

**DUKE UNIVERSITY MEDICAL CENTER**

**CURRICULUM VITAE**

**NAME:** William J. Richardson, M.D.

**PRIMARY ACADEMIC APPOINTMENT:** Department of Orthopaedic Surgery

**PRESENT ACADEMIC RANK AND TITLE:** Professor, Orthopaedic Surgery

Associate Chief Medical Officer  
Duke University Hospital

Vice Chair Orthopaedic Surgery  
Quality and Safety

Section Head Adult Spine Surgery

**DATE AND RANK OF FIRST DUKE FACULTY APPOINTMENT:**

Assistant Professor  
Orthopaedic Surgery July 1987.

**MEDICAL LICENSURE:** National Board of Medical Examiners  
State of North Carolina - July 1987

**SPECIALTY CERTIFICATION AND DATES:** American Board of  
Orthopaedic Surgery  
January 2010

**EDUCATION:**

High School:	Woodrow Wilson Portsmouth, Virginia
College:	University of Virginia Charlottesville, Virginia 1970-1974 BA with distinction
Medical School:	Eastern Virginia Medical School Norfolk, Virginia 1974-1977 MD Armed Forces Health Professions Scholarship Program

**MILITARY SERVICE:** U.S. Navy, 1974-1981

Awards-

Presidential Support Service  
Badge Number 6966

**PROFESSIONAL TRAINING AND ACADEMIC CAREER:**

1977-1978	Internship Eastern Virginia Medical School Norfolk, Virginia
10/78-4/79	Flight Surgeon US Navy Flight Surgeons Program, NAS Pensacola, Florida
5/79-12/81	Lt., MC, USNR Director, Military Medicine Service Naval Regional Medical Clinic Marine Corps Development and Education Command (MCDEC) Quantico, Virginia

5/79-12/81	Flight Surgeon Executive Flight Detachment, HMX-1 MCAF, MCDEC Quantico, Virginia
12/80	Flight Surgeon US Navy Cold Weather Medicine Leadville, Colorado
1/82-6/82	General Surgery (PGY-2) Duke University Medical Center Durham, North Carolina
7/82-6/85	Orthopaedic Residency Duke University Medical Center Durham, North Carolina
7/84-12/84	Shriner's Hospital for Crippled Children, Pediatric Rotation Greenville, South Carolina
7/85-6/86	Chief Resident Orthopaedic Surgery Duke University Medical Center Durham, North Carolina
7/86-6/87	Fellowship in Adult Spinal Deformity Toronto General/Mount Sinai Hospitals Toronto, Ontario, Canada
7/87 -	Professor Division of Orthopaedic Surgery Duke University Medical Center Durham, North Carolina
3/94 -	Assistant Professor Division of Neurosurgery Duke University Medical Center Durham, North Carolina
1/05 -	Vice Chairman Department of Surgery in Clinical Effectiveness

## **PUBLICATIONS**

### **REFERRED JOURNALS:**

1. Urbaniak JR, and Richardson WJ: Diaphyseal Lengthening for Shortness of the Toes. *Foot and Ankle* 5:251-256, March 1985.
2. Richardson WJ, and Garrett WE: Clinical Uses of Continuous Passive Motion. *Contemporary Orthopaedics* 10(1), January 1985.
3. Richardson WJ, and Kostuik JP: Combined Single Stage Anterior and Posterior Osteotomy for Correction of Iatrogenic Lumbar Kyphosis. *Spine* 13(3): 257-266,1988.
4. Poletti SC, Gates HS III, Martinez SM, Richardson WJ: The Use of Magnetic Resonance Imaging in the Diagnosis of Pigmented Villonodular Synovitis. *Orthopaedics* 13(2):185-90, 1990.
5. King GJ, Kostuik JP, McBroom RJ, Richardson WJ: The Surgical Management of Metastatic Renal Carcinoma of the Spine. *Spine* 16(3):p265-271,1991.
6. Myers BS, McElhaney JH, Nightingale RW, Richardson WJ: The Influence of End Condition on Human Cervical Spine Injury Mechanisms. *The Society of Automotive Engineering Transactions, Paper Number 912915, and The Proceedings of the 35th Stapp Car Crash Conference, 391-400,1991.*
7. Myers BS, McElhaney JH, Nightingale RW, Richardson WJ: The Influence of End Condition on Human Cervical Spine Injury Mechanisms. *The Society of Automotive Engineering Journal of Passenger Cars, 6(100):2040-2048,1991.*
8. Poggi JJ, Hardaker WT, Martinez S, Richardson, WJ: Cervical Spondylolysis. *Journal of Spinal Disorders* 5:349-356,1992.
9. Moorman CT III, Richardson WJ, Fitch RD, Hardaker WT Jr.: Flexion-Distractor Injuries to the Lumbar Spine in Children. *J. Southern Orthop. Assoc.* Nov/Dec 295, 1992.
10. Nadel SN, Debatin JF, Richardson WJ, Hedlund LW, Senft C, Rizk WS, Malizos KN, Stahl DL, and Martinez S: Detection of Acute Avascular Necrosis of the Femoral Head in Dogs: Dynamic Contrast-Enhanced MR Imaging vs Spin-Echo and STIR Sequences. *American Journal of Roentgenology.* 159(6):1255-1261, December 1992.
11. Richardson WJ: Complications in Spinal Surgery. *Current Opinion in Orthopaedics.* 4(2):155-159, April 1993.

