

**Harvard Medical School
Curriculum Vitae**

Date Prepared: 12/16/14

Name: Laurence D. Higgins, MD

Office Address: Brigham & Women's Hospital
Department of Orthopedic Surgery
75 Francis Street
Boston, MA 02115

Work Phone: (617) 525-9273 (administrative)
(617) 732-8891 (clinical)
(617) 732-5887 (surgical)

Work Email: ldhiggins@partners.org

Work Fax: (617) 730-2810

Place of Birth: New York, NY, USA

Education

1987	BS	Biochemistry	State University of New York at Stony Brook, Stony Brook, NY
1988	MS	Physiology	Georgetown University, Washington, DC
1992	MD	Distinction in Research	State University of New York at Stony Brook School of Medicine, Stony Brook, NY
2015 (est)	MBA	Masters of Business Administration	MIT Sloan School of Management

Postdoctoral Training

1992-1993	Intern	Surgery	The Mount Sinai Hospital, New York, New York
1993-1997	Resident	Orthopaedics	The Hospital for Special Surgery, New York, NY
1997-1998	Clinical Fellow	Sports Medicine and Shoulder Surgery	The Center for Sports Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA

Faculty Academic Appointments

1998-2005	Assistant Professor	Department of Surgery, Division of Orthopedic Surgery	Duke University Medical Center, Durham, North
-----------	---------------------	--	--

2005	Visiting Assistant Professor	Department of Orthopedic Surgery	Carolina Partners Dept. of Orthopaedic Surgery Harvard Combined Orthopaedic Harvard Medical School
2008-2013	Lecturer	Orthopedic Surgery	Partners Dept. of Orthopaedic Surgery, Harvard Combined Orthopaedic Program MGH & BWH
2013-Present	Associate Professor	Orthopedic Surgery	Harvard Medical School Partners Department of Orthopedic Surgery, Harvard Combined Orthopedic Program

Appointments at Hospitals/Affiliated Institutions

05/2000-12/2005	Medical Staff	Department of Surgery, Orthopaedics	Durham VA Medical Center, Durham, NC
12/2005-present	Medical Staff	Department of Orthopedic Surgery	Brigham and Women's Hospital, Boston, MA
04/2006-present	Medical Staff Clinical Affiliate	Department of Orthopedic Surgery	Massachusetts General Hospital, Boston, MA
04/2006-present	Medical Staff Physician	Department of Orthopedic Surgery	Faulkner Hospital, Boston, MA
09/2007-06/2011	Medical Staff Physician	Department of Orthopedic Surgery	Newton-Wellesley Hospital, Newton, MA
09/2008-present	Medical Staff Physician	Department of Orthopedic Surgery	New England Baptist Hospital, Boston, MA

Other Professional Positions

2003-2005	Product Development Advisory Council	Genzyme Biosurgery
-----------	--------------------------------------	--------------------

Major Administrative Leadership Positions

2000-2001	Interim Director	Duke Sports Medicine Center, Duke University Medical Center, Durham, NC
2001-2005	Clinical Director	Centers of Excellence in Surgical Outcomes Research, Duke University Medical Center, Durham, NC
2005-present	Chief, Sports Medicine/Shoulder Service	Department of Orthopedic Surgery,

2005-present	BWH Chief, Boston Shoulder Institute Fellowship Director	Brigham and Women's Hospital, Boston, MA Partners Dept. of Orthopaedic Surgery Harvard Combined Orthopaedic Fellowship Harvard Medical School, Boston, MA
--------------	--	--

Committee Service

Local

2001-2005	Surgery Outcomes Committee	Duke University Medical Center, Durham, NC
2006-2009	Residency Selection Committee	Harvard Combined Orthopedic Residency Program, Boston, MA
2006-present	Chief of Service Committee	Department of Orthopedic Surgery, Brigham and Women's Hospital, Boston, MA
2007-present	Executive Committee	Department of Orthopedic Surgery, Brigham and Women's Hospital, Boston, MA
2007-2009	Information Technology Committee	Partners HealthCare Department of Orthopaedics
2007-2009	Arthroscopy Committee Co-Chair	BWH
2013-present	Perioperative Products & Technology Steering Committee – Shoulder Value Analysis Team: (Total Joint Sub-Value Analysis Team)	Partners HealthCare

Professional Societies

1992-present	American Board of Orthopaedic Surgery (A.B.O.S.) Maintenance of Certification (2012)	Diplomat
1999-present	International Cartilage Repair Society	Member
2000-present	Piedmont Orthopaedic Society	Honorary Member
2000-2006	North Carolina Medical Society	Member
2000-2006	North Carolina Orthopaedic Association	Member
2001-2006	Cartilage Restoration Centers of America	Medical Co-Director & Chairman, Scientific Committee
2002-present	American Orthopaedic Society for Sports Medicine (A.O.S.S.M.)	Member 2004-2008, Member Education Committee

2002-present	American Academy of Orthopaedic Surgeons (A.A.O.S.)	Member 2012 Chair, Sports Medicine Quality Summit Steering Committee 2003-2008: Member, Shoulder and Elbow Sub- Committee 2003-2008 Member, Program Committee, Annual Meeting
2002-2006	Eastern Orthopaedic Association	Member
2003-present	American Orthopaedic Association (A.O.A.)	Member
2003-present	New England Shoulder and Elbow Society (NESES)	Member
2004-present	American Shoulder and Elbow Surgeons (A.S.E.S.)	Member Chair, Value-Driven Shoulder Committee Chair, Annual Meeting 2012 Committee Member, Membership Committee 2005-2009 Member, Continuing Education Committee
2005-present	New England Orthopedic Society (NEOS)	Member
2009-present	Herodicus Society <i>The Herodicus Society is considered an elite organization for Sports Medicine Orthopedic Surgeons whose mission is to better the scope and services of orthopedic surgery with a major emphasis on sports medicine through collaborated group clinical research and reporting.</i>	Member
2010-present	Arthroscopy Association of North America (A.A.N.A.)	Member Educational Committee Member
2012-present	AAOS Patient Safety and Quality Summit	Sports Medicine Workgroup Lead

Grant Review Activities

2009-present T32 Grant Reviewer Brigham and Women's Hospital

Editorial Activities

Ad hoc reviewer

The American Journal of Sports Medicine
The Journal of Shoulder and Elbow Surgery
Clinical Orthopedics and Related Research
The Journal of Bone and Joint Surgery

Other Editorial Roles

2001- present Editorial Board Member Techniques in Knee Surgery (Journal)

Honors and Prizes

1991	Honor Society	Alpha Omega Alpha	Education
1992	Marvin Kushner Award: Valedictorian, Class of 1992	State University of New York at Stony Brook, School of Medicine	Education
1997	Jean McDaniel Award for Clinical Excellence and Teaching	Orthopaedic Residency, Department of Orthopaedics, The Hospital for Special Surgery, NY, New York	Teaching
2002	AOA/Zimmer Research Award	Annual Residents' Conference, Sponsored by The American Orthopaedic Association and Orthopaedic Research and Education Foundation	Research
2002	Herodicus Award-AOSSM	"The Triad of Varus Malalignment, Meniscectomy, and Chondral Damage" Presented at 28 th AOSSM Annual Meeting, Orlando, FL	Research
2007	Excellence in Research Award – AOSSM	"High Tibial Osteotomy for Unloading Osteochondral Defects in Medial Compartment of the Knee" Presented at 33 rd AOSSM Annual Meeting, Calgary, Canada	Research
2010	Leadership Development for Physicians in Academic Health Centers	Harvard School of Public Health	Leadership Educational Course
2014	Neer Award (Clinical) – ASES	Delaney RA, Freehill MT, Janfaza DR, Vlasakov KV, Higgins LD, Warner JJP: Neuromonitoring the Latarjet Procedure. Presented at the 2014 Open Meeting of ASES, New Orleans, March 15, 2014.	Research
2014	Best Paper (Shoulder and Elbow category), 2014 American Academy of Orthopaedic Surgeons	Delaney RA, Freehill MT, Janfaza DR, Vlasakov KV, Higgins LD, Warner JJP: Neuromonitoring the Latarjet Procedure. Presented at the annual Meeting of the AAOS, March 11-15, 2014	Research

Report of Funded and Unfunded Projects

Funding Information

Past

- 2000 **Role of cryotherapy in pain management**
Sponsored by DeRoyal Industries (\$50,000)
PI
Prospective longitudinal study of efficacy of cryotherapy for total knee arthroplasty.
- 2004-2006 **Linking Scores of the DASH and modified ASES scales: a Prospective Study**
American Society for Surgery of the Hand
Sponsored by Duke Orthopedic Department (\$5,000)
Co-PI with R Pietrobon and JA Nunley
Utilizing IRT (item response theory), performed analysis comparing questionnaires from DASH and from modified ASES to determine which questions demonstrated concordance and could be eliminated.
- 2011-2013 **Contact Area and Pressure Analysis of Glenoid Defects: Analysis of the contact area and pressure changes due to bony and soft tissue defects of the glenoid and humeral head.**
Internal funding (\$7500)
PI
The goal of this study was to determine the alterations in glenohumeral contact pressure and area that occur with anterior labral detachment and progressive anterior glenoid bone loss in human cadaveric shoulders.
- Neuromonitoring during the Latarjet procedure**
Internal funding (cost minimal - Managed by research assistant, salary 28,600 USD pa)
Site Responsible Investigator
The purpose of this study was to use intra-operative neuromonitoring to define the stages of the Latarjet procedure during which the nerves are at greatest risk and identifying strategies to mitigate this risk.
- Imaging characteristics of lesser tuberosity osteotomy healing: a study of 221 cases**
Internal funding (cost minimal - Managed by research assistant, salary 28,600 USD pa)
PI
The goal of this study was to report on the healing rate of the lesser tuberosity osteotomy after primary total shoulder arthroplasty.
- Current**
- 2008- to **Role of Vitamin D in rotator cuff arthropathy**
continue *Orthopaedic Research and Education Foundation Prospective Clinical Research Grant*
until full (*\$150,000/3 years*)
patient Co-PI with M Leboff, J Glowacki
accrual Analysis of Vitamin D levels in serum and bone in patients with Osteoarthritis and Rotator

Cuff Arthropathy

2009- to
continue
until full
patient
accrual

Clinical and Radiological effects of NSAIDs after rotator cuff repair

Orthopaedic Research and Education Foundation Prospective Clinical Research Grant
(\$5,000)

PI

Prospective, randomized evaluation of the effects of NSAID on the healing of rotator cuff repairs in the early post-operative period

2011- to
continue
until full
patient
accrual

Stem retention or replacement during revision total arthroplasty, with cost analysis

Internal funding (cost minimal - Managed by research assistant, salary 28,600 USD pa)

PI

This study assesses the functional and clinical outcomes of two groups of patients, who underwent a revision shoulder arthroplasty to a reverse prosthesis, comparing those who maintained their original stem to those who had it replaced.

Orthopaedic Sports Medicine, arthroscopy and related surgery registry using the web-based Ortho Illustrated Surgical Outcome System (SOS)

Internal funding (\$2500/year)

Co-PI (E Matzkin MD)

This goal of this registry is to create a database of all surgical patients and report clinical outcomes at important milestones in their recovery, over a 5-year period.

2012- to
continue
until full
patient
accrual

Appropriate use of radiology based on corresponding diagnosis and treatment plan

Internal funding (cost minimal - Managed by research assistant, salary 28,600 USD pa)

PI

The goal of this study is to assess the incidence of upper extremity MRIs that are ordered without first consulting an x-ray, and compare the trends within the orthopedic and primary care communities, in order to perform a cost analysis.

Arthroplasty after instability procedure

Internal funding (cost minimal - Managed by research assistant, salary 28,600 USD pa)

Site Specific Investigator

The purpose of this study is to report on the intermediate term clinical and functional outcomes of patients who underwent a shoulder replacement surgery after having undergone an instability procedure at some point in their past.

'Outcome Of Total Shoulder Arthroplasty With Posterior Glenoid Bone Grafting

Internal funding (cost minimal - Managed by research assistant, salary 28,600 USD pa)

Site Specific Investigator

The purpose of this study is to report on the intermediate term clinical and functional outcomes of patients who underwent a shoulder replacement surgery with a posterior glenoid bone graft for glenoid bone loss.

2010-2014

Diagnostic Accuracy of Ultrasound and Physical Examination in Rotator Cuff Tears

Foundation of Physical Medicine and Rehabilitation

Co-PI (\$10,000 Total Costs)

The major goal of this project is to provide guidance to clinicians on sensitivity and specificity of physical examination maneuvers and shoulder ultrasound in the diagnosis of rotator cuff tears.

