum Advance Course. 1) Posterior Approach and Fracture Fixation 2) Fixation of the Posterior Pelvis 3) Complications of Pelvic Fractures 4) Acetabular Fractures in the Elderly. Beijing, China. June 7-9, 2013.
7. Trauma CME Rounds: The Evolution of Orthopaedic Trauma. GMC Medical Center. May, 2013. Atlanta, Ga.
8. AAOS/OTA Acute Trauma Care Symposium. 1) Tips on IM nailing 2) Acute Stabilization of Complex Trauma. Denver, Colorado. May 4, 2013.
9. Atlanta Trauma Symposium. 1) Humerus fractures 2) Non-Unions. Chairman of Course. Atlanta, Georgia. April 25-27, 2013.
10. Air Life/EMS Annual Meeting. Evolution of Orthopaedic Trauma. Atlanta Medical Center, Atlanta, Georgia. March, 2013.
11. Pushing the Envelope of Fracture Care. Chairman: Jeffrey Smith MD. 1) ORIF of Acetabular fractures. 2) ORIF of intertrochanteric fractures with plates. San Diego, California, January, 18-19, 2013
12. Trauma Rounds. Atlanta Medical Center. The Evolution of the Orthopaedic Traumatologist. November, 2012.
13. Emory University, Department of Orthopaedics. Grand Rounds. Atlanta, 2012. Orthopaedic Infections.
14. Advanced Pelvic Fellows Course. 1) Posterior Acetabular Fractures. Techniques. Ft. Lauderdale, Fla, April 2012
15. Colombian Limb Deformity/Trauma Reconstruction Course. 1) Non-union, 2) Osteomyelitis-Pathogenesis, 3) Proximal Humerus Fractures 4) Peri-articular elbow fractures 5) Shaft fractures 6) Percutaneous Femoral Nailing 7) Acetabular and Pelvic Fractures 8) Bone Graft Alternatives 9) Percutaneous Humeral Plating. 10) Distal Femoral Fractures. Medellin, Colombia, November, 2009
16. Disaster Management in Orthopaedics: Fix or Replace? 1) Extreme Distal Femur fractures. 2) Olecranon Fractures with Bone Loss. Ft Lauderdale, Florida. June 2011

- 17.** Trauma Symposium. Invited International Speaker. Bogota Colombia. May, 2011. 1) Infections post op
2) Distal Femur Fractures 3) Proximal Humeral Fractures 4) Minimally Invasive Humeral Fractures
5)Advanced Tibial nailing 6) Advances in Locked Plating
- 18.** Atlanta Trauma Symposium. Chairman and Course Director. 1) Post operative Infections 2) Pelvic and
Acetabular Fractures. Atlanta, May, 2011
- 19.** Trauma Case Controversies. Acetabular and Pelvic Fractures. New York, October, 2010
- 20.** Advanced Pelvic Fellows Course. 1) Posterior Acetabular Fractures. Techniques. Ft. Lauderdale, Fla,
September 2010
- 21.** Advanced IM Nailing and MIPO course. 1) Distal Femoral Plating. Ft. Lauderdale, Fla. August, 2010
- 22.** Brazilian Orthopaedic Trauma Society. Invited Guest Speaker. 1) Pelvic Fractures 2) Acetabular
Fractures. 3) Orthopaedic Infections. 4) Pilon Fractures.)Proximal Tibia Fractures. Sao Paulo and
Cuiaba, Brazil. May 2010
- 23.** Advance nailing/MIO course. Chair. 1) Distal Femur Fractures. 2) Distal Tibia Fractures. Denver,
Colorado. May 2010
- 24.** Synthes Regional Sales Meeting. Southeast Region. The Business of Orthopaedic Trauma: Perspectives.
Orlando, Florida. March 2010
- 25.** Advance nailing/MIO course. 1) Distal Femur Fractures. 2) Distal Tibia Fractures. New Orleans, LA,
March 2010.
- 26.** Foot and Ankle Cadaveric Dissection Course. 1) Lisfranc injury 2) Pilon Fractures. 3) Soft tissue injuries
4) Bone Graft Alternatives. Phoenix, Arizona. February, 2010.
- 27.** Colombian Limb Deformity/Trauma Reconstruction Course. 1)Non-union, 2) Osteomyelitis-
Pathogenesis, 3) Proximal Humerus Fractures 4) Distal Humerus and Peri-articular elbow fractures 5)
Shaft fractures 6) Percutaneous Femoral Nailing 7) Acetabular and Pelvic Fractures 8) Bone Graft
Alternatives 9) Percutaneous Humeral Plating.10) Distal Femoral Fractures 11) Obesity and Impact on
Trauma. Medellin, Colombia, November, 2009.
- 28.** Advanced Nailing Course (Chairman). 1) Tibial Plateau Fractures. 2) Principles of Relative Stability.
New Orleans, October, 2009.
- 29.** Advanced Pelvic Fellows Course. 1) Posterior Acetabular Fractures. Techniques. Mahwah, NJ,
September 2009.
- 30.** Advanced Nailing Course. 1) Tibial Plateau Fractures. 2) Principles of Relative Stability. Denver, CO,
August, 2009
- 31.** Foot and Ankle Update. L. DiDomenico Chair. 1) Lisfranc Injuries 2) Ankle Fracture Biomechanics and
Treatment. Homer Stryker Center, Mahwah, NJ, May, 2009.
- 32.** Grand Rounds, Northwestern University, Department of Orthopaedic Surgery. Post-operative infections.
Chicago, Illinois, May 22, 2009.