12. Kiewer MA, Gray L, Paves J, Richardson WJ, Vogler JB, McElhaney JH, and Myers BS: Acute Spinal Ligament Disruption: MR Imaging with Anatomic Correlation. *JMRI*. 3:855-861, May 1993.
13. Kirkpatrick JS, Moloney E, and Richardson WJ: Internal Fixation of the Lumbar Spine: Evaluation of a Protocol for System Selection. *Southern Ortho Journal*. 2(3):147-154, Fall 1993.
14. Lomasney LM, Madden JF, Rizk WS, Hedlund LW, Martinez S, Coleman RE, Richardson WJ, and Sostman HD: Dynamic Contrast-enhanced MR Imaging Assessment of Vascularized Free Fibular Grafts. *JMRI* 4(3):441-9, 1994.
15. Miller WC, Perkins MD, Richardson WJ, and Sexton DJ: *Mycobacterium xenopi* Causing Pott's Disease. *Clinical Infectious Diseases* 19:1024-1028, 1994.
16. Myers BS, Hasty CC, Floberg DR, Hoffman RD, Leone BJ and Richardson WJ: Measurement of Vertebral Cortical Integrity During Pedicle Exploration for Intrapedicular Fixation. *Spine* 20(2):144-148, 1995.
17. Spiegel DA, Sampson JH, Richardson WJ, Friedman AF, Rossitch E, and Seigler HF: Metastatic Melanoma to the Spine: Demographics, Risk Factors, Prognosis in 114 Patients. *Spine* 20(19):2141-2146, 1995.
18. Myers BS, Arbogast KB, Lobaugh B, Harper KD, Richardson WJ, and Drezner MK: Improved Assessment of Lumbar Vertebral Body Strength in Osteoporosis Using Supine Lateral Image Dual Energy X-Ray absorptiometry. *J. Bone and Mineral Research* 9(5):687-693, 1994.
19. Goldner JL, Poletti SC, Gates HS, and Richardson WJ: Severe Open Subtalar Dislocations. *J. Bone and Joint Surg* 77- A(7):1075-1079, 1995
20. Smith TP, Gray L, Weinstein, Richardson WJ, and Payne CS: Preoperative Transarterial Embolization of Spinal Column Neoplasms. *J. Vascular and Interventional Radiology* 6(6):863-869, 1995.
21. Nightingale RW, McElhaney JH, Richardson WJ, Best TM, and Myers BS: Experimental Cervical Impact Injury: Relating Head Motion, Injury Classification, and Injury Mechanism. *J. Bone and Joint Surg* 78(3):412-421, 1996.
22. Nightingale RW, McElhaney JH, Richardson WJ, and Myers BS: Dynamic Responses of the Head and Cervical Spine to Complex Loading. *J. Biomechanics*. 29(3):307-318, 1996.