- 2011-2014 **Comparison of Surgical versus Non-Surgical Treatment of Chronic Rotator Cuff Tears**
Biomedical Research Institute (BRI)
 Co-PI (\$11,500 Total Costs)
 This study will compare outcomes of surgical and non-surgical treatment in patients with chronic rotator cuff tears
- 2010-2015 **Rotator Cuff Tears: Optimizing Diagnosis and Treatment Strategies**
Foundation for Physical Medicine and Rehabilitation
 NIAMS/1K23AR059199
 Co-PI (\$661,840 in Total Costs)
 Prospective study
 This study aimed to recruit 400+ patients presenting to clinic with undiagnosed shoulder pain. The first component addressed the accuracy of the diagnosis process, relying solely on clinical exam (no imaging); those who were diagnosed with a rotator cuff tear were then remotely followed for 24 months and regularly assessed for clinical and functional scores, comparing surgical candidates to those who exclusively pursued conservative treatment. This study will provide information on which patients may benefit more from operative versus non-operative treatment and fill a void in knowledge on diagnosis and treatment for patients with rotator cuff tears.

Report of Local Teaching and Training

Teaching of Students in Courses

2007-present	General Upper Extremity Harvard Medical Students	Harvard Medical School 1-2 hours of presentation preparation each year and 2 hours of audience interaction each year during course
2009-present	Harvard Medical School- Patient-Doctor II Musculoskeletal Exam Session: Physical Examination of the Shoulder 20-30 medical students	Harvard Medical School 1 hr preparation, 2 hrs interaction Boston, MA

Formal Teaching of Residents, Clinical Fellows and Research Fellows (post-docs)

2003	Shoulder Arthritis in the Young, Active Patient: Pain Relief and Performance. Fellows, Residents, Attendings	International Shoulder Symposium hosted by Harvard Shoulder Service; Massachusetts General Hospital 2 hours of presentation preparation time and 3 hours of interaction
2005-present	Sports Medicine/Shoulder Service CORE Conference. Role: Program organizer,	Brigham & Women's Hospital, Boston 7 one-hour sessions per year

	facilitator for other lecturers, lecturer; 4-5 fellows, up to 6 Attendings, 5-6 physical therapists, an MRI radiologist, 3 residents, and other foreign visiting orthopaedic surgeons	
2006- present	Lecturer in Harvard Orthopaedic Residency Core Curriculum Program on Shoulder 50 residents	Harvard Medical School One half-day per academic year
2008- present	Lecturer – Harvard Medical School Clinical Applied Anatomy of the Upper Extremity	Harvard Medical School Two academic days/year

Clinical Supervisory and Training Responsibilities

2005- present	Supervision of all Shoulder Fellows in the Harvard Shoulder Service in the Brigham and Women’s Hospital OR and Orthopedic Ambulatory Clinic.	Boston, MA OR 2.5 days Clinic 2 full days Entire year
2005- present	Supervision of all BWH Sports Medicine ACGME Fellows in OR and Orthopedic Ambulatory Clinic	Boston, MA OR 2.5 days Clinic 2 full days Entire year
2009-present	T-32 applicant mentor/reviewer	BWH Two academic days / year

Formally Supervised Trainees

Select Trainees noted; 66 total formally supervised trainees in either a fellowship or research capacity from 1998- present.

2000-2001	Nitin Jain, MD, MSPH / Affiliated Staff, Brigham and Women’s Hospital, Orthopedic Surgery and Spaulding Rehabilitation Center, Boston, MA Co-authored several articles including: “ <i>Surgeon Volume is Associated With Cost and Variation in Surgical Treatment of Proximal Humeral Fractures</i> ”. <i>Clinical Orthopedics and Related Research, Clinical Examination of the Rotator Cuff. PMR, 2013</i> ; “ <i>Surgeon Volume is Associated With Cost and Variation in Surgical Treatment of Proximal Humeral Fractures</i> ”. <i>Clinical Orthopedics and Related Research</i> . Paper Presentation: #503 Factors Associated with Cost and Variation in Surgical Treatment of Proximal Humeral Fractures. AAOS Annual Meeting 2012. Co-PI on several ongoing research projects including: Rotator Cuff Tears: Optimizing Diagnosis and Treatment Strategies.
2002-2003	Joseph Guetter, MD / Orthopedic Surgeon, Performance Orthopedics, MI Nominee for the American Orthopedic Society for Sports Medicine's Aircast Award for Excellence in Research and Herodicus Award for Best Resident/Fellow Paper -Winner Herodicus Award for Best Resident/Fellow Paper 2002.
2002-2003	Husein Elkousy, MD / Attending Physician, Fondren Orthopedics Group LLC Co-authored numerous articles including: <i>Zone-specific inside-out meniscal repair: technical limitations of repair of posterior horns of medial and lateral menisci. Am J Orthop. 2005</i>

- 2004-2005 Elizabeth Matzkin, MD/ Attending Physician, Brigham and Women's Hospital Orthopedic Surgery, Boston, MA
Published several manuscripts and collaborated on research studies, including Orthopaedic Sports Medicine, arthroscopy and related surgery registry using the web-based Ortho Illustrated Surgical Outcome System (SOS). Development of the Women's Musculoskeletal Program at the Brigham and Women's Hospital.
- 2006-2007 Reuben Gobezie, MD / Assistant Professor, Case Western Reserve University, Cleveland, OH
Published numerous articles during fellowship rotation: *Interference screw vs. suture anchor fixation for open subpectoral biceps tenodesis: does it matter?*; *BMC Musculoskelet Disord.* 2008 *Analysis of interobserver and intraobserver variability in the diagnosis and treatment of SLAP tears using the Snyder classification.* *Am J Sports Med.* 2008.
- 2007-2008 Nathan Endres, MD / Assistant Professor, University of Vermont, Burlington, VT
Numerous publications including: *Chapter: Massive irreparable tendon tears of the rotator cuff: salvage options.* *Instr Course Lect* 2008;57:153-66. "Management of Irreparable Rotator Cuff Tears." *AAOS Instructional Course Lectures.* 2008; "The Stiff Shoulder". *In The Shoulder, 4th Edition.*
- 2007-2008 Bassem ElHassan, MD / Assistant Professor, Mayo Clinic, Rochester, MN
Published several articles including: *Glenoid reconstruction in revision shoulder arthroplasty.* *Clin Orthop Relat Res.* 2008; *Transfer of pectoralis major for the treatment of irreparable tears of subscapularis: does it work?* *J Bone Joint Surg Br.* 2008 Aug; *Soft-Tissue Resurfacing of the Glenoid in the Treatment of Glenohumeral Arthritis in Active Patients Less Than Fifty Years Old.* *J Bone Joint Surg Am* 2009.
- 2009-2010 Andrew Jawa, MD / Surgeon, Boston Medical Center
Published several articles including: *Midshalf Clavicular Fractures: Comparison of Intramedullary Pin and Plate Fixation.* *J Shoulder Elbow Surg.* 2011; *Chapter: Massive rotator cuff tears: arthroscopy to arthroplasty.* *Instr Course Lect.* 2010;59:255-67; "Prosthesis of Antibiotic-Loaded Acrylic Cement (PROSTALAC) Use for the Treatment of Infection After Shoulder Arthroplasty", *J Bone Joint Surg Am.* 2011
- 2009-2010 Anshuman Singh, MD / Kaiser Permanente, San Diego, CA
Numerous Publications including: *Chapter: Massive rotator cuff tears: arthroscopy to arthroplasty.* *Instr Course Lect.* 2010;59:255-67. *Video: Latissimus dorsi tendon transfer for massive irreparable rotator cuff tear.* *AAOS 2010 Annual Meeting; Paper #7 Timing of Rotator Cuff Repair ASES Specialty Day.* March 13, 2010.
- 2010-2011 Brian Butler, MD / OSU Sports Medicine Clinic, Columbus, OH
Published several articles including: *Clinical Outcomes of Suprascapular Nerve Decompression.* *Journal of Shoulder and Elbow Surg.* 2011; *Posterior Capsular Rupture Causing Posterior Shoulder Instability: A Case Report.* *Arthroscopy.* 2011
- 2011-2012 Tyler Fox, MD / Hand and Upper Extremity Fellow, Mayo Clinic, Rochester, MN
Published a number of reviews, editorials and chapters, including: *Tendon Transfers for Rotator Cuff Insufficiency.* *Surgical Techniques of the Shoulder, Elbow, and Knee in Sports Medicine, 2nd Edition.* Edited by Brian J. Cole, MD, MBA and Jon K. Sekiya, MD 2008 Elsevier
- 2012-2013 Albert Lin, MD/ Assistant Professor, University of Pittsburgh Medical Center, PA
Published reviews, editorials and chapters, including: *Distefano, JG MD, Lin, A, MD, Higgins, LD, MD, Warner, JJ, MD. Chapter 12: Complications of Instability Repair. OKU4.* *In press.*

- 2012-2013 Joe Eichinger, MD/ Surgeon, Madigan Army Medical Center, Joint Base Lewis-McChord, WA
Participated in numerous research studies and publications, most notably *Managed of Failed Metal-Backed Glenoid Component in Patients with Bilateral Total Shoulder Arthroplasty. Int J Shoulder Surg.* 2013 Oct-Dec 7(4):143-148
- 2012-2013 Lewis Shi, MD/Assistant Professor, University of Chicago, IL
Published several articles, including: “*Prosthesis of Antibiotic-Loaded Acrylic Cement (PROSTALAC) Use for the Treatment of Infection After Shoulder Arthroplasty*”, *J Bone Joint Surg Am.* 2011; *Review: Treatment of shoulder infections; post arthroscopy, open surgery and arthroplasty. Current Orthopaedic Practice, January/February 2012 - Volume 23, Issue 1, p 23–28.*
- 2012-2013 Xinning Li, Assistant Professor, Boston University School of Medicine, MA
Published numerous articles, editorials, and chapters including: *Managed of Failed Metal-Backed Glenoid Component in Patients with Bilateral Total Shoulder Arthroplasty. Int J Shoulder Surg.* 2013 Oct-Dec 7(4):143-148
- 2013-2014 Ruth Delaney, MD/ Shoulder Surgeon, Sports Surgery Clinic and Blackrock Clinic, Ireland
Published numerous articles and chapters most notably: *Neuromonitoring the Latarjet Procedure. J Shoulder Elbow Surg.* 2014 for which she received the Neer Award in the clinical category
- 2013-2014 Stephen Parada, MD/Attending Orthopaedic Shoulder Surgeon, Eisenhower Army Medical Center
Published several articles and collaborated on numerous research studies including *Long Head of the Biceps Tendon Allis Clamp Evaluation (ACE) Technique. Techniques in Arthroscopy.* 2014 Aug 4:3(4):e491-3. Doi: 10.1016/j.eats.2014.05.003.eCollection 2014

Formal Teaching of Peers (e.g., CME and other continuing education courses)

- | | | |
|--------------|---|---------------------------------------|
| 2000 | <i>Meniscal Repair: Current Thoughts</i>
Nash Health Care System for CME Outreach | Single presentation
Greenville, NC |
| 2001 | <i>Management of Osteoarthritis of the Shoulder</i>
<i>Anatomic Principles of Shoulder Arthroplasty: Are New Prosthetic Designs Necessary?</i>
AO ASIF Upper Extremity Course | Single presentation
Boston, MA |
| 2005-present | <i>Proximal Humerus Fractures; Biceps; The Rotator Cuff; Inverse Arthroplasty; SSN; ACL Clavicle; SLAP Lesions</i>
BWH Sports Medicine/Shoulder CORE Conference | Annual Lectures
Boston, MA |
| 2006 | <i>Treating Throwing Injuries in the Young Athlete</i>
CME Course: Annual MA Orthopaedic Association Meeting | Single presentation
Waltham, MA |
| 2006 | <i>Disorders of the Shoulder and Shoulder Examination</i>
Harvard Rheumatology Course. Sponsored by Department of Continuing Education at HMS | Single presentation
Boston, MA |
| 2007 | APTA of Massachusetts Fall Conference,
Lecturer “ <i>Surgical considerations for shoulder instability and the arthritic/cuff deficient shoulder</i> ” | Single Presentation,
Boston, MA |

2007-2009	Brigham and Women's Hospital <i>Total Shoulder Arthroplasty: Exposure and Outcomes</i> ASSET course for Physical Therapists, Brigham and Women's Hospital	Single presentation/live surgery annually Boston, MA
2009	American Society of Shoulder and Elbow Therapists, Invited Lecturer " <i>Current state of surgical intervention for rotator cuff repairs with biceps pathology</i> " and " <i>surgical decision making</i> " Brigham and Women's Hospital	Single presentation Boston, MA
2010	Lecture: " <i>Current Concepts in Rotator Cuff Repair & Complexities of Rotator Cuff Repair</i> " and " <i>Surgical Options & Management for Massive Rotator Cuff Tears</i> " ASSET Evidence-Based Rehabilitation Following Rotator Cuff Repair Course Brigham and Women's Hospital	Single presentation Boston, MA
2010	<i>What's new with the Rotator Cuff in 2010</i> / Invited Lecture Sports Medicine Symposium 2010: Treating the Injured Athlete Sponsored by Harvard Medical School, Department of Continuing Education	Single presentation Boston, MA
2010	Surgical and Rehabilitation Management of the Arthritic Shoulder. Presented by the Harvard Shoulder Service and Brigham and Women's Hospital Department of Rehabilitation Services. Surgeon for two live surgical demonstrations	Single Presentation, Boston, MA
2011	Recent Advances in the Surgical and Rehabilitation Management of the Unstable Shoulder. Presented by the Boston Shoulder Institute and Brigham and Women's Hospital, Rehabilitation Services. Lectures: Surgical Considerations for Unstable Shoulder: Soft Tissue Perspective; Surgical Considerations for the Unstable Shoulder: Bony Deficiency Perspective	Single Presentation, Boston, MA
2011	Boston Sports and Shoulder Symposium. Hosted by the New England Baptist Hospital. Presentation: Failed Instability: Causes & Solutions	Single Presentation, Boston, MA
2012	Boston Sports Symposium. Hosted by the New England Baptist Hospital. Presentation: The Elusive Subscap Tear.	Single Presentation, Boston, MA
2012	Cambridge Health Alliance Sports Medicine Symposium: Treating the Injured Athlete. Presentation: Shoulder instability - a case based approach from simple to complex	Single Presentation, Boston, MA
2012	My Patient has a Rotator Cuff Tear: Latest Strategies to Optimize Outcomes. Presented by the Boston	Single Presentation, Boston, MA

Shoulder Institute and Brigham and Women's Rehabilitation Services. Live Surgery Demonstration and Narration: Arthroscopic Rotator Cuff Repair; Inverse Arthroplasty. Presentation: When should a tendon transfer be considered?

