Curriculum Vitae

MITCHELL ALAN HARDENBROOK, MD

Orthopedic Spine Surgeon

Date: 6/2/2020

ADDRESS:

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TRAINING:

FELLOWSHIP Spine

New England Baptist Hospital

Tufts University-UMass Medical Center Affiliates

Boston, MA July 2003

RESIDENCY University of Maryland Medical Center

Shock Trauma Center

Department of Orthopaedic Surgery

Baltimore, MD June 2002

MD Hahnemann University School of Medicine

Philadelphia, PA

May 1997

BS University of Massachusetts

Amherst, MA

Major: Biochemistry

May1992

Year Abroad Program University of East Anglia

Norwich, England

1988-1989

APPOINTMENTS:

1 March 2012 – Present Assistant Clinical Professor of Orthopaedic Surgery

Tufts University School of Medicine

Boston, MA

10 May 2006 – July 2007 Assistant Professor of Surgery

Uniformed Services University of the Health Sciences

Bethesda, Maryland

1 Aug 2002 - 30 June 2004 Clinical Instructor

Tufts University School of Medicine

Boston, MA

POSITIONS HELD:

Sept 2012 – Present President

Advanced Spine Institute of Greater Boston

Hopedale, Massachusetts

Sept 2007 – August 2012 Orthopaedic Spine Surgeon and Partner

The Boston Spine Group Newton, Massachusetts

Aug 2005 – Aug 2007 Director of Spine Surgery

Department of Orthopaedic Surgery

Naval Medical Center Portsmouth, Virginia

Jan 2005- Aug 2007 Institutional Review Board Member

Naval Medical Center Portsmouth, Virginia

Aug 2003 – Aug 2007 Staff Orthopaedic Surgeon

Naval Medical Center Portsmouth, Virginia

Aug 2002 - July 2003 Spine Surgery Fellow

New England Baptist Hospital

Boston, Massachusetts

July 1998 – July 2002 Orthopaedic Surgery Resident

University of Maryland Medical Center

Baltimore, Maryland

July 1997 – June 1998 General Surgery Intern

University of Maryland Medical Center

Baltimore, Maryland

Aug 1992 – Aug 1993 Research Assistant

New England Medical Center Hospital

Boston, Massachusetts

Aug 1991 – July 1992 Research Assistant

Dana Farber Cancer Institue

Boston, Massachusetts

MILITARY EXPERIENCE:

2003 – 2007 Lieutenant Commander

Medical Corps, United States Navy

1997 - 2003 Lieutenant

Medical Corps, United States Navy

1993 - 1997 Ensign

Medical Corps, United States Navy

HONORS:

1995 Leon C. Sunstein Academic Scholarship Award

Hahnemann University

Harriet & Phillip Davis Academic Scholarship Award

Hahnemann University

1994 General Academic Scholarship Award

Hahnemann University

1993 W. E. Crane Academic Scholarship Award

Hahnemann University

AMA-ERF Academic Scholarship Award

Hahnemann University

U.S. Navy Health Profession Scholarship

Hahnemann University

1991 Senior Leadership Award

University of Massachusetts

LICENSURE AND CERTIFICATIONS:

June 2015 American Board of Orthopedic Surgery Recertification

(valid 1/1/2016-12/31/2025)

July 2005 American Board of Orthopaedic Surgery Part II

July 2002 American Board of Orthopaedic Surgery Part I

May 2002 Licensed to Practice Medicine and Surgery

State of Massachusetts – License # 213207

May 1998 U.S. Medical Licensing Examination Part III

March 1997 U.S. Medical Licensing Examination Part II

June 1995 U.S. Medical Licensing Examination Part I

MEMBERSHIP/SOCIETY:

2004 - Present Society of Military Orthopaedic Surgeons

2003 - Present North American Spine Society

2003 - 2007 Tidewater Spine Society

1998 - Present American Academy of Orthopaedic Surgeons

PUBLICATIONS:

Lieberman IH, HARDENBROOK M.A., Wang JC, Guyer, RD. (2011) Assessment of Pedicle Screw Placement Accuracy, Procedure Time and Radiation Exposure Using a Miniature Robotic Guidance System. Spinal Disord Tech. May 19, (in press).