23. Myers BS, Belmont P, Yu P Jr, Richardson WJ, and Nightingale RW. The Role of Imaging and In Situ Biomechanical Testing in Assessing Pedicle Screw Pullout Strength. *Spine*. 21(17):1962-1968,1996.
24. Hoshijima K, Yamamoto H, Tani Y, Myers BS, Fields MJ, and Richardson WJ: Comparison of Flexion-Extension Motion Following Cervical Laminectomy or Laminoplasty in the Rabbit. *Spine and Spinal Cord*. (In Japanese) 9(8):631-636,1996.
25. Hoshijima K, Nightingale RW, Yu JR, Richardson WJ, and Myers BS: Strength and Stability of Posterior Lumbar Interbody Fusion: Comparison of Titanium Fiber Metal Implant and Tricortical Bone Graft. *Spine*. 22(11): 1181-1188,1997.
26. Nightingale RW, Richardson WJ, Myers BS: The Effects of Padded Surfaces on the Risk of Cervical Spine Injury. *Spine*. 22(20):2380-2387,1997.
27. Grichnik KP, Ginsberg B, Gan TJ, Perno R, and Richardson WJ. Epidural Analgesia After Lumbar Decompression and Fusion. *Anesthesia and Analgesia*. 84,297,1997.
28. Spiegel DA, Richardson WJ, Scully SP, and Harrelson JM: Long-term Survival Following Total Sacrectomy with Reconstruction for the Treatment of Primary Osteosarcoma of the Sacrum. A Case Report. *J Bone Joint Surg AM* Jun;81(6):848-55,1999.
29. Huckell CB, Buchowski JM, Richardson WJ, Williams D, and Kostuik JP: Function Outcome of Plate Fusions for Disorders of the Occipitocervical Junction. *Clin Orthop* Feb;(359):136- 45,1999.
30. Major NM, Helms CA, and Richardson WJ: MR Imaging of Fibrocartilaginous Masses Arising on the Margins of Spondylolysis Defects. *AJR* 680:1733-673,1999.
31. Winkelstein BA, Nightingale RW, Richardson WJ, Myers BS: Cervical Facet Joint Mechanics: Its Application to Whiplash Injury. Stapp Association, 1999.
32. Brown K, Bell MH, Maynard C, Richardson W, Wagner GS. Attribution of responsibility for injury and long-term outcome of patients with paralytic spinal cord trauma. *Spinal Cord*: 653-657, 1999.
33. Danisa OA, Turner DT, and Richardson WJ: Surgical Correction of Lumbar Kyphotic Deformity: Posterior Reduction "Eggshell" Osteotomy. *J Neurosurgery (Spine 1)* 92:50-56,2000.

34. Major NM, Helms CA, and Richardson WJ: The "Mini Brain": Plasmocytoma in a Vertebral Body on MR Imaging. *AJR*: 175:261-263,2000.
35. Winkelstein BA, Nightingale RW, Richardson WJ and Myers BS: The Cervical Facet Capsul and its Role in Whiplash Injury: A Biomechanical Investigation. *Spine* 5:25(10):1238-46,2000.
36. Fields MJ, Hoshijima K, Richardson WJ, and Myers BS: Clinical Outcomes Scales for use in a Rabbit Model of Cervical Myelopathy. *J. Spinal Disorders* 13(2):124-30,2000.
37. Matar LD, Helms CA, and Richardson WJ: "Spinolaminar Breach": An Important Sign in Cervical Spinous Process Fractures. *Skeletal Radiology* 29(2):75-80, 2000.
38. Fields MJ, Hoshijima K, Feng AH, Richardson WJ, Myers BS: A biomechanical, radiologic, and clinical comparison of outcome after multilevel cervical laminectomy or laminoplasty in the rabbit. *Spine* 25(22): 2925-31, 2000.
39. Speciale AC, Pietrobon R, Urban CW, Richardson WJ, Helms CA, Major N, Enterline D, Hey L, Haglund M, Turner DA: Observer Variability in Assessing Lumbar Spinal Stenosis Severity on Magnetic Resonance Imaging and Its Relation to Cross-Sectional Spinal Canal Area. *Spine* 27(10):1082-1086,2002.
40. Whitehouse JD, Friedman ND, Kirkland KB, Richardson WJ, Sexton DJ: The Impact of Surgical-Site Infections Following Orthopedic Surgery at a Community Hospital and a University Hospital: Adverse Quality of Life, Excess Length of Stay, and Extra Cost. *Infection Control and Hospital Epidemiology* 23(4):183-189,2002.
41. Nightingale RW, Winkelstein BA, Knaub KE, Richardson WJ, Luck JF, Myers BS: Comparative strengths and structural properties of the upper and lower cervical spine in flexion and extension (revision). *Journal of Biomechanics* 35(6):725-732, 2002.
42. Pietrobon R, Coeytaux RR, Carey TS, Richardson WJ, DeVellis RF: Standard Scales for Measurement of Functional Outcome for Cervical Pain or Dysfunction: A Systematic Review. *Spine* 27(5):515-522, 2002.
43. Shah AJ, Shah AN, Green LB, Richardson WJ, Turner D, Higgins LD, Pietrobon R: Cost Allocation in Posterior Lumbar and Lumbosacral Fusion, 2003
44. Shah AN, Pietrobon R, Richardson WJ, Myers BS: Patterns of Tumor Spread and Risk of Fracture and Epidural Impingement in Metastatic Verbebrae. *J. Spinal Disorders & Techniques*. 16(1):83-89, Feb 2003.