- 2013 "Proximal humeral fracture choices: what is a good result?" in *Surgical Insights, Audio-Digest Orthopaedics*. Volume 36, Issue 23. December 7, 2013. ISSN: 0271-132X Audio-Digest CME/CE Program
- 2013 "Massive rotator cuff repair: keys to success" in *Surgical Insights, Audio-Digest Orthopaedics*. Volume 36, Issue 23. December 7, 2013. ISSN: 0271-132X Audio-Digest CME/CE Program

Local Invited Presentations

- 1998-1999 *Orthopaedic Cadaveric Skills Course* /Invited lecturer and instructor. Duke University, Sports Medicine Duke University. Durham, NC.
- 1999 *Examination of the Patellofemoral Joint and Case Study: Multi-ligament Knee Injuries*/ Invited Lecturer. Department of Physical Therapy and Occupational Therapy Duke University Medical Center, 2nd Annual Sports Symposium, Durham, NC
- 2002 *Current Treatments for Cartilage Damage* / Invited Presentation to local Orthopaedic Surgeons
- 2005 *ACL Injury Prevention in Young Athletes* /Presentation to coaches at Durham Academy Middle School. Durham, NC. Invited Lecturer
- 2006 *Surgical decisions and the postoperative knee* and *'Surgical considerations in rotator cuff disease & instability'* / Invited Lecturer. Brigham and Women's Hospital Orthopedics Radiology Course. Boston, MA.
- 2006-2010 *What's new with the rotator cuff?* Grand Rounds Department of Rheumatology, Brigham and Women's Hospital, Boston, MA.
- 2006-2010 *The evolving role of the Suprascapular nerve and Advanced Arthroscopic Repair – Subscapularis* /Invited Lecturer Boston Shoulder and Sports Symposium, Boston, MA
- 2007 Anatomical Shoulder Web Conference for Orthopedic Surgeons Brigham and Women's Hospital
- 2007 *Cuff Deficient Arthritis: Reverse Arthroplasty: A Modular Approach* /Restoring Anatomy Lecturer and Moderator. Boston, MA.
- 2007 *Cartilage Restoration of the Glenohumeral Joint* / Invited Lecturer. Boston Cartilage Course: Innovations in Cartilage Repair and Joint Preservation of the Knee 2007, Boston, MA.
- 2007 *Total Shoulder Arthroplasty: Exposure & Outcomes and Management of Complications*/ Surgical Faculty and Invited Lecturer. Zimmer Anatomical Shoulder Course, Brigham and Women's Hospital, Boston, MA.
- 2007 Presentation to Nursing Staff of Faulkner Hospital. Invited Lecturer *"Arthroscopic shoulder surgery – do little incisions matter?"*
- 2008 *Rotator Cuff Repair*/ Invited Lecturer. Massachusetts General Hospital Sports Medicine Conference, Boston, MA.
- 2009 Lower Extremity Sports Medicine/ Orthopedic Update: Hip and Knee. Lectures *"Latest*

Advances in the treatment of Tendonopathy: Eccentric Exercise & PRP, *Imaging Considerations for Knee Pathology* and *Physical Exam of the Knee.* Brigham and Women's Hospital, Boston, MA.

- 2010 *Role of vitamin D in pathophysiology of rotator cuff arthropathy* /Invited Lecture. Vitamin D Symposium, Brigham and Women's Hospital, Boston, MA.
- 2010 Grand Rounds Presenter, Boston Medical Center. "Non repair options for massive rotator cuff tears"
- 2010 Grand Rounds Presenter, Rheumatology Department, Brigham and Women's Hospital, Boston. "What's new with the Rotator Cuff?"
- 2013 Harvard Business School Value Based Intensive Seminar, Alumni in Action Panel. Value-Based Care Delivery for the BWH/MGH Shoulder Service. Boston, MA. January 8, 2012
- 2013 Harvard Business School Value Measurement in Health Care Seminar, Reimbursement Panel Speaker. Boston, MA. May 8, 2013.

Report of Regional, National and International Invited Teaching and Presentations

Invited Presentations and Courses

Regional

- 2007 *Rotator Cuff Arthropathy – Evaluation and Management* / Grand Rounds Speaker. Orthopedic Surgery, Tufts Medical Center, Boston, MA.
- 2007 *Current Concepts in Shoulder Surgery* / Invited Lecturer. Kennedy Brothers Physical Therapy, Needham, MA.
- 2008 *Treatment of massive rotator cuff tears, and Total shoulder arthroplasty vs. hemiarthroplasty* / Invited Lecturer
New England Orthopedic Surgeons Fall Meeting, Boston, MA
- 2008 *Arthroscopic surgeries for the shoulder including SADs and rotator cuff repairs*/ Invited Lecture. Bay State Hand Therapy Meeting, Jamaica Plain, MA.
- 2009-2010 *Chapter 24: Shoulder Instability and Chapter 25: Shoulder Reconstruction* / Invited Lecturer of OKU. AAOS-Maintenance of Certification Course, Cambridge, MA.
- 2010 *PRP Demonstration*/ Surgical Advisory Panel
Shoulder Advisory Panel, Raynham, MA
Sponsored by DePuy Mitek

National

Those presentations sponsored by outside entities are so noted and the sponsor is identified.

- 1998- *Surgical Techniques : PCL Reconstruction, and Surgical techniques: ACL Reconstruction with*
2007 *Bone-Patella, Tendon-Bone* / Plenary Talk
Annual Vail Orthopaedics Symposium, Vail, CO
- 1998- *Revision ACL Surgery, and Current concepts in PCL reconstruction* / Plenary Talk Annual Lake
2006 Tahoe Sports Medicine Conference, Lake Tahoe, NV
Sponsor: University of Nevada School of Medicine

- 1999 Clinical Faculty, Orthopaedic Learning Center
AANA Comprehensive Knee Course, Chicago, IL
- 1999 *Open and Arthroscopic Shoulder Surgery: Approaches for the New Millennium* /Surgical
Demonstration Instructor
AAOS Orthopaedic Learning Center, Rosemont, IL
- 1999 *Evaluation of Ligament Injuries in Sports*/ Plenary Talk
28th Annual North Carolina Sports Medicine Conference, Pine Knoll Shores, NC
- 2000 *Sports Medicine Overview*/ Plenary Talk
North Carolina Association of Physician Assistants Winter Conference, Durham, NC
- 2000 Current Concepts: Knee & Shoulder, Mitek Sports Medicine Symposium Park City, UT
- 2000 *Arthroscopic Instability Repair Using an Absorbable Suture Anchoring System*/ Plenary Talk,
and *Knee Arthroscopy* /Surgical Instructor
Mitek Advanced Cadaver Arthroscopy Workshop, Salt Lake City, UT
Sponsored by Mitek
- 2000 *Knee Lab* /Surgical Instructor
Mitek Products Sports Medicine Cadaveric Lab, Duke University Medical Center Vivarium,
Durham, NC
Sponsored by Mitek
- 2000 *Shoulder Rehabilitation* /Plenary Talk
Joint Replacement Meeting 2000: Optimizing Outcomes, Pinehurst, NC
- 2000 *Shoulder Injuries in the Older Patient: Instability and Labral Tears* / Plenary Talk
American College of Sports Medicine, 47th Annual Meeting, Indianapolis, IN
- 2000 *Does OATS Work for Osteoarthritis of the Knee?*, and *The Role of Cartilage Transplantation
(Carticel) for the Knee*/ Plenary Talks
Advances in the Treatment of Knee and Ankle Arthritis Symposium, Durham, NC
- 2000 *Second vs. Third Generation Arthroplasty. Contemporary Shoulder Orthopedics: A
Hands-on Course in Shoulder Reconstruction and Arthroplasty*/ Course Demonstrator and
Lecturer
Sulzer and University of South Florida College of Medicine, Rosemont, IL
- 2000 *Arthroscopic Instability Repair: When, Who, How, How Not To, and Demonstration on
arthroscopic instability with the knotless suture anchor technique*/ Plenary Talks
Sports Medicine Symposium Advanced Arthroscopy: Knee and Shoulder Course, Duke
University Medical Center, Durham, NC
Sponsored by Mitek
- 2000 *Diagnostic Evaluation of the Knee and Shoulder*/ Plenary Talk
North Carolina Society of Radiological Technicians Diagnostic Seminar, Burlington, NC
- 2000-
2002 *Thermal Modification of Capsular Laxity: Who, When, How and All-inside Arthroscopic
Meniscal Repair Featuring the New RapidLoc, ClearFix and Fasteners*/ Plenary Talks
*Arthroscopic Technique Options for Instability/Panalok: New Loop Control Technique for Use
with the Knotless Suture Anchor Thermal Modification with VAPR II TC* / Surgical
Demonstrator
Mitek Global Symposium ” Chicago, IL
Sponsored by Mitek
- 2000-
2001 *Accuracy of Anatomic Reconstruction: A Radiographic Study Comparing Second and Third
Generation Prosthetic Designs* / Plenary Talk
Sulzer Orthopaedics 10th Annual Total Knee, Hip and Shoulder Arthroplasty Seminar, Carlsbad,
CA
- 2001, *Evaluation and Management of Common Shoulder and Elbow Problems*/ Invited Lecture

- 2005 Duke Musculoskeletal Assessment for Primary Care Providers Symposium, Duke University Medical Center, Durham, NC
- 2001 *Third Generation Shoulder Arthroplasty: Is There an Advantage? / Visiting Professor and Arthroscopic Shoulder Stabilization. Bioskills workshop in Wet Lab/ Surgical instructor*
Department of Orthopedic Surgery, William Beaumont Hospital, Detroit, MI
- 2001 *Meniscal Repair: Current Concepts and Cadaveric Arthroscopic Instability Utilizing Panalok, Knotless, and Bioknotless Suture Anchor Techniques /Surgical instructor*
Mitek Advanced Arthroscopy Knee Symposium, American Sports Medicine Institute, Birmingham, AL
Sponsored by Mitek
- 2001 *Knee Injuries: Diagnosis and Treatment/ Grand Rounds*
Duke Family Practice, Durham, NC
- 2001 *Arthroscopic Bankart Repair, New Orthopaedic Management of the Unstable Shoulder in Athletes/ Plenary Talk*
National Athletic Trainers Association Annual Meeting and Clinical Symposium, Los Angeles, CA
Sponsored by AOSSM
- 2001 *Treatment of Articular Cartilage Injuries/ Visiting Professor*
Sports Medicine Grand Rounds, Medical College of Georgia, Augusta, GA
- 2002 *Common Sports-related Injuries and Treatment/ Invited Lecture*
Duke University Medical Center, Durham, NC
Sponsored by Pfizer, Inc.
- 2002-2004 *Arthroscopic Rotator Cuff Repair: When and How, and Arthroscopic Instability/ Invited Lectures*
Mitek Knee & Shoulder Arthroscopy Workshop
Sponsored by Mitek
- 2002 *Proximal Humerus Fractures, and Update in the Treatment of Articular Fractures/ Grand Rounds*
Duke University Medical Center, Division of Orthopaedic Surgery, Durham, NC
- 2002 *Cuff Tear Arthritis/ Plenary Talk*
First Annual Texas Shoulder Roundtable on Total Shoulder Replacement Meeting: Difficult Problems and Potential Solutions, Austin, TX
- 2002 *Open vs. Arthroscopic Approach for Rotator Cuff Repair, and Arthroscopic Instability Repair/ Surgical Technique Demonstrator and Invited Lecturer*
Arthroscopy Saturday Symposium and Workshop, Colorado Springs, CO
- 2003 Session Moderator and Scientific Paper Session
AAOS Annual Meeting and ASES Specialty Day, New Orleans, LA
- 2003-2004 *Second vs. Third Generation Arthroplasty / Invited Lecture*
Annual Hip, Knee & Shoulder Arthroplasty Symposium, Park City, UT
- 2003 *SLAP Lesions: What Are They and How Do You Treat Them? / Case Presentation and Use of Clinical Algorithms and Office Management /Plenary Talk*
AAOS Upper Extremity: Fingertip to Shoulder Course, Bar Harbour, FL
- 2003 *Arthroscopic Rotator Cuff Repair/ Surgical Instructor*
Duke Surgical Skills Workshop, Duke University Medical Center, Durham, NC
- 2003 Session Moderator Cartilage Symposium
Piedmont Society Meeting, Sea Island, GA
- 2003 *Anatomical Shoulder Reconstruction: Glenoid Exposure Tips / Plenary Talk*
20th Annual San Diego Shoulder Meeting, San Diego, CA