- 33.** Real Life Orthopaedic (Regional Trauma Course). B.H. Ziran Chair. 1) Humeral plating. 2) Biomechanics of Locked Plates: When to Lock and When To Not. Atlanta, Ga., May 2009
- 34.** 6th Interinstitutional Course of High Energy Orthopaedic Trauma: Pelvic and Acetabular Injuries. University of Sao Paulo, Brazil. F. Baldy Chair. 1) Acute Treatment of Pelvic Ring Injuries 2) Posterior Acetabular Fractures. 3) Posterior Pelvic Fixation 4) Anterior Acetabular Fixation: the Modified Stoppa and Sub-inguinal. 5) Sacro-iliac Imaging and Screw Fixation.
- 35.** Cincinnati Trauma 101. M. Archdeacon Chair. 1) Proximal Humeral Arthroplasty 2) Open Tibial Fracture Management, Cincinnati, Oh, April, 2009.
- 36.** Advanced Fellows Pelvic Course 1) Posterior Pelvic Fixation. Stryker Learning Center. Mahwah, NJ, November 7-8, 2008.
- 37.** Advanced Resident Dissection Course. 1) Exposures to the Elbow. 2) Exposures to the Hip. Homer Stryker Learning Center, Mahwah, NJ, October 3-4, 2008.
- 38.** Regional Update. Use of Synthetic Bone Substitutes. Minneapolis, Minn. September 29, 2008.
- 39.** Trauma Case Controversies. 1) Complex Proximal Femur Fractures. New York, New York. September, 25-26, 2008.
- 40.** International Trauma Symposium (Chair of Meeting). 1) Post-traumatic Infections 2) The Business of Orthopaedic Trauma. Fort Lauderdale, Fla, September 4-6, 2008.
- 41.** Edinburgh Trauma Symposium. 1) Osteomyelitis 2) Proximal Humeral Fractures 3) Percutaneous Humeral Plating 4) Ilio-Sacral Screw Fixation 5) Expandable Nails: Any Role? Edinburgh, Scotland, August 13-16, 2008.
- 42.** Advances in Lower Extremity Surgery, Podiatric Update. 1) Bone Grafting: An Update. 2) Osteomyelitis 3) Making External Fixation Work. Homer Stryker Learning Center, Mahwah, NJ, July 25-26, 2008.
- 43.** Advanced Cadaver Dissection Course. Exposures to the Elbow. Intertrochanteric Fracture Nailing. Ft. Lauderdale, May 30-31, 2008.
- 44.** MetroHealth System Trauma Symposium: Post traumatic infection. Cleveland, Ohio, May 10, 2008.
- 45.** St. Elizabeth Health Center Grand Rounds: Tips for the Kocher-Langenback Approach. Youngstown, Ohio, May 7, 2008.
- 46.** St. Elizabeth Health Center Grand Rounds: Peritrochanteric Hip Fractures. Youngstown, Ohio, March 26, 2008.
- 47.** Advanced Foot and Ankle Course:: 1) Bone Graft Alternatives 2) Pilon Fractures 3) The Science of Internal Fixation 4) Making External Fixation Work. 5) Post traumatic Osteomyelitis, Ft. Lauderdale, Florida. March 2008.
- 48.** Altoona Medical Center. Regional Meeting. Peritrochanteric Hip Fractures: Review and Strategies. Altoona, PA, February 8th, 2008.