45. Luo X, Lynn George M, Kakouras I, Edwards CL, Pietrobon R, Richardson W, HeyL. Reliability, validity, and responsiveness of the short form 12-item survey(SF-12) in patients with back pain. *Spine*. 2003 Aug 1;28(15):1739-45.
46. Nettles DL, Richardson WJ, Setton LA: Integrin Expression in Cells of the Intervertebral Disc. *Journal of Anatomy*, 204(6):515-20, Jun 2004.
47. Luo X, Edwards CL, Richardson W, Hey L. Relationships of clinical, psychologic, and individual factors with the functional status of neck pain patients. *Value Health*. 2004 Jan-Feb; 7(1):61-9.
48. Boyd LM, Richardson WJ, Chen J, Kraus VB, Tewari A and Setton LA (2005): Osmolarity regulates gene expression in intervertebral disc cells quantified with gene array and real-time quantitative RT-PCR. *Annals of Biomedical Engineering*, 33:8, 1071-1077.
49. Erdmann D, Richardson WJ. Use of the Microvascular Free Fibula Transfer as a Salvage Reconstruction for Failed Anterior Spine Surgery Due to Chronic Osteomyelitis. *Plastic and Reconstructive Surgery*, 2005.
50. Cook C, Santos GC, Lima R, Pietrobon R, Jacobs DO, Richardson WJ. Geographic variation in lumbar fusion for degenerative disorders: 1990 to 2000. *Spine*. 2007 Sept-Oct; 7(5):552-7.
51. Browne JA, Cook C, Pietrobon R, Bethel MA, Richardson WJ. Diabetes and early postoperative outcomes following lumbar fusion. *Spine*. 2007 Sept 15; 32(20): 2214-9.
52. Pietrobon R, Lima R, Shah A, Jacobs D, Harker M, McCreedy M, Martins H, Richardson WJ. Duke Surgery Patient Safety: an open-source application for anonymous reporting of adverse and near-miss surgical events. *Annals of Surgical Innovation and Research*. 2007 May 1; 1(5).
53. Shamji MF, Ghodsizadeh O, Friedman AH, Richardson WJ, Chilkoti A, Setton LA. Development of a Thermally-Responsive Teptide for Sustained Delivery of Soluble TNF Receptor II to Attenuate Inflammatory Events Associated with Radiculopathy. *Canadian Society for Clinical Investigation*. 2007; paper 5-3.
54. Gilchrist CL, Chen J, Richardson WJ, Loeser RF, Setton LA. Functional Integrin Subunits Regulating Cell-Matrix Interactions in the Intervertebral Disc. *Journal of Orthopaedic Research*. 25(6):829-40, 2007.
55. Shamji MF, Whitlatch LW, Friedman AH, Richardson WJ, Chilkoti A and Setton LA (2008). An injectable and in situ-gelling biopolymer for sustained drug release following perineural administration. *Spine* 33(7):748-54.



56. Boyd LM, Richardson WJ, Allen KD, Flahiff CM, Jing L, Li Y, Chen J and Setton LA (2008). Early onset degeneration of the intervertebral disc and vertebral endplate in mice deficient in type IX collagen. *Arthritis and Rheumatism* 58:164-171.
57. Shamji MF, Jing L, Chen J, Hwang P, Ghodsizadeh O, Friedman AH, Richardson WJ and Setton LA (2008): Treatment of neuro-inflammation by soluble tumor necrosis factor Type II fused to a thermally responsive carrier. *Journal of Neurosurgery, Spine*. 9(2):221-8.
58. Cook C, Tackett S, Shah A, Pietrobon R, Browne J, Viens N, Richardson W, Isaacs R. Diabetes and Perioperative Outcomes Following Cervical Fusion in Patients With Myelopathy. *Spine*. 33(8): E254-60. 2008
59. Heck CA, Brown CR, Richardson WJ. Venous Thromboembolism. *Spine Surgery. JAAOS*. 16(11): 656-64. 2008.
60. Shamji MF, Chen J, Friedman AH, Richardson WJ, Chilkoti A and Setton LA (2008). Synthesis and characterization of a thermally responsive tumor necrosis factor antagonist. *Journal of Controlled Release*. 129:179–186.
61. Shamji MF, Jarvis W, So S, Chen J, Jing L, Bullock RW, Isaacs RE, Brown CR, Setton LA and Richardson WJ (in review). Pro-inflammatory cytokine expression profile in degenerative and herniated human intervertebral disc tissues. *Spine*. September 2008.
62. Chen J, Jing L, Gilchrist CL, Richardson WJ, Fitch RD and Setton LA (accepted in revision) Expression of laminin isoforms, receptors and binding proteins unique to nucleus pulposus cells of immature intervertebral disc. *Connective Tissue Research*, August 2009.
63. Shamji MF, Allen KD, So S, Jing L, Adams SB, Schuh R, Huebner JL, Kraus VB, Friedman AH, Setton LA and Richardson WJ. Gait abnormalities and inflammatory cytokines in an autologous nucleus pulposus model of radiculopathy. *Spine*. 34(7):648-54. September 2009.
64. Shamji MF. Setton LA. Jarvis W. So S. Chen J. Jing L. Bullock R. Isaacs RE. Brown C. Richardson WJ. Proinflammatory cytokine expression profile in degenerated and herniated human intervertebral disc tissues. *Arthritis & Rheumatism*. 62(7):1974-82, July 2010.
65. Allen KD, Shamji MF, Mata BA, Gabr MA, Sinclair SM, Schmitt DO, Richardson WJ, and Setton LA. Kinematic and dynamic gait compensations in a rat model of lumbar radiculopathy and the effects of tumor necrosis factor- alpha antagonist. *Arthritis Res Ther*. 13(4):R137. August 2011.