- 2003 *Orthopaedic Management of Common Sports Conditions: Knee (ACL, Meniscus, Articular Surface Defects, Patellofemoral Problems* / Invited Lecture
North Carolina Medical Society Sports Medicine Symposium, Wrightsville Beach, NC
- 2003 *Update on Orthopaedics, Sports Medicine and Cartilage Repair*/ Invited Lecturer Cartilage Repair Mini-Symposium: Meniscal Transplantation, Columbia, SC
- 2003 *Management of OA in the Young Patient*/Invited Lecture
AO-ASIF Upper Extremity Course, Newport, RI
- 2003 *Articular Cartilage Injuries* / Visiting Professor
Shriner's Hospital for Children Grand Rounds, Springfield, CT
- 2004 AOSSM Specialty Day Invited Lecture
AAOS 71st Annual Meeting, San Francisco, CA
- 2004 *Arthroscopic Instability*/ Invited Lecture
Release of the Stiff Shoulder Workshop, New Haven, CT
- 2004 *Labral Tears in Athletes, Shoulder Arthroplasty, and Meniscal Injuries*/ Invited Lectures
Duke Sports Medicine Conference, Durham, NC
- 2004 *Cartilage Restorative Procedures* / Invited Lecture
Advanced Concepts in ACI Workshop, Charlotte, NC
- 2004 *Carticel[®] in the Arthritic Knee*/ Invited Lecture
3rd Annual Joint Preserving Conference: Treatment of the Hip and Knee, Ocean City, MD
- 2005 *Pediatric Proximal Humeral and Shaft Fractures* / Invited Lecture
Southeastern Fracture Symposium, Greensboro, NC
- 2005 *Research Implications of Allograft Use* / Invited Lecture and Co-Chairman
AOSSM Soft Tissue Allografts in Orthopaedics: Science and Applications, Atlanta, GA
- 2005 *Management of Calcific Tendonitis, Diagnosis, Arthroscopy for the Degenerative Shoulder Joint, and Treatment of Spinoglenoid Notch Cysts, and Complications: Thermal, Implants, Suture* / Invited Lectures and Surgical Instructor
Metcalf Arthroscopic Surgery, Tucson, AZ
- 2005 *Proximal Humerus Fracture: Internal Fixation and Acute AC Joint Disruption—ORIF: Case-Based Controversies and Techniques in Upper Extremity Trauma*/ Plenary Talks
American Society for Surgery of the Hand Meeting, San Antonio, TX
- 2005 *Pearls & Pitfalls in Total Shoulder Arthroplasty, Hemi vs. Total Shoulder Prosthesis in Primary Glenohumeral Arthritis, and Hemi vs. Total Shoulder Prosthesis in Primary Glenohumeral Arthritis*/ Plenary Talks and Surgical Demonstrator
ISAKOS 5th Biennial Congress, Hollywood, FL
- 2005 *Difficult Reconstructions of Posttraumatic Non-unions and Mal-unions and Massive Cuff Tears: New Basic Science Concepts Relevant to the Surgeon*/ Plenary Talks and Course Instructor
San Diego Shoulder Arthroscopy, Arthroplasty and Fractures 22nd Annual Meeting, San Diego, CA. Invited Lecturer and Instructor “
Sponsored by Zimmer Anatomical Shoulder Workshop
- 2005 *Patient Evaluation* / Invited Lecture
AOSSM Surgical Skills Course: Articular Cartilage Repair in the Athlete's Knee, Rosemont, IL
- 2005 *Complex Management Issues of the Young Arthritic Patient Emphasizing the Knee and Shoulder* / Plenary Talk
North Carolina Orthopaedic Association Annual Meeting, Pinehurst, NC
- 2005 *Severe Glenohumeral Chondrolysis Following Shoulder Arthroscopy: A Series of 6 Cases Treated with Hemiarthroplasty* / Abstract Presentation
American Shoulder & Elbow Surgeons Closed Meeting, West Palm Beach, FL
- 2006 *Instability of the Shoulder and Elbow* / Session Discussion

- 2006 New England Shoulder and Elbow Society Conference, Jay Peak, VT
Total Shoulder And Fracture Workshop / Plenary Talk and Bankart and Rotator Cuff Cadaver Lab / Surgical Demonstrator
 23rd Annual San Diego Shoulder Meeting, San Diego, CA
 Sponsored by Zimmer
- 2006 Poster Presentation and Video Presenter
 AAOS Annual Meeting, Chicago, IL
- 2006 *Fractures of the Proximal Humerus, and Instability Problems and Fractures of the Proximal Humerus: Replace / Session Moderator*
Counterpoint: Plates are the Best Alternative for Clavicle Fractures, Shoulder Arthroplasty in the Young Patient: Pain Relief, Sports Work...Expectations and Durability, The Stiff Shoulder, and All Rotator Cuff Tears Should be Repaired Arthroscopically / Plenary Talks
 AO ASIF Upper Extremity Course, Newport, RI
- 2006 *Results of Arthroscopic Anterior Shoulder Stabilization in Contact Athletes / Plenary Talk and Shoulder Instability /Moderator, Scientific Session*
 AOSSM Annual Meeting, Hershey, PA
- 2006 Laboratory Surgical Instructor
 Fellows Advanced Arthroscopy Forum on Massive Rotator Cuff Tears, Colorado Springs, CO
 Sponsored by DePuy Mitek
- 2006 Ninth Annual Lake Tahoe Knee and Shoulder Update. Invited lecturer. “*Shoulder Arthroplasty,*” “*Post Traumatic Shoulder Arthroplasty*” and “*Reverse Total Shoulder Arthroplasty*” Lake Tahoe, NV.
- 2006 *Arthroscopic Instability / SLAP / Invited Lecture and Surgical Demonstrator*
 Arthroscopic Shoulder Advancement Course, Henderson, NV
 Sponsored by Mitek Surgical Academy
- 2007 Surgical Instructor
 Anatomic Reverse Shoulder Didactic and Cadaver Course, Baltimore, MD
 Sponsored by Zimmer
- 2007 Invited Lecture
 New England Shoulder and Elbow Society Conference, Jay Peak, VT
- 2007 *Evaluation and Management of the Failed Instability Repair/ Plenary Talk and Shoulder & Elbow I – Arthroplasty/ Session Moderator*
 AAOS Annual Meeting, San Diego, CA
- 2007 *Treatment of Massive Rotator Cuff Tears / Invited Lecture and Surgical Instructor*
 Fellows Advanced Arthroscopy Forum, Colorado Springs, CO
 Sponsored by Mitek Surgical Academy
- 2007 *Visualization and Tendon Mobilization in Arthroscopic Rotator Cuff Repair / Plenary Talk and Session Moderator*
 AAOS/ASES Arthroscopic Shoulder: Advanced Techniques, Rosemont, IL
- 2007 *Transitioning from Mini Open to Arthroscopic Cuff Repair, Rotator Cuff Repair Tips/Versalock, and Controversies and management of Biceps Tendon / Invited Lectures*
 Shoulder Controversies Nottage Course 2007, Newport Beach, CA
- 2007 *Analysis of Arthroscopic Bankart vs. ALPSA Repair in Recurrent Traumatic Anterior Instability/ Paper Presentation and Analysis of Arthroscopic Bankart vs. ALPSA Repair in Recurrent Traumatic Anterior Instability, and Biological resurfacing of the glenoid in shoulder arthritis /Abstract Presentations*
 American Shoulder and Elbow Surgeons 2007 Closed Meeting, Dallas, TX
- 2007 *Anatomical Shoulder System Invited Lecture and Surgical Instructor*

- Anatomic Shoulder Didactic and Cadaver Course, Springfield, IL
Sponsored by Zimmer
- 2007 Invited Lecturer and Residency Class of 1997 Representative
Hospital for Special Surgery Alumni Association 89th Annual Meeting, New York, NY
- 2007 *Demonstration of shoulder surgical techniques* / Surgical Instructor
San Diego Shoulder Institute 23rd Annual Shoulder Course, San Diego, CA
- 2007 *Rotator Cuff: How to Get Good at Arthroscopic Cuff Repair, Technique: Restoring Anatomy (Variable Inclination), and Reverse Arthroplasty: A Modular Approach* / Plenary Talks and
Cuff-Deficient Arthritis / Session Moderator
Shoulder and Elbow Reconstruction Meeting, Vail, CO
- 2008 *Failed Instability Repair – Evaluation and Management* / Plenary Talk, and
Rotator Cuff Tears / Session Moderator and Lead Lab Instructor for Surgical Skills Lab
AAOS/ASES Open and Arthroscopic Techniques in Shoulder Surgery, Rosemont, IL
- 2008 *Management of glenohumeral arthritis in young patients with biological resurfacing of the
glenoid and Pectoralis Major Transfer for treatment of Irreparable Subscapularis Tendon Tears*
/ Abstract Presenter
American Shoulder and Elbow Surgeons Annual Meeting, San Francisco, CA
- 2008 *SLAP Repair: Techniques for Success* / Plenary Talk
AOSSM Annual Meeting, Orlando, FL
- 2008 *Biological resurfacing of the glenoid in shoulder arthritis* / Plenary Talk
6th Biennial AAOS/ASES Shoulder and Elbow: Current Techniques and Controversies, Orlando,
FL
- 2008 *Repair Technology: Single Row* / Plenary Talk
2nd Annual Symposia Current Concepts in Sports Medicine w/ 10th Annual Sports Medicine for
the Young Athlete, Ithaca, NY
- 2008 *Complications in Shoulder Arthroplasty: Avoidance and Management, and Rotator Cuff
Disease: From Arthroscopy to Arthroplasty* / Plenary Talks
AAOS 75th Annual Meeting, San Francisco, CA
- 2008 *Lateral Epicondylitis in the Elite Tennis Player* / Plenary Talk and Session Moderator
Arthroscopy Association of North America/American Orthopedic Society for Sports Medicine
Specialty Day, San Francisco, CA
- 2008 *Advanced Shoulder Surgery: Viewpoints from Outside the Box – What are the
Limits?* / Invited Lecture
Arthroscopy Association of North America Annual Meeting, Washington D.C.
Sponsored by DePuy Mitek Presentation
- 2008 *Double Row Rotator Cuff Repair, Proximal Biceps Tendondesis and Massive Rotator Cuff Tear:
A Critical Look at Arthroscopic Surgery* / Plenary Talks; Keynote Speaker
3rd Annual Rocky Mountain Shoulder and Elbow Society Meeting, Aspen, CO
- 2008 *Arthroscopic Bankart, Basic Arthroscopic Rotator Cuff Repair and Suprascapular Nerve
Release Indications & Techniques* / Plenary Talks and Master Instructor
Arthroscopy Association of North America Masters Experience Shoulder Arthroscopy
Course, Rosemont, IL
- 2008 *Treatment of Glenoid Bone Loss and Techniques for the Repair of Massive RCR
Tears* / Invited Lectures and Session Moderator
Arthroscopic Shoulder Advancement Course, Henderson, NV
Sponsored by Mitek Surgical Academy
- 2008 *Design Rational for the Inverse Prosthesis* / Plenary Talk
New England Shoulder and Elbow Society Conference, Jay Peak, VT