49. St. Elizabeth Health Center. Grand Rounds Presentation. Proximal Humerus Fractures. Youngstown, Ohio, January, 2008.
50. Colombian Limb Deformity/Trauma Reconstruction Course. 1) Non-union, 2) Osteomyelitis-Pathogenesis, 3) Proximal Humerus Fractures 4) Distal Humerus and Peri-articular elbow fractures 5) Shaft fractures 6) Percutaneous Femoral Nailing 7) Acetabular and Pelvic Fractures 8) Bone Graft Alternatives 9) Percutaneous Humeral Plating. 10) Distal Femoral Fractures 11) Obesity and Impact on Trauma. Medellin, Colombia, November 13-16.
51. AO Advanced Course. 1) Debate: Isolated femoral fractures are NOT emergencies. 2) IM solution for subtrochanteric fractures 3) Surgical Approach to Posterior Wall Fractures 4) Post-operative Infection. Denver, Colorado, October, 2007.
52. Stryker R&D regional summit. Obesity and Orthopaedic Trauma. Selzach, Switzerland. September, 2007
53. Landstuhl Regional Medical Center. OTA/Military Visiting Scholar. 1) Management of Open Fractures. 2) Techniques of Humeral Plating. September, 2007.
54. Chicago Trauma Symposium. 1) Humeral Plating Methods. 2) Debate: Pro-DBM. Chicago, Illinois, August, 2007
55. San Antonio Trauma Symposium. 1) External Fixation and Lower Extremity Trauma Management. San Antonio, Texas. August, 2007
56. Ilizarov Course. 1) Fractures and Non-Unions: US experience. Kurgan, Russia. May, 2007
57. Cincinnati Orthopaedic Trauma 101. 1) Fixed Angle Plating of Proximal Humerus: A Revolution in Treatment? 2) ORIF Subtrochanteric Fractures: The When and How. 3) Proximal Humeral Techniques. Cincinnati, Ohio. April 26-27, 2007.
58. International Trauma Symposium. 1) Peritrochanteric fracture update 2) How to Avoid Bias in Clinical research. 3) Fracture Reduction Tricks, Lower Extremity. Kobe, Japan. March 22-23, 2007.
59. State of Art in Orthopaedics. 1) Upper extremity external fixation 2) Humeral fracture plating methods 3) Bone Graft Options: What you need to know. Snomass, Colorado, March 17-18, 2007.
60. AO Principles Course. 1) The Open Fracture 2) Humerus Fractures. Reno, Nevada., January 24-27, 2007
61. Stryker National Sales Meeting. 1) Training for locking plate principles. 2) Training for IM nail technology. San Diego, CA, January 18-20, 2007.
62. Texas Tech University, El Paso. Grand Rounds. Economics of Orthopaedic Trauma. Infections and Osteomyelitis in Orthopaedic Surgery. Humeral Shaft Fractures. El Paso, Texas, January 3, 2007.
63. Current Solutions in Orthopaedics. Use of BMP in fractures. Orlando, Florida. November 17-19, 2006
64. AO Residents course. Mal-unions. Workshop, external fixation. Pittsburgh, PA, October 12-15, 2006.
65. San Antonio Trauma Symposium. Infection after ORIF. San Antonio, Tx, September 20, 2006.