Devito DP, Kaplan L, Dietl R, Pfeiffer M, Horne D, Silberstein B, HARDENBROOK,

- M.A. (2010) Clinical acceptance and accuracy assessment of spinal implants guided with SpineAssist surgical robot: retrospective study, Spine Nov 15;35(24):2109-15.
- Petilon J, Roth J, HARDENBROOK, M.A. (2010) Results of Lumbar Total Disc Arthroplasty in Military Personnel. Spinal Disord Tech. Oct 21, (in press).
- HARDENBROOK, M.A. (2010) Posterior Minimal Incision Interbody Fusion Techniques for the Lumbar Spine (book chapter), Arthritis & Arthroplasty: The Spine, Saunders Elsevier.
- Gaines, R.J., HARDENBROOK, M.A. (2009) Closed Reduction of a Dislocated Total Hip Arthroplasty with a Constrained Acetabular Component, The American Journal of Orthopedics, Oct;38(10):523-5.
- Alamin, T., HARDENBROOK, M.A., Kim, C., Kim, K., Fox, B., Taylor, W., Stevens, K., Bammer, R. (2008) Preliminary Results of a Multicenter Randomized Study to Evaluate the Effect of Minimally Invasive vs. Open Lumbar Fusion on Paraspinal Musculature Using MR Imaging, The Spine Journal, Volume 8, Issue 5S Pages 8S-9S.
- Petilon, J., HARDENBROOK, M.A., Sukovich, W. (2008) The effect of parallax on intraoperative positioning of the Charité artificial disc, Spinal Disord Tech, Aug 21(6): 422-9.
- Lieberman, I., HARDENBROOK, M.A., Wang, J., Guyer, R., Khanna, A. (2007) Radiation Exposure Using Miniature Guidance for Spinal Surgery, The Spine Journal, Volume 7, Issue 5S, Pages 152S-153S.
- HARDENBROOK, M.A., Lombardo, S.R. (2006) Silicate-substituted calcium phosphate as a bone void filler after kyphoplasty in a young patient with multiple compression fractures due to osteogenesis imperfecta variant, Neurosurgical Focus, Vol 21, Number 6: 1-5.
- HARDENBROOK, M.A., Sukovich, W., Rooney, R. (2006) Outcomes of Transforaminal Lumbar Interbody Fusion (TLIF) versus Minimally Invasive Lumbar Interbody Fusion (MiLIF) in Active Duty Military Members. *The Spine Journal*, Volume 6, Issue 5, Pages 139S-139S
- Sukovich, W., Brink-Danan, S, HARDENBROOK, M.A. (2006) Miniature robotic guidance for pedicle screw placement in posterior spinal fusion: early clinical experience with the SpineAssist, International Journal of Medical Robotics and Computer Assisted Surgery, Volume 2, Issue 2, Pages 114-122.
- Caleb, B.L., HARDENBROOK, M.A., Cherington, P.V., Castellot, J.J. (1996) Isolation of vascular smooth muscle cell cultures with altered responsiveness to the antiproliferative effect of heparin, Journal of Cellular Physiology, 167: pp. 185-195.

Tischler, A.T., Riseburg, J.C., HARDENBROOK, M.A., Cherington, P.V. (1993) Nerve Growth Factor is an inducer of proliferation and neuronal differentiation for adult rat chrommaffin cells in vitro, Journal of Neuroscience, 13: pp. 1533-42.

Cherington, P.V., Higgins, C., HARDENBROOK, M.A. (1993) Regulation of adipocyte differentiation through signaling pathways modulated by polyoma middle T antigen, Journal of Cellular Biochemistry, <u>17a</u>: p. 251. (abstract)

PRESENTATIONS:

HARDENBROOK, M.A. "From Microdiscectomy to Percutaneous HydroDiscectomy," **14**th **American Society of Interventional Pain Physicians**, Washington, DC, June 9-13, 2012.

HARDENBROOK, M.A. "A New Approach to Lateral Lumbar Interbody Fusion with One-year Follow-up," Society of Minimally Invasive Spine Surgeons, Las Vegas, NV, Oct 21-23, 2011. (poster)

HARDENBROOK, M.A., Kapsokavathis, Michael, Ruehlman, Dana, Seim, Howard B., Turner, Anthony S. "Rigid Spinous Process System Fixation vs. Pedicle Screw Fixation in a Posterolateral Lumbar Arthrodesis Sheep Construct - Comparison of Fusion Rates," EuroSpine, Milano, Italy, October 19-21, 2011.