- 2009 *Suprascapular Nerve Release, Glenoid Humeral Instability From Stable to Complex, and Applications for the Reverse System* / Plenary Talks and Surgical Demonstration Instructor
FORE Orthopedic Learning Center Meeting: Current Solutions in Shoulder and Elbow Surgery, Tampa, FL
- 2009 *Bone loss and version problems with the glenoid* / Invited Lecture
NESES Annual Meeting. Jay Peak, VT
Sponsored by Arthrex
- 2009 *Complications in Shoulder Arthroplasty: Avoidance and Management, and Rotator Cuff Disease: From Arthroscopy to Arthroplasty* / Plenary Talks;
Suprascapular Neuropathy: Incidence and Significance / Poster Presentation
AAOS Annual Meeting, Las Vegas, NV
- 2009 *Failed Instability Repair – Evaluation and Management, and Failed Rotator Cuff Repair / Suprascapular Nerve* / Plenary Talks;
Rotator Cuff Repair / Course Moderator and Surgical Demonstration Instructor
AAOS/ASES Open and Arthroscopic Techniques in Shoulder Surgery Meeting, Rosemont, IL
- 2009 *Shoulder Arthroscopy: The rotator cuff and instability repairs* / Grand Rounds Lecture
University of Rochester Orthopedic Grand Rounds, Rochester, NY
- 2009 *Shoulder Instability and Bone Loss, Proximal Biceps Injuries, and Total Shoulder Replacement vs. Hemiarthroplasty* / Plenary Talks and Guest Professor
New England Orthopedic Society 2009 Spring Meeting, Stowe, VT
- 2009 Invited Lecture.
AOA Annual Meeting, Bonita Springs, FL
- 2009 Seminar lectures and Course Faculty
Train the Trainer Course, Boston, MA
Sponsored by Zimmer
- 2009 *A Prospective, Randomized Clinical Comparison Between Aseptically Processed and Chemically Sterilized BTB Allografts for Anterior Cruciate Ligament Reconstruction: Results From 2 Year Follow-up* / Abstract Presentation
AOSSM Annual Meeting, Keystone, CO
- 2009 *Treatment of Glenoid Bone Loss* / Invited Lecture and Course Faculty
Open Latarjet Technique / Course Demonstrator
Masters Shoulder Program, Henderson, NV
Sponsored by DePuy Institute
- 2010 *Suprascapular Nerve Diagnosis and Treatment* / Plenary Talks and Surgical Demonstration Instructor
FORE Orthopedic Learning Center Meeting: Current Solutions in Shoulder and Elbow Surgery, Tampa, FL
- 2010 *Total Shoulder Arthroplasty-Implant Reasoning and Tips and Tricks for Glenoid sphere placement* / Invited Lectures
NESES Annual Meeting, Jay Peak, VT
- 2010 *Timing of Rotator Cuff Repair* / Paper Presentation
7th Biennial AAOS/ASES Shoulder and Elbow: Current Techniques and Controversies #3803, Aventura, FL
- 2010 *Timing of Rotator Cuff Repair* / Paper Presentation
ICL Presentation for Zimmer and AAOS Prostalac Video Presentation
AAOS Annual Meeting Specialty Day, New Orleans, LA
- 2010 *Treatment of Glenoid Bone Loss* / Invited Lecture and Shoulder Lab Session Lead
Open Laterjet Technique / Surgical Demonstration

- Masters Shoulder Spring Program, Henderson, NV
Sponsored by DePuy Mitek
- 2010 *Laterjet in Patients with Chronic Recurrent Dislocations* / Plenary Talk
AANA Annual Meeting, Hollywood, FL
- 2010 *The impact of timing of rotator cuff repair on surgical outcomes* /Plenary Talk
HERODICUS Society Meeting, Newport, RI
- 2010 *Current Concepts in Sports Medicine Surgery: A Global Perspective on the Treatment of Sports Injuries* / Surgical Laboratory Instructor
AOSSM current concepts meeting, Providence, RI
- 2010 *The Sick Anterior Cuff: How I Manage the Damaged Rotator Cuff Interval, Subscapularis and Biceps*/ Plenary Talk and Lead Lab Instructor
AOSSM & ISAKOS Pre-Conference Program, Providence, RI
Sponsored by DePuy Mitek
- 2010 *Rotator Cuff Disease Overview, Suprascapular Nerve Release, Bone Loss, and Arthroscopic Laterjet* / Plenary Talks. Course Chairman and Surgical Demonstrator
Masters Shoulder Fall Program, Henderson, NV, Sponsored by DePuy Mitek
- 2011 *Instability in Reverse Shoulder Arthroplasty; Workshop Lead : Anatomical Shoulder Inverse/Reverse System; Timing of Rotator Cuff Repair*
FORE Current Solutions in Shoulder & Elbow Surgery
Tampa, FL
- 2011 *Total Shoulder Arthroplasty-Painful TSA*
NESES Annual Meeting, Jay Peak VT
- 2011 *A Case Based Approach to Managing Complex Shoulder Pathologies: Internal Impingement, Rotator Interval, MDI and Partial Rotator Cuff Tears*
AANA Annual Meeting
San Francisco, CA
- 2011 *Lecturer: Rotator Cuff Disease Overview; Suprascapular Nerve Release; Bone Loss; Latarjet*
Masters Shoulder Course, Henderson, NV
Sponsored by DePuy Mitek
- 2011 *Rotator Cuff Repair*
ASES Closed Annual Meeting, White Sulpher Springs, WV
- 2011 *Type II SLAP Tears should be Repaired; and Lab Instructor*
AANA Fall Course, Palm Desert, CA
- 2012 *Instability in Reverse Shoulder Arthroplasty; Arthroscopic Suprascapular Nerve Release; Workshop Lead : Ask the Expert Total Shoulder Arthroplasty Workshops*
FORE Current Solutions in Shoulder & Elbow Surgery
Tampa, FL
- 2012 *Shoulder Instability; : Total Shoulder Arthroplasty- Painful TSA*
NESES Annual Meeting, Jay Peak VT
- 2012 *Arthroscopic Management of Shoulder Instabilities: Anterior, Posterior and Multidirectional*
AAOS Annual Meeting, San Francisco, CA
- 2012 *Rotator Cuff Tears: Diagnosis and Treatment. Panel Discussant: Platelet Rich in Tendinopathies and Osteoarthritis.*
Association of Academic Physiatrists Annual Meeting. Las Vegas, NV
- 2012 *Recognizing and Evaluating Glenoid and Humeral Head Bone Loss; Panel Discussant: Shoulder Instability Challenges"; Course Instructor: Cases and Controversies in Managing Challenging Shoulder Pathologies: Internal Impingement, Rotator Interval Lesions, MDI, Biceps and Partial Rotator Cuff Tears; Course Instructor: : A Case Based Approach to*

Managing Complex Rotator Cuff, Shoulder Pathologies: Transosseous Equivalent, Partial-Thickness, Subscapularis, Massive RC Tears .
Arthroscopy Association of North America Annual Meeting. Orlando, FL

- 2012 *Acute vs. Chronic Cuff Tear ; The Suprascapular Nerve and Cuff Repair ; Evidence and Rotator Cuff Rehabilitation; Proximal Humerus Fractures: Cost and Variation; lead Case Presentation Panel: Massive Cuff Tear, revision TSR, Reverse for Massive Cuff Tear*
San Diego Shoulder Institute 29th Annual Course. San Diego, CA
- 2012 *Moderator: Concurrent Session A: Scientific Session: Shoulder Symposium: Case-Based Shoulder Instability*
American Orthopedic Society for Sports Medicine Annual Meeting. Baltimore, MD
- 2012 *Management Strategies for Massive Rotator Cuff Tears.* Grand Rounds Presentation
Department of Orthopaedic Surgery at Northwestern University. September 7.
- 2012 *Master Instructor for AANA Shoulder Arthroscopy Course #11: When is it OK to manage bone loss with arthroscopy?; Suprascapular nerve release: indications and techniques; Non-arthroscopic options for irreparable rotator cuff tears; Cadaver Lab Instructor.*
Masters Shoulder Course, Rosemont, IL
- 2012 *Management of Tuberosities in Shoulder Prosthesis; Panel Discussant- TSA vs.RSA; Lab Instructor: Latarjet; Massive RCR Keys to Success; Proximal Humerus Fractures: What is a good result?* OSC Napa Valley Sports Conference 2012 September. Napa, CA
- 2012 *Survey Results Presentation.* ASES Closed Meeting 2012 October. Sea Island, GA
- 2012 *Challenging Dogma; Shoulder Lab Lead Instructor.* AANA Fall Meeting. November. Phoenix, AZ
- 2012 *International Debate: Arthroscopic Latarjet Can Be Done Safely (Con); International Debate: Suprascapular Nerve Release in Essential Massive RCR (Pro); Case Based Presentation— Tying it all together for Rotator Cuffs; Lead Cadaver Lab Instructor: Arthroscopic Rotator Cuff Repair.* Emerging Trends in Orthopedics (ETO) Annual Meeting. December Las Vegas, NV.
- 2013 *Moderator: Open Shoulder Session. Moderator: Live surgical demonstration.* Arthrex Faculty Forum. January. Naples, FL.
- 2013 *Complications in Reverse for Fx and TSA: 3 interactive case presentations; Ask the Experts Workshop.* Foundation for Orthopedics Research and Education: Current Solutions in Shoulder and Elbow Surgery. January. Tampa, FL.
- 2014 *Neuromonitoring the Latarjet Procedure.* Presented at the 2014 Open Meeting of ASES, New Orleans, March 15, 2014.
- 2014 *Neuromonitoring the Latarjet Procedure.* Presented at the 2014 Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, March 12, 2014.
- 2014 *Failure after Reverse Total Shoulder Arthroplasty- What is the Success of Component Revision.* Presented at the 2014 Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, March 14, 2014.
- 2014 *Biomechanics of Elbow & Shoulder Arthroplasty.* Keynote Speaker. 7th World Congress of Biomechanics. Shoulder Arthroplasty Spotlight Session. Boston, MA, July 10, 2014.

2014 Master Instructor. *AANA Learning Center Course #309 – Shoulder: Management of Bone Loss with Anterior Instability; Large and Massive Rotator Cuff Tears: Releases, Slides and Augmentation; Arthroscopic Subscapularis Repairs; Latarjet Technique: Scope vs Open; Live Surgical Demo: Latarjet Shoulder Stabilization.* Rosemont, IL, June 27-29, 2014.

International

- 1999 *Bioabsorbable Fixation of the Knee and Shoulder* / Plenary Talk
Eastern Orthopaedic Association 13th Anniversary Meeting, Vienna, Austria
- 2001 *Cartilage Injury and Repair Symposium III/ Session Moderator and
Intramedullary Fixation of Acute Fractures and Malunions and Clavicle Fractures in
Athletes/ Plenary Talks*
Eastern Orthopaedic Association, 32nd Annual Meeting, Southampton, Bermuda
- 2002 *“Arthroscopic Repair of Rotator Cuff Tears”, “Anterior Shoulder Instability–Arthroscopic
Labrum Repair” and “Thermal Capsulorrhaphy on Shoulder Instability”* 3rd Annual
Brazilian Sports Traumatology and Sports Medicine Congress, Rio de Janeiro, Brazil
- 2004 *Operative Treatments of Clavicle Fractures: Indications and Results* / Plenary Talk
AOSSM Annual Meeting, AOSSM Specialty Day, Shoulder & Elbow Society,
Quebec City, Canada
- 2005 *Arthroscopic Capsulolabral Repair w/Bioknotless Fixation* / Plenary Talk and Shoulder
Dry Laboratory Instructor
5th Advanced Course for Shoulder Arthroscopy, Val d'Isere, France
- 2005 South African Orthopaedic Association 51st Congress, Port Elizabeth, South Africa,
Invited Lecturer *“Double row arthroscopic rotator cuff repair: short term results on 66
consecutive cases”*
- 2006 Zimmer Conference, Switzerland, January 12-16. Sponsor: Zimmer
Invited Lecturer
- 2006 II Annual Latin American Forum, Buenos Aires, Argentina.
Invited Lecturer *“Arthroscopic Shoulder Instability”* and *“Arthroscopic RCR- Avoiding
Catastrophe”* Sponsored by DePuy Latin America
- 2007 Combined Congress of the Japanese Orthopaedic Societies of Knee Surgery, Arthroscopy
and Sports Medicine (JOSKAS 2007), Sapparo, Japan.
Invited Lecturer *“Arthroscopic Management of Anterior Shoulder Instability”* and
“Arthroscopic Managements of MDI”
- 2007 AOSSM Annual Meeting. Session Moderator: *Slap Complications.* Calgary, Canada.
- 2010 Course Presenter and Workshop Demonstrator. ArthroLaterjet Training Professional
Educational Course on Shoulder. Annecy, France
Sponsored by DePuy Mitek
- 2010 AAOS/AAOT Education Program, Course Chairman and Director.
Lecturer: *Management of rotator cuff tears; Management of the Unstable Shoulder:
Arthroscopic and Open Repairs; Shoulder Arthroplasty: Surgical Indications and
Techniques; Proximal Humeral Fracture Management; Rotator Cuff Tears: Surgical
Indications and Techniques; Suprascapular nerve release; Bone Defects; Rotator Cuff
Overview; Arthroscopic Latarjet*
Buenos Aires, Argentina
- 2011 Faculty. DePuy Mitek Bangkok Master Shoulder Course, Bangkok, Thailand. Lectures:
Arthroscopic Latarjet; Cadaver Lab Dem0 2: Arthroscopic vs. Open Latarjet

2011 Faculty. Johnson and Johnson Medical (China) CSSM Meeting and Panel Discussion of Surgeons. Xi'an, Beijing, Shanghai, China. Lectures: Rotator Cuff Double Row Repair; RC repair options and controversies; Shoulder rotator cuff repair: Current concept and my opinion; Shoulder Instability: Current concept and my opinion; LHBT tendesis or tenotomy: Current Concept and my opinion; The first few steps in arthroscopic bankart repair: Operative technique and surgical pitfalls; Superior Labral lesions: anatomy, pathology and new concept in treatment; Diagnosis and Treatment of Shoulder impingement syndrome

Report of Clinical Activities and Innovations

Current Licensure and Certification

Year	Type of License/certification
1997	Passed Part I of the American Board of Orthopaedic Surgery (ABOS) Examination
1999	Passed Part II of the ABOS exam
2000	Diplomat, ABOS; Recertification 2012
2005	Massachusetts Medical License
2013	American Board of Orthopedic Surgery Subspecialty Certification in Orthopedic Sports Medicine