66. Pennsylvania Orthopaedic Trauma Symposium. Non-Unions: What do I do now? Pittsburgh, PA, Sept 15-16, 2006
67. Advanced AO Course. 1) Evolution of Implant/Design. 2) External Fixation 3) Humeral Shaft Fractures. 4) Distal Femur Fractures. 5) Complex Tibial Plateau Fractures 6) Complex Elbow Fractures 7) Early Fixation of Pelvic Fractures 8) Post-operative Infections. Panama City, Panama. Sept 6-9, 2006.
68. Chicago Trauma Symposium. 1) Pro-DBM debate. 2) Hip Fracture Workshop. Chicago, Illinois, July 27-29, 2006.
69. Atlanta Medical Center, Resident Conference. Humeral Fractures: Current concepts. June 23, 2006, Atlanta, Georgia.
70. AO Principles Course. 1) Malunions 2) Infections. January 25-29, 2006, Philadelphia, PA.
71. Colombian Limb Deformity, Trauma Reconstruction Course. 1) Infected Non-union, 2) Osteomyelitis-Pathogenesis, 3) Proximal Humerus and Shaft fractures 4) Distal Humerus fractures, 5) Mechanics and Biology of Locked Plating 6) Complex Tibial Plateau Fractures 7) Primer on Taylor Spatial Frame 8) Pelvic Infections and Hemipelvectomy 9) Bone Graft Alternatives 10) Percutaneous Humeral Plating. November 16-26, Medellin, Colombia.
72. Baltimore Limb Deformity Course. Osteomyelitis: Classification and Pathogenesis. Baltimore, MD. September 3-8, 2005.
73. Chicago Trauma Symposium. 1) Pro use of BMP 2) Hip fractures. Chicago, Illinois. August 11-13, 2005
74. AO Minimally Invasive Trauma Course 1) MIS for acetabular fractures 2) MIS for humeral fractures 3) MIS for femoral fractures 4) MIS for deformity 5) Rationale for IM nail 6) CT guided pelvic fixation. Sao Paulo, Brazil. June 1-5, 2005
75. Trauma 101 Fracture Care. 1) Damage control orthopaedics 2) Distal Humerus Fractures 3) Distal radius fractures. University of Cincinnati, April 29-30, 2005.
76. Update in Physical Therapy. 1) Biomechanics of Fractures and treatments. 2) Post-operative therapy in lower extremity trauma. St. Elizabeth Health Center, April 23, 2005.
77. State of the Art in Orthopaedics. 1) Upper Extremity External Fixation, 2) Bone Graft Alternatives, 3) Femoral Non-Unions. Snowmass, Colorado, March, 2005.
78. AAOS Symposium. The Infected Non-Union. March 11, 2005, Washington, D.C.
79. Zimmer Residents Course. Distal Humerus Fractures. Newport, RI, November, 2004.
80. AAOS Update Course: 1) Shoulder and Humerus Fractures, 2) Bone Graft Alternatives, Washington, D.C., October, 2004.
81. Allegheny Trauma Symposium. Post-operative Infections, Proximal Tibia Fractures, Pittsburgh, PA, September, 2004
82. AO Advance Course. 1) Distal Humerus Fractures, 2) Distal Femur Fractures, 3) Tibial Plateau Fractures, 4) Biomechanics of Locked Plates. Santiago, Chile, SA, August, 2004