66. Sinclair SM, Shamji MF, Chen J, Jing L, Richardson WJ, Brown CR, Fitch RD, Setton LA. Attenuation of inflammatory events in human intervertebral disc cells with a tumor necrosis factor antagonist. *Spine* 36(15):1190-6. July 2011.

#### **NON-REFERRED JOURNALS:**

1. Coonrad RW, Richardson WJ, and Oakes J: Left Thoracic Curves Can Be Different. *Orthopaedic Transactions*. 8(1):465-466, Spring 1984.
2. Richardson WJ, and Garrett WE: Clinical Uses of Continuous Passive Motion. *Contemporary Orthopaedics*. 10(1):75, January 1985.
3. Richardson WJ, McNamara MR, and Goldner JL: Comparison of Diagnostic Imaging Techniques in the Assessment of Patients with Acute and Chronic Low Back Pain. *Orthopaedic Transactions*. 12(3):554, Fall 1988.
4. Graham JW, McBroom RJ, Richardson WJ: The Surgical Management of Metastatic Renal Carcinoma of the Spine. *Orthopaedic Transactions* 13(3):500, Fall 1989.
5. Kostuik JP, Richardson WJ, Maurais G: Primary Fusion to the Sacrum Using Luque Instrumentation for Adult Scoliotic Patients. *Orthopaedic Transactions* 13(1):30, Spring 1989.
6. Smith TP, Gray L, Weinstein JN, Richardson WJ, and Payne CS: Preoperative Transarterial Embolization of Spinal Column Neoplasms. *Journal of Avascular and Interventional Radiology*.
7. Steele S, Dentz M, Dickens C, Spillane W, LeCroy C, Richardson WJ, Leone B, and Erwin C: The Correlation of Motor Evoked-Potentials and Cauda-Equina Syndrome in a Canine Continuous Spinal-Anesthesia Model. *Anesthesiology* 79(3A)829, 1993.
8. Steele S, Montine T, Dentz M, Spillane W, LeCroy C, Hoffman D, Mcrae R, Richardson WJ, Erwin C, and Leone B: Histopathologic Changes of Cauda-Equina Syndrome in a Canine Continuous Spinal-Anesthesia Model. *Anesthesiology* 79(3A)850, 1993.
9. Brown K, Bell MH, Maynard C, Richardson WJ, and Wagner GS: Attribution of Responsibility for Injury and Long-Term Outcome of Patients with Paralytic Spinal Cord Trauma. *Spinal Cord* 37:653-657, 1999.

## **CHAPTERS IN BOOKS:**

1. Richardson WJ, et al: New Perspectives on Low Back Pain. AAOS Symposium, Arlie, Virginia May 1988.
2. Richardson WJ: Management of Thoracic and Lumbar Spinal Instability. Neurosurgery Update II, pp245-256, 1991.
3. Hardaker WT, and Richardson WJ: Fractures of the Spine. In Sabiston, DC., Jr. (Ed): Companion Handbook for Textbook of Surgery: The Biological Basis of Modern Surgical Practice. Philadelphia, W.B. Saunders Company. 1992.
4. Hardaker WT, and Richardson WJ: Fractures of the Spine. In Sabiston, DC., Jr. (Ed): The Review of Surgery: Questions and Answers. Philadelphia, W.B. Saunders Company 1992.
5. Richardson WJ and Spinner RJ: Surgical Approaches to the Cervical Spine. In White, AH (Ed): Spine Care Vol.2. Mosby, 1995.
6. Richardson WJ and Furey CG: Low Back and Lumbar Spine Injuries in the Athlete. Lippincott, Williams & Williams. (In Press 2000)