Practice Activities

2005-	Orthopedic Surgery	Brigham and Women's Hospital Sports Medicine/Shoulder Service	Chief; with 4 physicians, see 300+ patients/week in clinic and perform 13+ operative cases/week
2005-	Orthopedic Surgery	Boston Shoulder Institute	BWH Chief, Director of 5-6 Shoulder and Sports Medicine Fellows on Service throughout entire year. Instructor in OR and outpatient clinic

Clinical Innovations

Electronic Medical Record Pilot Practice, Department of Orthopedic Surgery, BWH	Implemented the use of an electronic medical record system: LMR within my practice to allow for paperless charts for patients. Colleagues in the Department have now all converted to this system through a Department-wide scanning initiative.
---	--

Report of Education of Patients and Service to the Community

Activities

1997-1998	Univ. Pittsburgh Medical Center (UPMC), The Center for Sports Medicine Assistant team physician for athletic teams
1997-1998	UPMC, Center for Sports Medicine Assistant Team Physician, NFL The Pittsburgh Steelers; provided care to U of P athletes
1998-2005	North Carolina Central University, Durham NC Head team physician, organizing and providing care to all NCCU athletes
2001-2005	Duke University, Durham, NC Orthopedic team physician, organizing and providing care to Duke athletes
2007-2010	Newton South High School, Newton, MA Team physician, varsity, JV, and freshman sports
2007-present	Brookline High School, Brookline, MA Team physician, varsity, JV, and freshman sports

Educational Material for Patients and the Lay Community

Patient educational material

Year	Title	Type of Contribution	Citation (if any)
2006- present	Boston Shoulder Institute Website	Website design, creation of content for patient education videos, physical therapy protocol, Rehabilitation following surgery, surgery specific videos: Example - <i>Rehabilitation following Latissimus Dorsi Transfer- Use of Biofeedback Training</i>	www.bostonshoulderinstitute.com

Recognition

Years	Title	Organization
2003-present	Best Doctors In America	Elected by his peers for inclusion in the Best Doctors in America
2010-present	Patient Choice Award	American Registry
2010-present	Compassionate Doctor Recognition	American Registry
2010-present	Top Doctor	US News
2010-present	Castle Connely Top Doctor	Best Doctors
2012-present	Boston Magazine	Top Docs
2013	Top 28 Shoulder Surgeons in North America	Orthopedics This Week

Report of Scholarship

Peer reviewed publications in print or other media

Research Investigations

1. Maitra SR, Geller ER, Pan W, Kennedy PR, Higgins LD. Altered cellular calcium regulation and hepatic glucose production during hemorrhagic shock. <i>Circ Shock</i> . 1992 Sep;38(1):14-21.
2. Geller ER, Higgins LD, Drourr N, Maitra SR. Diltiazem preserves hepatic gluconeogenesis following hemorrhagic shock. <i>J Trauma</i> . 1993 Nov;35(5):703-7; discussion 707-8.
3. Luessenhop CP, Higgins LD, Brause BD, Ranawat CS. Multiple prosthetic infections after total joint arthroplasty. Risk factor analysis. <i>J Arthroplasty</i> . 1996 Oct;11(7):862-8.
4. Warner JJ, Beim GM, Higgins L. The treatment of symptomatic os acromiale. <i>J Bone Joint Surg Am</i> . 1998 Sep;80(9):1320-6
5. Higgins LD, Dines DM. Arthroscopic Assisted Rotator Cuff Repair. <i>Surg Technol Int</i> . 1999;VIII:259-2654
6. Perry JJ, Higgins LD. Anterior and posterior cruciate ligament rupture after thermal treatment. <i>Arthroscopy</i> . 2000 Oct;16(7):732-6.
7. Higgins LD, Warner JJ. Arthroscopic Bankart repair. Operative technique and surgical pitfalls. <i>Clin Sports Medicine</i> . Vol. 19(1). 2000 Jan:49-62. Review.
8. Klein SM, Greengrass RA, Grant SA, Higgins LD, Nielsen KC, Steele SM. Ambulatory surgery for multi-ligament knee reconstruction with continuous dual catheter peripheral nerve blockade. <i>Can J Anaesth</i> . 2001 Apr;48(4):375-8.
9. Warner JJP, Higgins LD, Parsons IV IM, Dowdy P. Diagnosis and treatment of anterosuperior rotator cuff tears. <i>Journal of Shoulder and Elbow Surgery</i> . 2001;10:37-46. Review.
10. Cothran RL Jr, Major NM, Helms CA, Higgins LD. MR imaging of meniscal contusion in the knee. <i>AJR Am J Roentgenol</i> . 2001 Nov;177(5):1189-92.
11. Barnes CJ, Higgins LD. Vascular compromise after insertion of a retrograde femoral nail: case report and review of the literature. <i>J Orthop Trauma</i> . 2002 Mar;16(3):201-4.
12. Barnes CJ, Pietrobon R, Higgins LD. Does the pulse examination in patients with traumatic knee dislocation predict a surgical arterial injury? A meta-analysis. <i>J Trauma</i> . 2002 Dec;53(6):1109-14. (AOA Zimmer Research Award, April 2002). Review.
13. Green LB, Pietrobon R, Paxton E, Higgins LD, Fithian D. Sources of variation in readmission rates, length of stay, and operative time associated with rotator cuff surgery. <i>J Bone Joint Surg Am</i> . 2003 Sep;85-A(9):1784-9.
14. Heitmann C, Higgins LD, Levin LS. Treatment of deep infections of the shoulder with pedicled myocutaneous flaps. <i>J Shoulder Elbow Surg</i> . 2004 Jan-Feb;13(1):13-7.
15. Jain N, Pietrobon R, Hocker S, Guller U, Shankar A, Higgins LD. The relationship between surgeon and hospital volume and outcomes for shoulder arthroplasty. <i>J Bone Joint Surg Am</i> . 2004 Mar;86-A(3):496-505.
16. Taylor MK, Pietrobon R, Deng P, Huff M, Higgins LD. Healthy People 2010 Physical activity

guidelines and psychological symptoms: evidence from a large nationwide database. <i>J Physical Activity and Health</i> . 2004 April 1(2):114-130.
17. Barnes CJ, Higgins LD, Major NM, Basamania CJ. Magnetic resonance imaging of the coracoclavicular ligaments: its role in defining pathoanatomy at the acromioclavicular joint. <i>J Surg Orthop Adv</i> . 2004 Summer;13(2):69-75.
18. Jain N, Pietrobon R, Guller U, Shankar A, Ahluwalia AS, Higgins LD. Effect of provider volume on resource utilization for surgical procedures of the knee. <i>Knee Surg Sports Traumatol Arthrosc</i> . 2004 Aug 4; [Epub]. 2005 May;13(4):302-12; [print]
19. Pietrobon R, Taylor M, Guller U, Higgins LD, Jacobs DO, Carey T. Predicting gender differences as latent variables: summed scores, and individual item responses: a methods case study. <i>Health Qual Life Outcomes</i> . 2004 Oct 25;2:59.
20. Pietrobon R, Guller U, Martins H, Menezes AP, Higgins LD, Jacobs DO. A suite of web applications to streamline the interdisciplinary collaboration in secondary data analyses. <i>BMC Med Res Methodol</i> . 2004 Dec 14;4(1):29.
21. Elkousy H, Higgins LD. Zone-specific inside-out meniscal repair: technical limitations of repair of posterior horns of medial and lateral menisci. <i>Am J Orthop</i> . 2005 Jan;34(1):29-34.
22. Harper KW, Helms CA, Haystead CM, Higgins LD. Glenoid dysplasia: incidence and association with posterior labral tears as evaluated on MRI. <i>AJR Am J Roentgenol</i> . 2005 Mar;184(3):984-8.
23. Taylor MK, Pietrobon R, Menezes A, Olson SA, Pan D, Bathia N, DeVellis RF, Kume P, Higgins LD. Cross-cultural adaptation and validation of the Brazilian Portuguese version of the short musculoskeletal function assessment questionnaire: the SMFA-BR. <i>J Bone Joint Surg Am</i> . 2005 Apr;87(4):788-94.
24. Higgins LD. Medicolegal aspects of the orthopaedic care for shoulder injuries. <i>Clin Orthop Relat Res</i> . 2005 Apr;(433):58-64.
25. Raynor MC, Pietrobon R, Guller U, Higgins LD. Cryotherapy after ACL reconstruction: a meta-analysis. <i>J Knee Surg</i> . 2005 Apr;18(2):123-9. Review.
26. Kendell SD, Helms CA, Rampton JW, Garrett WE, Higgins LD. MRI appearance of chondral delamination injuries of the knee. <i>AJR Am J Roentgenol</i> . 2005 May;184(5):1486-9.
27. Jain NB, Guller U, Pietrobon R, Bond TK, Higgins LD. Comorbidities increase complication rates in patients having arthroplasty. <i>Clin Orthop Relat Res</i> . 2005 Jun;(435):232-8.
28. Stubbs AJ, Higgins LD. Pigmented villonodular synovitis of the knee: disease of the popliteus tendon and posterolateral compartment. <i>Arthroscopy</i> . 2005 Jul;21(7):893.
29. Jain NB, Hocker S, Pietrobon R, Guller U, Bathia N, Higgins LD. Total arthroplasty versus hemiarthroplasty for glenohumeral osteoarthritis: role of provider volume. <i>J Shoulder Elbow Surg</i> . 2005 Jul-Aug;14(4):361-7.
30. Jain NB, Pietrobon R, Guller U, Ahluwalia AS, Higgins LD. Influence of provider volume on length of stay, operating room time, and discharge status for rotator cuff repair. <i>J Shoulder Elbow Surg</i> . 2005 Jul-Aug;14(4):407-13.
31. Giaroli EL, Major NM, Higgins LD. MRI of internal impingement of the shoulder. <i>AJR Am J</i>

Roentgenol. 2005 Oct;185(4):925-9.
32. Jain NB, Higgins LD, Ozumba D, Guller U, Cronin M, Pietrobon R, Katz JN. Trends in epidemiology of knee arthroplasty in the United States, 1990-2000. <i>Arthritis Rheum.</i> 2005 Dec;52(12):3928-33.
33. Harper KW, Helms CA, Lambert HS 3rd, Higgins LD. Radial meniscal tears: significance, incidence, and MR appearance. <i>AJR Am J Roentgenol.</i> 2005 Dec;185(6):1429-34.
34. Singh K, Helms CA, Jacobs MT, Higgins LD. MRI appearance of Wrisberg variant of discoid lateral meniscus. <i>AJR Am J Roentgenol.</i> 2006 Aug;187(2):384-7.
35. Jain NB, Higgins LD, Guller U, Pietrobon R, Katz JN. Trends in the epidemiology of total shoulder arthroplasty in the United States from 1990-2000. <i>Arthritis Rheum.</i> 2006 Aug 15;55(4):591-7.
36. Freedman J, Guller U, Benjamin DK, Higgins LD, Pan D, Cook C, Pietrobon R. National trends in health care utilization and racial and socioeconomic disparities in pediatric pyogenic arthritis. <i>J Pediatr Orthop.</i> 2006 Nov-Dec;26(6):709-15.
37. Yu J, Higgins LD, Moorman CT 3rd. Technique for arthroscopic rotator cuff repair. <i>J Surg Orthop Adv.</i> 2006 Fall;15(3):154-9.
38. Guevara CJ, Cook C, Pietrobon R, Rodriguez G, Nunley J 2nd, Higgins LD, Olson SA, Vail TP. Validation of a Spanish version of the Short Musculoskeletal Function Assessment Questionnaire (SMFA). <i>J Orthop Trauma.</i> 2006 Oct;20(9):623-9; discussion 629-30; author reply 630.
39. Vinson EN, Major NM, Higgins LD. Magnetic resonance imaging findings associated with surgically proven rotator interval lesions. <i>Skeletal Radiol.</i> 2007 May;36(5):405-10.
40. Guettler J, Glisson R, Stubbs A, Jurist K, Higgins L. The triad of varus malalignment, meniscectomy, and chondral damage: a biomechanical explanation for joint degeneration. <i>Orthopedics.</i> 2007 Jul;30(7):558-66.
41. Vinson EN, Helms CA, Higgins LD. Rim-vent tear of the rotator cuff: a common and easily overlooked partial tear. <i>AJR Am J Roentgenol.</i> 2007 Oct;189(4):943-6.
42. Higgins LD, Taylor MK, Park D, Ghodadra N, Marchant M, Pietrobon R, Cook C. Reliability and validity of the International Knee Documentation Committee (IKDC) Subjective Knee Form. <i>Joint Bone Spine.</i> 2007 Dec;74(6):594-9.
43. Cook C, Hegedus E, Goode A, Mina C, Pietrobon R, Higgins LD. Relative validity of the modified American Shoulder and Elbow Surgeons (M-ASES) questionnaire using item response theory. <i>Rheumatol Int.</i> 2008 Jan;28(3):217-23.
44. Elhassan B, Ozbaydar M, Higgins LD, Warner JJ. Glenoid reconstruction in revision shoulder arthroplasty. <i>Clin Orthop Relat Res.</i> 2008 Mar;466(3):599-607.
45. Mina C, Garrett WE Jr, Pietrobon R, Glisson R, Higgins L. High tibial osteotomy for unloading osteochondral defects in the medial compartment of the knee. <i>Am J Sports Med.</i> 2008 May;36(5):949-55.
46. Elhassan B, Ozbaydar M, Massimini D, Diller D, Higgins L, Warner JJ. Transfer of pectoralis major for the treatment of irreparable tears of subscapularis: does it work? <i>J Bone Joint Surg</i>