HARDENBROOK, M.A., Kapsokavathis, Michael, Ruehlman, Dana, Seim, Howard B., Turner, Anthony S. "Rigid Spinous Process System Fixation vs. Pedicle Screw Fixation in a Posterolateral Lumbar Arthrodesis Sheep Construct - Comparison of Fusion Rates," 18th International Meeting on Advanced Spine Techniques, Copenhagen, Denmark, July 13-16, 2011. (poster)

HARDENBROOK, M.A. "Lumbar Percutaneous HydroDiscectomy: Tips and Tricks," XIII Congresso da Sociedadw Brasileira de Coluna, Campos do Jordao, Brazil, April 28-30, 2011.

HARDENBROOK, M.A, Vijay Goel, James B. O'Donnell, Vivek Palepu, Avanthi Chikka, Tejaswy Potluri, Ashok Biyani, Jihad Dakkak, "Biomechanical Testing of Lumbar Cadaveric Spine Evaluating Inter-Spinous Fixation Compared to Pedicle Screws as Adjunct to Lateral Interbody Fusion in a Three-Level Construct," 17th International Meeting on Advanced Spine Techniques, Vienna, Austria, July 15-18, 2010. (poster)

Alamin, T., HARDENBROOK, M.A., Kim, C., Kim, K., Fox, B., Taylor, W., Stevens, K., Bammer, R. "Preliminary Results of a Multicenter Randomized Study to Evaluate the Effect of Minimally Invasive vs. Open Lumbar Fusion on Paraspinal Musculature Using MR Imaging," North American Spine Society, Toronto, Canada, October 15-18, 2008.

HARDENBROOK, M.A., Lieberman, I., Khanna, AJ, Guyer, R., Wang, J. "Accuracy, Radiation and Procedure Time – Efficacy of Miniature Robotic Guidance in Spinal Surgery," 2008 Annual Meeting of EuroSpine during SpineWeek, Geneva, Switzerland, May 26 – 31, 2008.

HARDENBROOK, M.A. "Hydrodiscectomy," Taped Live Surgeries, 8th Annual SAS Global Symposium on Motion Preservation Technology, Miami, FL, May 6-9, 2008.

Petilon, J, Roth, J, HARDENBROOK, M.A. "Results with the Charite Disc in Military Personnel," 8th Annual SAS Global Symposium on Motion Preservation Technology, Miami, FL, May 6-9, 2008.

HARDENBROOK, M.A., Brawley, S. "Radiographic analysis of sagittal contour and disk height after minimally invasive lumbar interbody fusion for isthmic spondylolisthesis," 49th Society of Military Orthopaedic Surgeons, Vail, CO, December 10-14, 2007.

Kent, R, HARDENBROOK, M.A. "The feasibility of minimally-invasive four and five-level posterior cervical instrumented fusion," 49th Society of Military Orthopaedic Surgeons, Vail, CO, December 10-14, 2007. (poster)

Lieberman, I, HARDENBROOK, M.A., Wang, J, Guyer, R, Khana, A. "Radiation exposure using miniature robotic guidance for spinal surgery," North American Spine Society, Austin, TX, October 23-27, 2007. (poster)

HARDENBROOK, M.A., Lombardo, S. "A cadaveric study evaluating the anatomic relationship of the pedical and nerve roots through a minimally invasive paramedian approach to the lumbar spine," Eastern & Southern Orthopaedic Association Annual Meeting, Victoria, British Columbia, Canada, Aug 1-4, 2007.

HARDENBROOK, M.A., Brawley, S. "Radiographic analysis of sagittal contour and disk height after minimally invasive lumbar interbody fusion for isthmic spondylolisthesis," Western Orthopedic Association Annual Meeting, Coranado, CA, July 19-21, 2007.

HARDENBROOK, M.A., Lombardo, S. "A cadaveric study evaluating the anatomic relationship of the pedical and nerve roots through a minimally invasive paramedian approach to the lumbar spine", Western Orthopedic Association Annual Meeting, Coranado, CA, July 19-21, 2007. (Poster)

HARDENBROOK, M.A., Lombardo, S. "Miniature robotic guidance – a useful tool in complicated revision deformity cases," 14th International Meeting on Advanced Spine Techniques, Paradise Island, The Bahamas, July 12-14, 2007.