83. Stryker Sales Force, Mid-Atlantic Training. Humerus Fractures, Distal Radius Fractures, Calcaneus Fractures. Baltimore, Maryland, March 26, 2003.
84. American Academy of Orthopedic Surgery. Stryker Trauma Video Presentation. Percutaneous Femoral Nailing. San Francisco, California, March 10-13, 2003.
85. 11th Annual LSU Trauma Symposium. New Orleans, LA, December 11-13,, 2003. 1) Reamed vs. Unreamed Tibial Nailing. 2) Distal Femoral Fractures. 3) Olecranon Fractures.
86. Proximal Femoral Fractures. Seminar in Orthopedics. Corpus Christi, Texas. October 19, 2003.
87. Advances in Arthroplasty. Alternative to Autogenous Bone Grafting. Hospital for Special Surgery. NY, NY. October 3, 2003
88. Pennsylvania Trauma Update: Osteomyelitis. Harrisburg, PA. September 27, 2003.
89. AO LISS symposium. Biomechanics of Locked Plating. August 1-2, 2003, Pittsburgh, PA
90. Pittsburgh Bone Symposium. Fracture Healing: The Clinicians Perspective. Pittsburgh PA, August 22, 2003.
91. AO Basic Fracture Course. Reaction of Bone to Fracture and Implant. July 10-12, 2003, Columbus, Ohio
92. Ilizarov Center for Skeletal Reconstruction. Management of Fractures and Infections Seminar. Attendee. Kurgan, Russia, May 23-June 2, 2003
93. Case Western Reserve, Metro Health Fracture Conference: CT guided SI screw fixation. May 16, 2003.
94. Gothenburg Fracture Meeting, University of Goteburg, Sweden: 1) CT guided SI screws; 2) Alternatives to Bone Graft in Trauma; 3) Fracture Care in the New Millennium; 4) Calcium Substances in Fractures 5) Management of Peritrochanteric Fractures; Goteburg, Sweden, April 24-30, 2003.
95. Regional Update Meeting. Knees and Tees: Bone Grafting in Fractures. Nemaocolin Woodland Resort. October 18-19, 2002.
96. Colombian Orthopaedic Association (SCCOT). General Meeting on Fractures and Bone Grafting. 1) Bone Grafting in Acute Fractures; 2) Calcium Products in Grafting Procedures; 3) New Concepts in Bone Grafts; 4) Bone Graft Alternative for "Pseudarthrosis"; 5) The Engineering and Fracture Healing. Bogotá, Colombia. August 2002.
97. Medical College of Georgia Grand Rounds: Fracture Care in the New Millennium. Hybrid External Fixator Workshop. Atlantic, Georgia. May 17, 2002.
98. Trauma Update Symposium: Peri-articular Plating of Pilon Fractures. The Westin-Philadelphia, PA. May 4, 2002.
99. Altoona Hospital Trauma Symposium. Treatment Strategies for Osteomyelitis Lecture. April 26, 2002.
100. The 5th Scandinavian Fracture Conference: Femoral Fractures, Supracondylar Fractures/Retrograde Nailing or Plating. Costa del Sol, Spain. April 18-20, 2002.

- 101.** Musculoskeletal Infection Symposium – 2nd (Co-Chair) Annual Meeting: Post Traumatic Osteomyelitis. University of Pittsburgh Health System. October 27, 2001.
- 102.** AO Fracture Conference. 1) Fracture Care of the New Millennium: Is There Anything New? 2) Distal Femur Fractures; 3) Femur Shaft Fractures; 4) Nonunions; 5) Pelvis/Acetabular Fractures. Santiago, Chile. August 22, 2001.
- 103.** Pennsylvania Orthopaedic Society Spring Scientific Meeting: Fractures-New Ideas for Common Problems. The New Millennium Part II: New or Old Concepts? Treatment of Osteomyelitis: Is there Anything New? Miami, Florida, April 25-28, 2001.
- 104.** Musculoskeletal Infection Symposium (Co-Chair) – 1st Annual Meeting: Post Traumatic Osteomyelitis. University of Pittsburgh Health System. October 22, 2000.
- 105.** Allegheny General Hospital, Third Annual Management for Disorders of the Upper Extremity: Distal Humerus Fractures; September 15-16, 2000.
 1. Peritrochanteric Fractures: Management and Complications, Advances in Trauma Meeting, Chicago, Illinois, July 21-22, 2000
- 106.** Asahi University, Murakami Memorial Hospital in Gifu, Japan; 13th Annual Meeting of the Japanese Association of External Fixation and Limb Lengthening. Current Concepts in External Fixation. May 19-21, 2000.
- 107.** Orthopaedics and Traumatology; Genova, Italy; Hybrid Ex-Fixator Development of the Tenxor System. April 29-May 3, 2000.
- 108.** University of Colorado, Denver, CO; Grand Rounds, 1) Peritrochanteric Fractures: Current Trends in Management; 2) Supracondylar Humerus Fractures Through a Triceps Splitting Approach; 3) Distal Femur Fractures Treated with Dual Plating via the Anterior Approach. January 5, 2000.
- 109.** Columbian Orthopaedic Association (SCCOT), Medellin, Columbia. 1) Anterior Double Plating of Complex Distal Femur Fractures; 2) CT Guided SI Screws for Pelvic Fractures; 3) Triceps Splitting Approach for Distal Humerus Fractures; 4) Muscle to Bone Using Gene Therapy; 5) Alternatives to Pelvic Autograft; 6) CRPP of Calcaneus Fractures, October 28, 1999.
- 110.** Alternative to Autograft; Medical Education Meeting, Bermuda, July, 1999
- 111.** Atlanta Trauma Symposium, Emory University. Trauma Issues for the Next Millennium, Percutaneous Femoral Nailing; Proximal Femur Fracture; May 1999.
- 112.** Hybrid Design Team, Tampa, Florida, May 1999. Update on Hybrid System Design
- 113.** Pennsylvania Orthopaedic Society, Marco Island, Florida; Distal Humerus Fractures Through Triceps Splitting Approach, April 1999.
- 114.** AO Basic Course, Sun Valley, Idaho. Distal Femoral Fractures Lecture and Workshop. March 1999.
- 115.** Gamma Nail Symposium, Aspen, Colorado; March 1999.