Br. 2008 Aug;90(8):1059-65.
47. Humphries W, Jain N, Pietrobon R, Socolowski F, Cook C, Higgins L. Effect of the Deyo score on outcomes and costs in shoulder arthroplasty patients. <i>J Orthop Surg (Hong Kong)</i> . 2008 Aug;16(2):186-91.
48. Ozbaydar M, Elhassan B, Diller D, Massimini D, Higgins LD, Warner JJ. Results of arthroscopic capsulolabral repair: Bankart lesion versus anterior labroligamentous periosteal sleeve avulsion lesion. <i>Arthroscopy</i> . 2008 Nov;24(11):1277-83.
49. Elhassan B, Ozbaydar M, Diller D, Higgins LD, Warner JJP. Soft-Tissue Resurfacing of the Glenoid in the Treatment of Glenohumeral Arthritis in Active Patients Less Than Fifty Years Old. <i>J Bone Joint Surg Am</i> 2009;91:419-424.
50. Elhassan B, Ozbaydar M, Diller D, Massimini D, Higgins LD, Warner JJ. Open versus arthroscopic acromioclavicular joint resection: a retrospective comparison study. <i>Arthroscopy</i> . 2009 Nov;25(11):1224-32.
51. Marchant MH Jr, Willimon SC, Vinson E, Pietrobon R, Garrett WE, Higgins LD. Comparison of plain radiography, computed tomography, and magnetic resonance imaging in the evaluation of bone tunnel widening after anterior cruciate ligament reconstruction. <i>Knee Surg Sports Traumatol Arthrosc</i> . 2010; 18(8): 1059-1064.
52. Jain NB, Higgins LD, Katz JN, Garshick E. Association of shoulder pain with the use of mobility devices in persons with chronic spinal cord injury. <i>PM &R</i> . 2010 Oct;2(10):896-900.
53. Dunn JC, Friedman DJ, Higgins LD. Anchor fracture after supraspinatus failure. <i>J Shoulder Elbow Surg</i> . 2010 Jan;19(1):e24.
54. Wang J, Singh A, Higgins LD, Warner JJP. Suprascapular neuropathy secondary to reverse shoulder arthroplasty: a case report. <i>J Shoulder Elbow Surg</i> . 2010 Apr;19(3):e5-8. Epub 2010 Jan 13.
55. Elhassan B, Ozbaydar M, Massimini D, Higgins LD, Warner JJP. Arthroscopic capsular release for refractory shoulder stiffness: a critical analysis of effectiveness in specific etiologies. <i>J Shoulder Elbow Surg</i> . 2010 Jun;19(4):580-7. Epub 2009 Dec 11.
56. Sanders BS, Wilcox III RB, Higgins LD. Heterotopic ossification of the deltoid after arthroscopic rotator cuff repair. <i>The American Journal of Orthopedics</i> . 2010 Jul; 39 (7): E67-71.
57. Boykin RE, Friedman DJ, Higgins LD, Warner JJ. "Suprascapular neuropathy". <i>J Bone Joint Surg Am</i> . 2010 Oct 6;92(13):2348-64. Review
58. Defranco MJ, Higgins LD, Warner JJ. "Subscapularis management in open shoulder surgery". <i>J Am Acad Orthop Surg</i> . 2010 Dec;18(12):707-17.
59. Whatley AN, Fowler RL, Warner JJP, Higgins LD. Postoperative rupture of the anterolateral deltoid muscle following reverse total shoulder arthroplasty in patients who have undergone open rotator cuff repair. <i>J Shoulder and Elbow Surg</i> . 2011 Jan;20(1):114-22. Epub 2010 Aug 30.
60. Paganoni S, Higgins LD, Isaac Z. "Osteoid osteoma of the spinoglenoid notch mimicking cervical radiculopathy", <i>PMR</i> . 2011 Mar;3(3):280-3. Epub 2011 Feb 1.
61. Anup A Shah, MD; Robert B Butler, MD; Seung-Yong Sung, MD; Jessica H Wells, BA; Laurence D Higgins, MD; Jon JP Warner, M.D. Clinical Outcomes of Suprascapular Nerve

Decompression. <i>Journal of Shoulder and Elbow Surg.</i> 2011 Sep;20(6):975-82. Epub 2011 Feb1.
62. Boykin RE, Friedman DJ, Zimmer ZR, Oaklander AL, Higgins LD, Warner JJ. Suprascapular Neuropathy in a Shoulder Referral Practice. <i>J Shoulder Elbow Surg.</i> 2011 Sep;20(6):983-8. Epub Feb1.
63. Shah AA, Butler RB, Fowler R, Higgins LD. Posterior Capsular Rupture Causing Posterior Shoulder Instability: A Case Report. <i>Arthroscopy.</i> 2011 Sep;27(9):1304-7. Epub 2011 Jul 31.
64. Morman M, Fowler R, Sanofsky BA, Higgins LD. Arthroscopic Tissue Biopsy for Evaluation of Infection Before Revision Arthroplasty. <i>American Journal of Orthopedics</i> 2011 Apr;20(3):e15-22. Epub 2011 Feb 18.
65. Garrigues GE, Lewis GC, Gupta AK, Singh A, Marchant MH, Richard MJ, Higgins LD, Basamania CJ. The Cortical Ring Sign: Clinical Results of Percutaneous Coracoclavicular Fixation. <i>Accepted Shoulder and Elbow</i> 2011.
66. Jain NB, Higgins LD, Losina E, Pietrobon R, Katz, J. Racial differences in type of surgical procedure performed for proximal humerus fractures. <i>European Journal of Orthopedic Surgery & Traumatology</i> , February 2011.
67. Kleweno CP, Jawa A, Wells JH, O'Brien TG, Higgins LD, Harris MB, Warner JJ. Midshaft Clavicular Fractures: Comparison of Intramedullary Pin and Plate Fixation. <i>J Shoulder Elbow Surg.</i> 2011 Oct;20(7):1114-7. Epub 2011 Jul 1.
68. Andrew Jawa, MD, Lewis Shi, MD, Travis O'Brien, MS, Jessica Wells, MS, Laurence Higgins, MD, John Macy, MD, and Jon J.P. Warner, MD, "Prosthesis of Antibiotic-Loaded Acrylic Cement (PROSTALAC) Use for the Treatment of Infection After Shoulder Arthroplasty", <i>J Bone Joint Surg Am.</i> 2011;93:2001-9
69. Jain NB, Higgins LD. Treatment options in knee osteoarthritis: total knee arthroplasty versus platelet-rich plasma. <i>PMR</i> , 2011 Jul;3(7):681-2.
70. Dunn JC, Byrne AN, Higgins LD. Reverse Total Shoulder Arthroplasty in Patients with Parkinson's Disease: a case series and review of the literature. <i>American Journal of Orthopedics.</i> 2011 Dec;40(12):625-9.
71. Fowler RL, Higgins LD. Pressurized Radio-Opaque Dye Integrity Test. <i>American Journal of Orthopedics.</i> 2012;41(4):157-159.
72. Indelicato PA, Ciccotti MG, Boyd J, Higgins LD, Shaffer BS, Vangsness CT Jr. Aseptically processed and chemically sterilized BTB allografts for anterior cruciate ligament reconstruction: a prospective randomized study. <i>Knee Surg Sports Traumatol Arthrosc</i> 2012 Dec 1.
73. Nitin B. Jain MD, MSPH, Ifedayo Kuye BS, Laurence D. Higgins MD, Jon J. P. Warner MD, Surgeon Volume is Associated With Cost and Variation in Surgical Treatment of Proximal Humeral Fractures. <i>Clinical Orthopedics and Related Research</i> , 2013 Feb;471(2):655-64. DOI 10.1007/s11999-012-2481-6
74. Jain, NB, Wilcox RB 3 rd , Higgins LD. Clinical Examination of the Rotator Cuff. <i>PMR</i> , 2013 Jan;5(1):45-56. Doi 10.1016/j.pmrj.2012.08.019.
75. McIntyre LF, Beach WR, Higgins LD, Mordin MM, Mauskopf J, Sweeney CT, Copley-Merriman C. Evidence-based medicine, appropriate-use criteria, and sports medicine: how best to develop meaningful treatment guidelines. <i>Arthroscopy.</i> 2013 Mar 16. pii: S0749-

8063(13)00054-6. doi: 10.1016/j.arthro.2013.01.018. [Epub ahead of print]
76. Black EM, Higgins LD, Warner JJ. Value-based shoulder surgery: practicing outcomes-driven, cost-conscious care. <i>J Shoulder Elbow Surg.</i> 2013 May 6. pii: S1058-2746(13)00133-X. doi: 10.1016/j.jse.2013.02.008. [Epub ahead of print]
77. Parnes N, DeFranco M, Wells JH, Higgins LD and JJ Warner. Complications after arthroscopic revision rotator cuff repair. <i>Arthroscopy.</i> 2013 Sep 29(9):1479-1486
78. Butler BR, Byrne AN, Higgins LD, Shah A, and RL Fowler. Results of the repair of acute rotator cuff tears is not influenced by tear retraction. <i>Int J Shoulder Surg.</i> 2013 Jul-Sep 7(3):91-99
79. Li X, Eichinger JK, Higgins LD. Management of failed metal-backed glenoid component in patients with bilateral total shoulder arthroplasty. <i>Int J Shoulder Surg.</i> 2013 Oct-Dec 7(4):143-148
80. Delaney RA, Freehill MT, Higgins LD, Warner JJ. Durability of partial humeral head resurfacing. <i>J Shoulder Elbow Surg.</i> 2014 Jan; 23(1):e14-22. doi: 10.1016/j.jse.2013.05.001. Epub 2013 Jul 5.
81. Small KM, Siegel EJ, Miller LR, Higgins LD. Imaging characteristics of lesser tuberosity osteotomy after total shoulder replacement: a study of 220 cases. <i>J Shoulder Elbow Surg.</i> 2014 Sep;23(9):1318-26. doi: 10.1016/j.jse.2013.12.010. Epub 2014 Mar 4.
82. Jain NB, Higgins LD, Losina E, Collins J, Blazar PE, Katz JN. Epidemiology of musculoskeletal upper extremity ambulatory surgery in the United States. <i>BMC Musculoskeletal Disorders.</i> 2014;15:4 doi: 10.1016/j.jse.2013.12.010
83. Jain NB, Katz JN, Higgins LD. Clinical Examination of the Rotator Cuff. <i>PM&R</i> 2013;5(1):45-56
84. Yamamoto A, Massimini DF, DiStefano J, Higgins LD. Glenohumeral contact pressure with simulated anterior labral and osseous defects in cadaveric shoulders before and after soft tissue repair. <i>Am J Sports Med.</i> 2014 Apr 30; 42(8):1947-1954. DOI: 10.1177/03635465144531905
85. Leclere LE, Shi LL, Lin A, Yannopoulos P, Higgins LD, Warner JJ. Complete Fatty infiltration of intact rotator cuffs caused by suprascapular neuropathy. <i>Arthroscopy.</i> 2014 May; 30(5):639-44. doi: 10.1016/j.arthro.2014.01.010. Epub 2014 Mar 14.
86. Parada SA, Dilisio MF, Miller LR, Higgins LD. Long head of the biceps tendon Allis Clamp Evaluation (ACE) technique. <i>Techniques in Arthroscopy.</i> 2014 Aug 4;3(4):e491-3. doi: 10.1016/j.eats.2014.05.003. eCollection 2014.
87. Delaney RA, Freehill MT, Janfaza DR, Vlassakov KV, Higgins LD, Warner JJ. 2014 Neer Award Paper: Neuromonitoring the Latarjet procedure. <i>J Shoulder Elbow Surg.</i> 2014 Jun 18; pii: S1058-2746(14)00224-9. doi: 10.1016/j.jse.2014.04.003; in press
88. Song A, Higgins LD, Newman J, Jain NB. Glenohumeral corticosteroid injections in adhesive capsulitis: a systematic search and review. <i>Am Acad of Physical Med and Rehab.</i> 2014 Jul 1. Pii:S1934-1482(14)00306-2. Doi: 10.1016/j.pmrj.2014.06.015; in press