HARDENBROOK, M.A., Lombardo, S. "A cadaveric study evaluating the anatomic

relationship of the pedicle and nerve roots through a paramedian approach to the lumbar spine," 14th International Meeting on Advanced Spine Techniques, Paradise Island, The Bahamas, July 12-14, 2007. (Poster)

HARDENBROOK, M.A., Kent, R. "Four and five-level posterior cervical instrumented fusion via an expanding retractor system," 14th International Meeting on Advanced Spine Techniques, Paradise Island, The Bahamas, July 12-14, 2007. (Poster)

HARDENBROOK, M.A., Brawley, S. "Radiographic analysis of sagittal contour and disk height after minimally invasive lumbar interbody fusion for isthmic spondylolisthesis," 14th International Meeting on Advanced Spine Techniques, Paradise Island, The Bahamas, July 12-14, 2007. (Poster)

HARDENBROOK, M.A., Knoller N, Barzilay Y, Zilberstein B, Schmieder K, Schönmayr R, Dietl R. "Clinical experience with miniature robot for spinal surgery: 89 clinical cases," 14th International Meeting on Advanced Spine Techniques, Paradise Island, The Bahamas, July 12-14, 2007. (Poster)

HARDENBROOK, M.A., White, S, Sukovich, W. "Lumbar Microdiscectomy Using Cannulated high-pressure water debridement system: a retrospective review," 14th International Meeting on Advanced Spine Techniques, Paradise Island, The Bahamas, July 12-14, 2007. (Poster)

HARDENBROOK, M.A., Kent, R. "Minimally invasive multi-level posterior cervical fusion using a novel expanding retractor system," Scoliosis Research Society Eastern European Regional Meeting, Budapest, Hungary, June 14-16, 2007. (Poster)

HARDENBROOK, M.A., Lombardo, S. "A cadaveric study evaluating the anatomic relationship of the pedical and nerve roots through a minimally invasive paramedian approach to the lumbar spine," Scoliosis Research Society Eastern European Regional Meeting, Budapest, Hungary, June 14-16, 2007. (Poster)

HARDENBROOK, M.A., Brawley, S. "Radiographic analysis of sagittal contour and disc height after minimally invasive lumbar interbody fusion for isthmic spondylolisthesis," Scoliosis Research Society Eastern European Regional Meeting, Budapest, Hungary, June 14-16, 2007. (Poster)

HARDENBROOK, M.A., Kent, R. "Feasibility of a minimally invasive posterior cervical approach using a novel expanding retractor," 23rd Annual Meeting of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, March 7-10, 2007. (Poster)

HARDENBROOK, M.A., White, S, Sukovich, W. "Hydrodiscectomy: A novel approach to lumbar microdiscectomy," 23rd Annual Meeting of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, March 7-10, 2007. (Poster)

- HARDENBROOK, M.A., Lombardo, S. "A cadaveric study evaluating the anatomic relationship of the pedical and nerve roots through a minimally invasive paramedian approach to the lumbar spine," 23rd Annual Meeting of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, March 7-10, 2007. (Poster)
- HARDENBROOK, M.A., Brawley, S. "Radiographic analysis of sagittal contour and disc height after minimally invasive lumbar interbody fusion for isthmic spondylolisthesis," 23rd Annual Meeting of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Phoenix, AZ, March 7-10, 2007. (Poster)
- HARDENBROOK, M.A., White, S, Sukovich, W. "Hydrodiscectomy: A novel surgical technique on lumbar herniated nucleus pulposus," International 25th Jubilee Course for Percutaneous Endoscopic Spinal Surgery and Complementary Minimal Invasive Techniques, Zurich, Switzerland, January 25-6, 2007.
- Petilon, J, Roth, J, HARDENBROOK, M.A. "Charite artificial disc: A retrospective follow-up," 48th Society of Military Orthopaedic Surgeons, Honolulu, HI, December 11-16, 2006. (poster)
- HARDENBROOK, M.A., Lombardo, S. "A cadaveric study evaluating the anatomic relationship of the pedical and nerve roots through a minimally invasive paramedian approach to the lumbar spine," 48th Society of Military Orthopaedic Surgeons, Honolulu, HI, December 11-16, 2006. (Poster)
- Petilon, J, Sukovich, W, HARDENBROOK, M.A. "The effect of parallax on intraoperative positioning of the Charite artificial disc," 48th Society of Military Orthopaedic Surgeons, Honolulu, HI, December 11-16, 2006.
- Liu, M, HARDENBROOK, M.A., Manos R, Sukovich, W, Sweeney. "Preliminary results of a multi-center study evaluating minimally invasive lumbar interbody fusion versus open posterior unilateral interbody fusion (TLIF)," 56th Congress of Neurological Surgeons, Chicago. IL, October 7-12, 2006. (Poster)
- HARDENBROOK, M.A., Sukovich, W, Petilon, J. "The effect of parallax on intraoperative positioning of the Charite artificial disc," North American Spine Society, Seattle, WA, September 26-30, 2006.
- Sukovich W, HARDENBROOK, M.A., Rooney R. "Transforaminal Lumbar Interbody Fusion (TLIF) versus Minimally Invasive Lumbar Interbody Fusion (MiLIF) in Active Duty Military Members," North American Spine Society, Seattle, WA, September 26-30, 2006. (Poster)
- HARDENBROOK, M.A., Liu, M, Manos, R, Sukovich, W, Manos R, Sweeney, T, Kuether, T. "Minimally invasive lumbar interbody fusion (MiLIF): Early outcomes from