116. Rocky Mountain Trauma Society, The Impact of the Quantity of Skeletal Injury on Mortality and Pulmonary Morbidity. March 1999.
117. Hybrid Fixation Design Meeting, Sicily, Italy, October 24, 1998. Update on Hybrid Fixation.
118. University of Colorado, Department of Orthopedics, Snowmass, Colorado, Feb 11-14, 1998 Current Concepts in Adult Orthopaedic Surgery: Trauma. Intertrochanteric Fractures
119. University of Pittsburgh Medical Center, January 14, 1998, Nursing Grand Rounds, Biomechanics of Automotive Injuries, Skeletal Injury in Polytrauma.
120. Hybrid Fixation Design Meeting, Paris, France, Nov. 11, 1997, Update on Hybrid Fixation.
121. Colombia Orthopaedic Association, Cartagena (SCCOT), Columbia, October 8-11, 1997 1) Percutaneous Femoral Nailing, Iliosacral Anatomy; 2) Complex Tibial Fractures; 3) Civilian Gunshot Wounds; 4) High Proximal Interlocking of IM Nails; 5) Trauma Systems in the US; 6) Skeletal Injury in Multiple Trauma.
122. Trauma Workshop, Sacramento California, Sept. 11-12, 1997. 1) Intertrochanteric Fractures; 2) Percutaneous Femoral Nailing; 3) Complex Proximal Femur Fractures; 4) Complex Tibia Fractures.
123. Australian Orthopaedic Registrars Association, Melbourne, Australia July 31-Aug. 3, 1997. 1) Care and Treatment of Gunshot Wounds; 2) Proximal Femoral Fractures; 3) Complex Tibial Fractures: Tips, Tricks, and Pearls; 4) Percutaneous Femoral Nailing.
124. FOX53, Television Interview, Percutaneous Femoral Nailing , 1997
125. Hybrid Fixation Design Meeting-New York, New York, June 27, 1997. Uses of Hybrid Fixation in Lower Extremity Trauma.
126. University of Winnipeg-Grand Rounds, June 20-21, 1997. External Fixation of Complex Fractures.
127. Pennsylvania Orthopedic Society, Pittsburgh, Pennsylvania, November 1996. 1) Problem Femoral Fractures; 2) Problem Tibial Fractures.
128. Southwestern Trauma Update, Nemaocolin Woodlands. 1996. Complex Orthopedic Trauma
129. University of California Davis, Alumni Symposium. June 1995. Intramedullary Fixation of Proximal Femoral Fractures: 1) A Biomechanical Comparison Transverse Locking versus Reconstruction Nail Systems; 2) Comparisons Between Synthetic and Cadaveric Bone Specimens in Biomechanical Testing.
130. University of California, Davis. Grand Rounds, 1995. Skeletal Injury and Poly-trauma: Interrelations Between Chest Trauma and Skeletal Trauma.
131. Case Western Reserve University Hospitals, Department of Orthopaedic Surgery, Grand Rounds, July 1994. 1) Retroperitoneal Sarcomas: A review of the literature; 2) Biomechanical Radiographic, and Histopathologic Correlations in the Pathogenesis of Experimental Intervertebral Disc Disease. ORS 1993.
132. The Effects of Sheath Repair and Continuous Passive Motion on Healing Flexor Tendons.