## **OTHER:**

## **POSTER EXHIBITS**

1. Correction of Iatrogenic Kyphosis  
101st Annual Meeting, American Orthopaedic Association  
Hot Springs, Virginia, June 1988.
2. Histopathologic Changes of Cauda Equina Syndrome in a Canine Continuous Spinal Anesthesia Model. Steele S, Montine T, Dentz M, Spillane W, LeCroy C, Hoffman D, McRae R, Richardson W, and Erwin C: 1993 Annual Meeting of the American Society of Anesthesiologists, Washington, D.C., October 1993.
3. The Correlation of Motor Evoked Potentials and Cauda Equina Syndrome in a Canine Continuous Spinal Anesthesia Model. Steele S, Dentz M, Dickens C, Spillane W, Richardson W, Leone B, and Erwin C.
4. "Point of View". Spine. 23(6)732-733,1998.
5. Eschenbacher L, Richardson WJ, Quinlan-Colwell A, McGinnis S: Using Six Sigma Methodologies as a Strategy to Reduce Opiate ADEs, Development of a Tool to Prioritize Implementation Solutions from a Healthcare Failure Mode and

Effects Analysis. Let's Get On With It! 7<sup>th</sup> Annual NPSF Patient Safety Congress, May 2005.

6. Boyd LM, Richardson WJ, Chen J, Kraus VB, Tewari A, Setton LA: Osmolarity Regulates Gene Expression in Intervertebral Disc Cells Quantified with Gene Array and Real-time Quantitative RT-PCR: Annals of Biomedical Engineering, 33:8, 1071-1077, 2005.
7. Chen J, Jing LF, Gilchrist CL, Richardson WJ, Fitch RD and Setton LA. The Nucleus Pulposus of the Intervertebral Disc, Trans 34<sup>th</sup> Annual Meeting The International Society for Study of the Lumbar Spine, June 10-14, 2007 Hong Kong, China.

#### **REFERRED ABSTRACTS PUBLISHED/SCIENTIFIC PAPERS PRESENTED:**

1. Left Thoracic Scoliosis. Presented at the Piedmont Orthopaedic Society, Kiawah Island, May 1984.
2. Left Thoracic Scoliosis. Presented at the Scoliosis Research Society, Orlando, Florida, September 1984.
3. Diastematomyelia: A Review of 39 Cases. Presented at the Greenville Orthopaedic Day, Greenville, South Carolina, April 1985.
4. Left Thoracic Scoliosis. Presented at the American Academy of Orthopaedic Surgeons, New Orleans, Louisiana, February 1986.
5. Anterior Lumbar Discectomy and Fusion. Presented at the Federation of Spine Surgeons, New Orleans, Louisiana, February 1986.
6. Use of Distraction in Burst Fractures. Presented at the Royal College of Physicians and Surgeons, Toronto, Ontario, Canada, September 1986.
7. Extension of Fusion to the Sacrum for Scoliosis. Presented at the Quebec Scoliosis Society, Montreal, Canada, April 1987.
8. Treatment of Iatrogenic Flat Back. Presented at the North American Spine Society, Banff, Alberta, Canada, June 1987.
9. Anterior Decompression for Burst Fractures. Presented at the North American Spine Society, Banff, Alberta, Canada, June 1987.

10. Anterior Lumbar Discectomy and Fusion. Guest Lecturer. Presented at the Inter-Urban Meeting, Durham, North Carolina, October 1987.
11. Treatment of Adult Scoliosis. Guest Lecturer. Presented at the Skyland Orthopaedic Society, Asheville, North Carolina, December 1987.
12. Comparison of Diagnostic Imaging Techniques in the Assessment of Patients with Acute and Chronic Low Back Pain. Presented at the 101st Annual Meeting, American Orthopaedic Association, Hot Springs, Virginia, June 1988.
13. Sacral Insufficiency Fractures. Guest Lecturer. Presented at the Skyland Orthopaedic Society, Asheville, North Carolina, October 1990.
14. Measurement of Vertebral Cortical Integrity During Pedicle Exploration for Intrapedicular Fixation. Presented at the Ninth Annual Meeting of the North American Spine Society, Minneapolis, Minnesota, October 1994.
15. Measurement of Vertebral Cortical Integrity During Pedicle Exploration for Intrapedicular Fixation. Presented at the Sixty-First Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, Louisiana, March, 1995.
16. Nightingale RW, McElhaney JH, Best TM, Richardson WJ, Myers BS: The Relationship Between Observed Head Motion and Cervical Spine Injury Mechanism. Meeting of the Orthopaedic Research Society, 233,1993.
17. Lahr D, Fitch R, and Richardson W: The Ilizarov External Fixator for Pilon Fracture with Soft Tissue Compromise. Orthopaedic Transactions 18(3):924,1994.
18. Hasty CC, Myers BS, Floberg DR, Leone BJ, Richardson WJ: Electrical Impedance Measurement During Pedicle Exploration to Determine Vertebral Cortical Integrity. 40<sup>th</sup> Meeting of the Orthopaedic Research Society, 706,1994.
19. Myers BS, McElhaney JH, Richardson WJ, Nightingale RW: Experimental Compression Flexion Buckling of the Human Cervical Spine. 22<sup>nd</sup> Meeting of the Cervical Spine Research Society, 125-127,1994.
20. Myers BS, Hasty CC, Floberg DR, Leone BJ, Richardson WJ: Impedance Probe to Measure Vertebral Pedicle Integrity for Pedicular Instrumentation. Meeting of the North American Spine Society, 116,1994.
21. Nightingale RW, Richardson WJ, DeMeyts DD, Myers BS: The Effects of Padding on the Risk for Cervical Spine Injury. 23<sup>rd</sup> Meeting of the Cervical Spine Research Meeting, 61-62,1995.