a multi-center study," Spine Across the Sea, Maui, HI, July, 23-27, 2006. (Poster)

HARDENBROOK, M.A., Sukovich, W. "Minimally-invasive lumbar fusion with miniature robotic guidance: A preliminary clinical evaluation," 13th International Meeting on Advanced Spine Techniques, Athens, Greece, July 13-15, 2006.

HARDENBROOK, M.A., Sukovich, W. "Miniature Robotic Guidance – A Useful Tool In Revision Deformity Cases," 13th International Meeting on Advanced Spine Techniques, Athens, Greece, July 13-15, 2006. (Poster)

HARDENBROOK, M.A., Liu, M, Sukovich, W, Manos R, Sweeney, Kuether, T. "Preliminary results of a minimally invasive lumbar interbody fusion using a muscle sparing expanding retractor," 13th International Meeting on Advanced Spine Techniques, Athens, Greece, July 13-15, 2006. (Poster)

HARDENBROOK, M.A., Sukovich, W, Petilon, J. "The effect of parallax on intraoperative positioning of the Charite artificial disc," Global Symposium of Motion Preservation Technology, Montreal, Canada, May 9-13, 2006. (Poster)

Araghi, A, Bradley, W, Guyer, R, HARDENBROOK, M.A., Hisey, M, Sama, A, Sukovich, W, Taddonio, R. "Efficacy of disc space preparation for transforaminal lumbar interbody fusion: a comparative study of a novel hydrosurgical technique to conventional methods in a cadaver model," Global Symposium of Motion Preservation Technology, Montreal, Canada, May 9-13, 2006. (Poster)

Rooney, R, HARDENBROOK, M.A., Sukovich, W. "Transforaminal Lumbar Interbody Fusion (TLIF) versus Minimally Invasive Lumbar Interbody Fusion MiLIF) in Active Duty Military Members," American College of Spine Surgery 8th Annual Meeting & Spine Surgery Review Course, Colorado Springs, CO, May 3-7, 2006.

Manos R, HARDENBROOK, M.A., Liu, M, Sukovich, W, Sweeney, T, Kuether, T. "Minimally invasive lumbar interbody fusion (MiLIF): Preliminary results using s flexible distal expanding retractor system," American College of Spine Surgery 8th Annual Meeting & Spine Surgery Review Course, Colorado Springs, CO, May 3-7, 2006.

HARDENBROOK, M.A. – Invited Faculty, Fundamental Approaches to the Spine and Emerging Technologies for Jr. Attendings /Fellows, Palm Beach Gardens, FL, March 31-April 1, 2006.

HARDENBROOK, M.A., Liu, M, Sukovich, W, Manos R, Sweeney. "Minimally invasive lumbar interbody fusion (MiLIF): Early outcomes from a multi-center study," 7th Annual Meeting of the American Association of Neurological Surgeons, Lake Buena Vista, FL, March 13-18, 2006. (Poster)

Manos R, HARDENBROOK, M.A., Sukovich, W, Liu, M, Sweeney, T, Kuether, T.

"Initial Clinical Outcomes of a Minimally Invasive Lumbar Interbody Fusion (MiLIF) Multi-center Study," 21st Annual Meeting of the AANS/CNS Section on Disorders of the Spine and Peripheral Nerves, Lake Buena Vista, FL, March 13-18, 2006. (Poster)

HARDENBROOK, M.A., Sukovich, W, Rooney, R. "Transforaminal Lumbar Interbody Fusion (TLIF) versus Minimally Invasive Lumbar Interbody Fusion MiLIF) in Active Duty Military Members," 47th Society of Military Orthopaedic Surgeons, Orlando, FL, December 15, 2005.