133. Case Western Reserve University School of Medicine, 1987. Evidence for chondrogenesis in vivo (use of chondrocyte stimulating activator to stimulate mesenchymal cell differentiation in chicken tendons). School Research Day (winner).

Academic Activities

1. Course Chairman and Founder of Atlanta Trauma Symposium. 2011, 2012, 2013, 2014. Ongoing. CME provider: Foundation for Orthopaedic Research and Education. Tampa, Fla.
 2. Atlanta Medical Center (Georgia Baptist) Residency Program, Director of Orthopaedic Trauma. Implementation of Trauma Core Curriculum and Resident Teaching. 2008-present.
 3. Ohio University Osteopathic Orthopaedic Residency. Clinical Associate Professor. Core IV Faculty. 2007–2008.
 4. Northeast Ohio Universities College of Medicine. Associate Professor of Orthopaedic Surgery. Medical Student teaching. 2003-2008.
 5. St. Joseph Health Center. Osteopathic Orthopaedic Residency. Clinical Site for Orthopaedic Trauma, St. Elizabeth Health Center. Development of Orthopaedic Trauma Curriculum. 2003-2008.
 6. Ohio Department of Public Safety, Committee on Trauma 2004-2006.
 7. Chatham College, Pittsburgh, PA. Preceptor for Physician Assistant Program. 1998 – present.
 8. University Del Rosario, Department of Orthopaedic Surgery, Bogotá, Colombia. Residency teaching site. 3 month rotations.
 9. University of Pittsburgh School of Graduate Medical Education. Curriculum for Paramedic Training. Orthopaedic Trauma. Evaluation & Management. Quarterly Lecture, 1997-2003
 10. University of Pittsburgh School of Medicine. Third year medical school curriculum (monthly). Clinical Evaluation and Management of Skeletal Injury. Monthly Lecture 1996-2003.
 11. University of Pittsburgh School of Medicine. First year medical school curriculum. (yearly) Characteristics and Basic Science of Fractures and Bone Healing. 1996-2003.
 12. University of Pittsburgh Medical Center. Multiple Committees. (Medical Audit, Credentialing, Medical Records, Surgical Services, Total Quality Council)
 13. University of Pittsburgh, Department of Orthopaedics. Education Committee. Ken Yaw MD. Residency Director.
 14. University of Pittsburgh School of Medicine. Musculoskeletal Anatomy Lab Orthopaedic/Clinical instructors. (yearly course of 10 day duration). 1996-2003.
 15. University of Pittsburgh Medical Center, Department of Orthopaedic Surgery, residency training program. Orthopaedic Trauma Service. 1996-2003.
 16. Orthopedic Trauma Educational Curriculum: Ten-week curriculum for resident education. 1994-1995. University of California, Davis, Dept. Of Orthopedics.
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Research Activity and Interests

DoD/Geneva Foundation. NIRS compartment syndrome study 2011-2013
OTA Resident Grant. Re-processed drill bits. 2011
OTA Resident Grant. Kryptonite for bone defects. 2011.
OREF resident research grant – Knee kinematics and patellectomy 1989-1990 CWRU
Stryker Biotech – OP-1 with allograft or autograft for non-unions. 2003-2007
Wyeth Research – Injectable BMP-2 for closed tibia fractures. 2006-2008.

Journal Reviewer/Editorial Board

Journal of Orthopaedic Surgery and Research (Associate Editor)
JBJS (American)
Patient Safety in Surgery (Associate Editor)
Clinical Orthopedics and Related Research
Journal of Orthopedic Trauma
Journal of Trauma

Committee Activities

OTA Health Policy Committee	2013-present
AAOS/ACS Committee on Trauma (Verification Review Committee/Systems)	2013-present
American Board of Orthopaedic Surgery Examiner	2009- present
OTA Practice Management Committee	2008-present
AAOS Evaluation Committee (OITE and OSAE test questions)	2008-2014
AAOS Program Committee, Trauma Sub-Committee Chair	2009-2013
AAOS Program Committee, Trauma Sub-Committee	2007- 2013
OTA-Coding and Classification Committee	2005-2007
Reviewer for Medicare Coverage Advisory Committee/ CMS	2005
OTA-Health Policy Committee	2002-2004
AAOS – Committee on Trauma	2002-2004