22. Belmont PJ, Myers BS, Richardson WJ, Yu JR, Harper KD, Nightingale RW: The Role of Imaging and In Situ Biomechanical Testing in Assessing Pedicle Screw Pullout Strength. Society of Military Orthopaedic Surgeons Meeting, 82,1996.
23. Hoshijima K, Myers BS, Yu JR, Yamamoto H, Harper KD, Richardson WJ, Nightingale RW: Comparative Strength and Stability of Titanium Mesh and Tricortical Bone Graft in Posterior Lumbar Interbody Fusion. 42<sup>nd</sup> Meeting of the Orthopaedic Research Society, 653,1996.
24. Fields MJ, Hoshijima K, Richardson WJ, Myers BS: Biomechanical Comparison of Cervical Laminectomy and Laminoplasty in the Rabbit. 25<sup>th</sup> Meeting of the Cervical Spine Research Society, 51-52, 1997.
25. Hoshijima K, Fields MJ, Myers BS, Richardson WJ, Yamamoto H: Comparison of Flexion Extension Motion Following Cervical Laminectomy of Laminoplasty in the Rabbit. American Academy of Orthopaedic Surgeons, 505, 1997.
26. Gilchrist CL, Chen J, Richardson WJ, Loeser RF, Setton LA: Functional Integrin Subunits Regulating Cell-Matrix Interactions in the Intervertebral Disc. Matrix Biology, 2006.
27. Browne J, Pietrobon R, Bethel M, Richardson W: Diabetes and Patient Outcomes Following Lumbar Fusion, September 14-16, 2006.
28. Xuemei L, Hohenha, S, Powell S, Alton M, Mericle, Meliones J, Kshitij P, Richardson WJ, Maynard L, Leonard M: Implementing Team Training using TeamSTEPPS. Submitted to Advances in Patient Safety: New Directions and Alternative Approaches.

#### **PRESENTATIONS - Co-AUTHOR:**

1. Giant Cell Tumor Cervical Spine with Vertebral Artery Bypass. Guest Lecturer. Presented at the Cervical Spine Research Society, Key Biscayne, Florida, December 1988.
2. Primary Fusion to the Sacrum Using Luque Instrumentation for Adult Scoliotic Patients. Presented at the Third Annual Meeting of the North American Spine Society, Colorado Springs, Colorado, July 1888.
3. Cervical Spondylosis. Presented at the Fifth Annual Meeting of the North American Spine Society, Monterey, California, August 1990.

4. Influence of End Condition on Human Cervical Spine Injury Mechanisms. Presented at the 35th Stapp Car Crash Conference, San Diego, California, November 1991.
5. Metastatic Melanoma to the Spine: Demographics, Risk Factors, Prognosis in 114 Patients. Presented at the Ninth Annual Meeting of the North American Spine Society, Minneapolis, Minnesota, October 1994.
6. Metastatic Melanoma to the Spine: Demographics, Risk Factors, Prognosis in 114 Patients. Presented at the Sixty- First Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, Louisiana, March, 1995.
7. Cervical Spine Flexion and Extension in Children in the Setting of Acute Trauma. Presented at the Radiological Society of North America, October, 1998.
8. Evaluation of Intervertebral Disc Degeneration in Mice Harboring Gene Mutations for Types VI, IX and XI Collagens. Presented at ORS, March 2005.