Sukovich, W, HARDENBROOK, M.A., Taddonio, R, Fox, B. "Hydrosurgical Disc Preparation for Unilateral Transforaminal Lumbar Interbody Fusion (TLIF): Experimental Results in a Cadaver," 47th Society of Military Orthopaedic Surgeons, Orlando, FL, December, 2005.(Poster)

HARDENBROOK, M.A., Sukovich, W, Manos, R, Liu, M., Sweeney, T. "Minimally Invasive Lumbar Interbody Fusion (MiLIF): Early outcomes from a Multi-Center Study," 47th Society of Military Orthopaedic Surgeons, Orlando, FL, December, 2005.(Poster)

HARDENBROOK, M.A. "Minimally invasive approaches to the lumbar spine: Marketing Fad or Revolution," Grand Rounds, New England Baptist Hospital, Boston, MA, October 12, 2005.

HARDENBROOK, M.A., Sukovich, W, Manos, R, Liu, M., Sweeney, T. "Minimally Invasive Lumbar Interbody Fusion (MiLIF): Early outcomes from a Multi-Center Study," 55th Congress of Neurological Surgeons, Boston, MA, October, 2005.(Poster)

Fox, B., HARDENBROOK, M.A., Manos, R., Sukovich, W, Weistroffer, JK. "Lumbar interbody fusion: the significance of endplate preparation" North American Spine Society, Philadelphia, PA, September 27 – October 1, 2005.(Poster)

HARDENBROOK, M.A., Araghi, A, Guyer, R, Hisey, M, Bradley, W, Sama, A, Sukovich, W. "Evaluation of a Novel Hydrosurgery System for Disc Preparation in Lumbar Interbody Fusion in a Cadaver Model," 12th International Meeting on Advanced Spine Techniques, Banff, Alberta, Canada, July, 2005. (Poster)

HARDENBROOK, M.A., Sukovich, W, Manos, R, Liu, M., Sweeney, T. "Minimally Invasive Lumbar Interbody Fusion (MiLIF): Early outcomes from a Multi-Center Study," 12th International Meeting on Advanced Techniques, Banff, Alberta, Canada, July, 2005.(Poster)

HARDENBROOK, M.A., Faculty "Minimally invasive approaches to the lumbar spine," Minimally Invasive Tehniques for the Treatment of Thoracolumbar Spine Disorders, Practical Anatomy Workshop, St Louis, MO, February 11-13, 2005.

HARDENBROOK, M.A., Jenis, L., Banco, R., Tromanhauser, S., Agganis, B. "ALIF

versus 360 fusion for the treatment of discogenic pain," North American Spine Society, San Diego, CA, October, 2003.

HARDENBROOK, M.A., Faculty "Surgical Management of Adult Scoliosis," Spinal Deformity From Infancy to Adolescence, Naval Medical Center, Portsmouth, VA, September 19th, 2003

HARDENBROOK, M.A., Jenis, L, Banco, R, Tromanhauser, S, Agganis, B. "ALIF versus 360 fusion for the treatment of discogenic pain," Spine Across the Sea, Maui, HI, July 2003.

HARDENBROOK, M.A. "Surgical Management of Lumbar Discogenic Pain," Grand Rounds, New England Baptist Hospital, Boston, MA, March, 2003.

HARDENBROOK, M.A., Edwards, C. "Radiographic review of posterior reduction and instrumentation of adult high-grade spondylolisthesis using convergent screw sacral fixation," Spine + Science + Management, New Orleans, LA, November 2002.(Poster)

Tetsworth, K, HARDENBROOK, M.A., Solomon, H. "Strategies for the management of chronic knee infections," European Bone and Joint Infection Society, Berlin, Germany, May 2000.

HARDENBROOK, M.A., Tetsworth, K., Solomon, H. "Strategies for the management of chronic knee infections," The American Orthopedic Association Annual Residents' Conference, St. Louis, MO, February 2000.

HARDENBROOK, M.A., Tetsworth, K. "Strategies for successful management of chronic infection about the knee," Musculoskeletal Infection Society, Snowmass, CO, August 1999.

Berman, A., Isrealite, C., Ruggierro, R., HARDENBROOK, M.A. "Vancomycin and Gentamycin prophylaxis in total knee arthroplasty," American Academy of Orthopaedic Surgeons, March 1997.

HARDENBROOK, M.A. "Introducing <u>In Short,</u>" American Medical Association Medical Student Section Annual Meeting, Philadelphia, PA, August 1995.

HARDENBROOK, M.A., Tischler, A. "Nerve Growth Factor is an inducer of proliferation and neuronal differentiation for adult rat chrommaffin cells in vitro." Tufts University School of Medicine, Department of Physiology Grand Rounds, May 1993.