National Society Memberships

Georgia Orthopaedic Society	2008-present
American Orthopaedic Association	2007-present
Foundation for Orthopaedic Trauma	2007-present
Limb Lengthening & Reconstruction-ASAMI-North America	2003-2007
Eastern Orthopaedic Association	2001-2007
American Orthopedic Foot and Ankle Society	2000-2008
Société Inter. de Chir. Ortho. et de Traumatologie (SICOT)	2000-2008
American Academy of Orthopaedic Surgeons	1996-present
Rocky Mountain Traumatologic Society	1998-2007
Colombian Orthopaedic Society	1998
Orthopaedic Trauma Association	1997-present
American Association Automotive Medicine	1996-2000
Association of Military Surgeons of the United States (AMSUS)	1995-1996
Alpha Omega Alpha	1988
American Medical Association	1986-2001

State/Regional Society Memberships

Georgia Orthopaedic Society	2009- present
Atlanta Orthopaedic Society	2009-present
Ohio Orthopedic Society	2004-2008
Pennsylvania Orthopaedic Society	1996-2004

Administrative Service

Gwinnett Medical Center (5/13-Present)

- Director of Orthopaedic Trauma Service
- Multi-specialty Peer Review Committee – Peer Review.
- Trauma Committee – QI of Trauma Services.
- Surgical Services Executive Committee – Operating Room processes.

Hughston Clinic at Gwinnett Medical Center (5/13- present)

- Director of Orthopaedic Trauma. Member of Joint Operating Board
- Management service agreement with GMC for Orthopaedic Trauma Services

Atlanta Medical Center, Atlanta, Georgia (12/08-3/13)

- Director of Orthopaedic Trauma
- EMS outreach – lectures to EMS about Orthopaedic Trauma
- Trauma Committee- Review and Improve Trauma Care Delivery
- Utilization Review Committee – Improve Resource Utilization
- Emergency Management Committee – Internal and External Disaster Management
- Medicare Performance Initiative – optimize resource utilization

St. Elizabeth's Health Center, Youngstown, Ohio (11/03-10/08)

- Director of Orthopaedic Trauma
- Development of an orthopedic trauma service and associated hospital infrastructure.
 - Previously non-existent orthopaedic service with threatened loss of level-I status.
- Implemented operational system, quality improvement, efficiency optimization via:
 - Results: Increased orthopaedic OR productivity of 30%
- Implemented Surgical Research program (3FTE staff). Numerous peer review publications

University of Pittsburgh, Department of Orthopaedic Surgery

- Education Committee – review resident education curriculum

Design and Development Activity

Acumed – Product Development Team: Ankle Fracture system. (12/13 – present)

Synthes – Product Development Team: Periprosthetic System. (12/12-present)

Stryker – Surgeon Consultant and Speaker (1996-2011)

Tekartis – Partner/Medical Director.

Co-Inventor: Hindfoot Nail. US Patent 2012/0330313

Co-Inventor: Hammer Toe Implant. Patent Pending

Ecurb Inc./Ostekon Inc. –President/Owner - Orthopaedic consulting services

PMMA bone spacer –co- inventor. US Patent 7867426

Automated external fixator – co-inventor. US Patent 8702705

Modular TKA component to facilitate IM nail placement after periprosthetic fracture (patent pending)

Percutaneous Femoral Nailing Technique and System (assigned to Stryker Corp, Mahwah, NJ)

Buttressed Blade Plate-designer/inventor. 1996

Flexor Tendon Repair Clamp -1989. Assigned to Kapp Surgical, Cleveland, Ohio

Charitable Activities

Physician Partners (Gwinnett Medical Center)	In progress
Hughston Foundation	In progress
Immaculate Heart of Mary	In progress
Shand's Circle Member/Supporter OREF	2008
Sponsor of School Tuition-Medellin Colombia	2007-2010

Hobbies/Interests

Music: Bass Guitar, composition, Jazz, Recording. Copyrights on file.

Camping/Survival: Global Survival Institute School

Precision Rifle Shooting: Long Rifle, Ballistics, Reloading

Automobiles: Bertil Roos Racing School (Basic and Advanced)

References

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