#### **GRANTS:**

1. A Retrospective Study of Patients with Failed Back Surgery. Piedmont Orthopaedic Foundation, Inc., 1984. Total Award \$5,000.
2. Co-Principal Investigator with Barry Myers, M.D., PhD, Smith Nephew Spine, Electrical Impedance Measurement During Pedicle Exploration to Determine Vertebral Cortical Integrity: May 1994. Total Award \$17,300.
3. Co-Investigator with Barry Myers, M.D., PhD, Orthopaedic Research and Education Foundation Research Award, Instability and Outcome Following Multilevel Laminectomy and the Role of Laminoplasty in the Management of Cervical Spondylotic Myelopathy. June 1993 to May 1995. Total Direct Costs \$99,000.
4. Co-Investigator with Barry Myers, M.D., PhD, National Highway Traffic Safety Administration Cooperation Agreement, Experimental Characterization of Cervical Impact Injury: Geometry, Structural Responses, and the Influence of the Musculature on Cervical Impact Tolerance. March 1994 to February 1999. Total Award \$1,235,759.
5. Co-Principal Investigator with Barry Myers, M.D., PhD, Centers for Disease Control and Prevention, Grant Number R49/CCR402396-06, Biomechanical Aspects of Spinal Trauma. May 1993 to May 1996. Total Costs \$630,405.

6. Co-Principal Investigator with Barry Myers, M.D., PhD, Centers for Disease Control and Prevention, Grant Number R49/C-CR402396-03, Biomechanical Aspects of Spinal Trauma. May 1991 to May 1993. Total Direct Costs \$257,060.
7. Principal Investigator, Adult Spinal Fellowship, Sofamor-Danek; DePuy-Acromed, Electrobiology, Inc, Synthes Spine. \$50,000 yearly from 1998 to present.

### **CONSULTANT APPOINTMENTS**

Orthopaedic Consultant, Durham Veterans Administration Hospital, 1987 - Present.

### **PROFESSIONAL AWARDS AND SPECIAL RECOGNITIONS**

Siegal Award for Best Paper

Stapp Car Crash Conference 1992

Chairman's Award for Best Slide Presentation  
Piedmont Orthopedic Society 1995

Piedmont Pitcher Award  
Piedmont Orthopedic Society 2000

Business North Carolina Magazine Nomination for One of North Carolina's Top Physicians, July 2004

### **ORGANIZATIONS AND PARTICIPATION**

American Medical Association

North Carolina Medical Society

Durham-Orange Medical Society

Piedmont Orthopaedic Society (Librarian/Historian)

American Academy of Orthopaedic Surgeons

North American Spine Society

North Carolina Orthopaedic Association



Orthopaedic Research Society

North Carolina Spine Society

Cervical Spine Research Society

North Carolina Spine Society

### **TEACHING RESPONSIBILITIES**

1. Director, Adult Spine Fellowship Program.
2. Co-Director, Weekly Spine-Injury Team Conference, Duke University Medical Center.
3. Director, Bi-Monthly Spine Conference, Veteran's Administration Hospital, Durham, North Carolina.
4. Routine Lecturer, Anatomy and Pathology Conference for Orthopaedic Residents and Fellows, Division of Orthopaedic Surgery, Duke University Medical Center.
5. Routine Lecturer, Subspecialty Course for Medical Students, Duke University Medical Center.
6. Lecturer, Mountain Area Health Education Center, Asheville, North Carolina

### **CONTINUING EDUCATION-LEADERSHIP TRAINING**

1. Clinical Leadership Master's Program, Duke University, Durham, North Carolina 2003 (completion May 2006)
2. AOA-Kellogg Leadership Series Module One, March 2004, Chicago, Illinois
3. AOA-Kellogg Leadership Series Module Two, July 2004, Chicago, Illinois
4. Greenbelt Certification for Six Sigma Sponsored by North Carolina State University, Duke University and SAS Corporation, Summer 2004, Raleigh, North Carolina
5. IHI Patient Safety Officer Training

**CLINICAL ACTIVITY - TYPE OF PRACTICE AND ESTIMATE OF TIME COMMITMENT**

80 hours weekly

Spinal Surgery

Duke University Medical Center Spine Injury Team

General Orthopaedics/Trauma

Duke University Medical Center, Orthopaedic Private Diagnostic Clinic

Consultant Durham VA Hospital 14 hours monthly

**PARTICIPATION IN ACADEMIC AND ADMINISTRATIVE ACTIVITIES OF THE UNIVERSITY AND MEDICAL CENTER**

Director, Adult Spine Fellowship Program

Director, Back and Spine Clinic

Quality Assurance – Orthopaedic Division

Safety Task Force Committee

Picture Archive and Communications System Committee

Musculoskeletal CSU Committee

Safety Leadership Executive Steering Committee

Performance Improvement Oversight Committee

Executive Steering Committee

Patient Safety

Clinical Peer Review

Electronic Medical Records

Quality Metrics for Duke University Health System

PACS Steering Committee

Six Sigma Green Belt – Trauma Service

Masters Clinical Leadership Program; December 2006

**NATIONAL COMMITTEES:**

AAOS Patient Safety Committee

NASS Patient Safety Committee

AAOS Electronic Media Education

AAOS Orthopaedic In-Training Exam

AAOS Programs

GE Medical Advisory Board