89. Black EM, Roberts SM, Siegel E, Yannopoulos P, Higgins LD, Warner JJP. Reverse shoulder arthroplasty as salvage for failed prior arthroplasty in patients 65 years of age or younger. <i>J Shoulder Elbow Surg.</i> 2014 July, 23(7):1036-1042. doi: 10.106/j.jse.2014.02.019
90. Srikumaran U, Wells JH, Freehill MT, Tan EW, Higgins LD, Warner JJP. Scapular Winging: A Great Masquerader of Shoulder Disorders: AAOS Exhibit Selection. <i>J Bone Joint Surg Am.</i> 2014 Jul 16;96(14):e122 (1-13).
91. Dilisio MF, Miller LR, Higgins LD. Transtendon, Double-Row, Transosseous-Equivalent Arthroscopic Repair of Partial-Thickness, Articular-Surface Rotator Cuff Tears. <i>Arthroscopy Tech.</i> Oct 2014; 3(5): e559-e563.
92. Jain NB, Collins J, Newman JS, Katz JN, Losina E, Higgins LD. Reliability of Magnetic Resonance Imaging Assessment of Rotator Cuff: The ROW Study. <i>PM R.</i> 2014 Aug 30. pii: S1934-1482(14)01359-8. doi: 10.1016/j.pmrj.2014.08.949. [Epub ahead of print]
93. Shi LL, Jiang JJ, Ek ET, Higgins LD. Failure of the lesser tuberosity osteotomy after total shoulder arthroplasty. <i>J Shoulder Elbow Surg.</i> 2014 Aug 5. pii: S1058-2746(14)00246-8. doi: 10.1016/j.jse.2014.05.006. [Epub ahead of print]
94. Song A, Katz JN, Higgins LD, Newman JS, Gomoll, A, and Jain NB. Outcomes of Ultrasound Guided Glenohumeral Corticosteroid Injections in Adhesive Capsulitis. <i>British Journal of Medicine and Medical Research (In Press)</i>
95. Dilisio MF, Miller LR, Warner JJ, Higgins LD. Arthroscopic tissue culture for the evaluation of prosthetic shoulder infection. <i>J Bone Joint Surg Am,</i> 2014 Dec 03;96(23):1952-1958.
96. Shi LL, Mullen M, Freehill MT, Lin A, Warner JJP, Higgins LD. Long head of biceps subluxation as predictor for subscapularis tears. <i>Journal of Arthroscopy.</i> 2014. Accepted.
97. Kaplan RS, Witkowski M, Abbott M, Guzman AB, Higgins LD, Meara JG, Padden E, Shah AS, Waters P, Weidemeier M, Wertheimer S, Feeley TW. Using Time-Driven Activity-Based Costing to Identify Value Improvement Opportunities in Healthcare. <i>J Healthcare Management,</i> 2014 Nov/Dec 59(6):399-413.

Non-Peer Reviewed Chapters, Reviews and Editorials, (i.e. Analytic clinical reviews, comprehensive review articles, editorials, and chapters (special chapter/s within other books):

1. Bear BJ, Laskin R, Higgins LD. Dissociation of a polyethylene liner in a nonmodular, cemented, metal-backed acetabular component. <i>Orthopedics.</i> 1997 Dec;20(12):1179-80. Review.
2. Allen AA, Higgins LD. Shoulder Impingement and Rotator Cuff Disease-An Overview. In: Chan KM, Fu F, Maffulli N, Rolf C, Kurosaka M, Liu S, eds. <i>Controversies in Orthopedic Sports Medicine.</i> Vol. 17. Baltimore: Williams & Wilkins, 1998:337-345. Chapter.
3. Higgins LD, McCann PD, Warner JJP. Shoulder Instability. <i>Orthopaedic Knowledge Update 6.</i> Ed: Beaty JH. Rosemont, Illinois. American Academy of Orthopaedic Surgeons. 1999, 288-298. Chapter.
4. Janousek AT, Jones DG, Clatworthy M, Higgins LD, Fu FH. Posterior cruciate ligament injuries

of the knee joint. Vol. 28(6). <i>Sports Medicine</i> . 1999 Dec:429-41. Chapter.
5. Higgins LD, Harner CD. Multi-ligament knee injuries: Principles of evaluation and management. In: Garrett WE, Speer KP, Kirkendall DT, eds. <i>Principles and Practice of Orthopaedic Sports Medicine</i> . Baltimore: Lippincott William & Wilkins, October 2000. Chapter.
6. Higgins L, Clatworthy M, Harner CD. Multiligament injuries of the knee. In: Garrett W, Speer KP, Kirkendall DT, eds. <i>Principles and practice of orthopedic sports medicine</i> . Baltimore: Lippincott Williams & Wilkins, 2000:805-817. Chapter.
7. Higgins LD, Warner JP. Superior Labral Lesions: Anatomy, Pathology and Treatment. <i>Advances in Shoulder Arthroscopy: Approaches for the New Millennium</i> . Clinics in Sports Medicine, CORR, Lippincott Williams & Wilkins Vol 390. 2001 Sept:73-82. Chapter.
8. Higgins LD, Figgie M. Femoral Periprosthetic fractures: blade plate fixation. In Scuderi GR, Tria AJ, eds. <i>Surgical Techniques in Total Knee Arthroplasty</i> . New York, NY, Springer-Verlag. 2002:563-572.
9. Perry JJ, Higgins LD. Sports Injuries: Mechanisms Prevention, Treatment. In: Fu FH, Stone D, eds. <i>Shoulder Injuries</i> . Baltimore: Lippincott, Williams & Wilkins, Vol. 2. 2002 Jan:1015-1048. Chapter.
10. Luber MJ, Higgins LD. Arthroscopic Environment for Knee Surgery. In: Callaghan J, Rosenburg A, Rubash H, Simonian P, Wickiewicz, eds. <i>The Adult Knee</i> . Baltimore: Lippincott, Williams and Wilkins. Vol. 2. 2002 Dec:553-61. Chapter.
11. Higgins LD. Patient Evaluation. In: Cole B, Malek M, eds. <i>Articular cartilage lesions. A practical guide to assessment and treatment</i> . New York, Springer. 2004 Mar:13-22. Chapter.
12. Higgins LD, Warner JJP. Massive Tears of the Posterosuperior Rotator Cuff. In: Warner JJP, Iannotti JP, Flatow EL. eds. <i>Complex and Revision Problems in Shoulder Surgery, 2nd Edition</i> . Baltimore, Lippincott, William and Wilkins. 2005 Apr: 129-159.
13. Boudreau S, Boudreau ED, Higgins LD, Wilcox RB 3rd. Rehabilitation following reverse total shoulder arthroplasty. <i>J Orthop Sports Phys Ther</i> . 2007 Dec;37(12):734-43. Review
14. ElHassan B, Endres NK, Higgins LD, Warner JJP. "Management of Irreparable Rotator Cuff Tears." <i>AAOS Instructional Course Lectures</i> . 2008; 57:153-66. Review
15. Darren J. Friedman, MD; Nata Parnes, MD; Zachary R. Zimmer, BA; Jon J. P. Warner, MD; Laurence D. Higgins, MD. Arthroscopic Fixation of Posterior Bankart Lesion in the Beach Chair Position. <i>Techniques in Shoulder & Elbow Surgery</i> . 2008 Sept; 9(3):132-140. Chapter.
16. Darren J. Friedman, MD; Nata Parnes, MD; John C. Dunn, BA; Laurence D. Higgins, MD; Jon J. P. Warner, MD. PROSTALAC Implantation for Two-Stage Eradication of Infected Shoulder Arthroplasty. <i>Techniques in Shoulder & Elbow Surgery</i> . 9(3):114-125, September 2008. Chapter.
17. Friedman DJ, Dunn JC, Higgins LD, Warner JP. Proximal biceps tendon: injuries and management. <i>Sports Med Arthro Review</i> . 2008;16(3):162-169. Chapter.
18. Friedman DJ, Zimmer ZR, Parnes N, Warner JP, Higgins L. Arthroscopic fixation of posterior bankart lesion in the beach chair position. <i>Tech Shoulder Elbow Surg</i> . 2008;9(3):132-140. Chapter.
19. Sperling JW, Galatz LM, Higgins LD, Levine WN, Ramsey ML, Dunn J. Avoidance and

treatment of complications in shoulder arthroplasty. <i>Instr Course Lect.</i> 2009;58:459-72. Chapter.
20. Boughanem. J, M.D., Fox, T, M.D., Higgins, LD, M.D. Tendon Transfers for Rotator Cuff Insufficiency. <i>Surgical Techniques of the Shoulder, Elbow, and Knee in Sports Medicine</i> , 2nd Edition. Edited by Brian J. Cole, MD, MBA and Jon K. Sekiya, MD. Elsevier, 2008.
21. Friedman DJ, Parnes NZ, Zimmer Z, Higgins LD, Warner JJ. Prevalence of cerebrovascular events during shoulder surgery and association with patient position. <i>Orthopedics</i> . 2009 Apr;32(4). Chapter.
22. Parnes N, Rolf RH, Zimmer Z, Higgins LD, Warner JJP. Management of Failed Hemiarthroplasty with Reverse Prosthesis. <i>Tech. in Shldr & Elbw Surg.</i> 2009;09(4):216-225. Chapter.
23. Endres NK, Elhassan B, Higgins LD, Warner JJP. "The Stiff Shoulder". In <i>The Shoulder, 4th Edition</i> . Elsevier, 2009
24. Rolf RH, Dunn JC, Warner JJP, Higgins LD. Limited Shoulder Prosthetic Resurfacing. In <i>Biologic Joint Reconstruction: Alternatives to Arthroplasty</i> . Edited by Brian J. Cole, MD and Andreas H. Gomoll, MD. 2009. Chapter.
25. Griffith MH, Rolf RH, Parnes N, Zimmer ZR, Higgins LD, Warner JJP. Arthroplasty for Arthritis after Instability including Post-Capsulorrhaphy and Chronic Dislocations. In <i>Arthritis and Arthroplasty: The Shoulder</i> . Edited by David M. Dines, MD, Cato T. Laurencin, MD, and Gerald R. Williams Jr., MD. Elsevier, 2009. Chapter. ISBN: 978-1-4160-4975-3
26. Singh A, Jawa A, Morman M, Sanofsky B, Higgins LD. <u>Massive rotator cuff tears: arthroscopy to arthroplasty</u> . <i>Instr Course Lect.</i> 2010;59:255-67. Chapter.
27. Defranco MJ, Higgins LD, Warner JJ. Subscapularis management in open shoulder surgery. <i>J Am Acad Orthop Surg</i> . 2010 Dec;18(12):707-17. Review.
28. Ellender P, Harder A, Sanofsky B, Higgins LD. Sports medicine: clinical spectrum of injury. <i>Rheumatology: Sports Medicine, 5th edition</i> . Edited by Marc C. Hochberg, MD, Alan J. Silman, MD, Josef S. Smolen, MD, Michael E. Weinblatt, MD, Michael H. Weisman, MD. Elsevier, 2011. Chapter. ISBN: 978-0-323-06551-1
29. Shi, L, MD, von Keudell, A., MD, Higgins, LD, MD. Treatment of shoulder infections; post arthroscopy, open surgery and arthroplasty. <i>Current Orthopaedic Practice</i> , January/February 2012 - Volume 23, Issue 1, p 23–28.
30. Higgins LD. Subpectoral biceps tenodesis. In: Mccann PD, editor. <i>Video Atlas of Shoulder Surgery</i> ; 2013. New Delhi, India: Jaypee Brothers Medical Publishers Pvt. Ltd. P. 122-4.
31. Sanofsky, B, BA, DiFranco, M, MD, Higgins, LD, MD. Chapter 26: Scapulothoracic Endoscopy and the Snapping Scapula. <i>Operative Arthroscopy, 4e</i> . Lipincott, Williams & Wilkins. Editor: Dr. Barber. Nov 2012. ISBN-10:1605478601
32. Distefano, JG MD, Lin, A, MD, Higgins, LD, MD, Warner, JJ, MD. Chapter 12: Complications of Instability Repair. <i>OKU4</i> . 2013. Chapter.
33. Hampton D, MD, Delaney R, MD, Higgins LD, MD. Chapter 16: Massive Rotator Cuff Tears. <i>OKU4</i> . Editor: Greg Nicholson. 2013. Chapter.
34. Boughanem J, Fox T, Higgins LD. Chapter 25: Tendon Transfers for Rotator Cuff Insufficiency. <i>Surgical Techniques of Shoulder, Elbow, and Knee in Sports Medicine</i> . Editors Brian Cole and Jon Sekiya. Elsevier, 2013. ISBN-13:9781455723560
35. Srikumaran U, Shi LL, Tompson JD, Higgins LD, Warner JJP. Chapter 27: Arthroscopic and Open Decompression of the Suprascapular Nerve. <i>Surgical Techniques of Shoulder, Elbow, and</i>

<i>Knee in Sports Medicine, 2e.</i> Editors Brian Cole and Jon Sekiya. Elsevier, 2013. ISBN: 978-1-4557-2356-0
36. Byrne, Abigail N, BA, McCarthy, Caitlin M, BA, Higgins LD, MD. Spontaneous dissociation of Prosthetic Humeral Head: A Case Report. <i>The Orthopaedic Journal at Harvard Medical School.</i> 2013;Dec(15):31-35
37. Wilcox RB, Jones J, Siegel EJ, Higgins LD. Biceps tenodesis in a 22 year-old female softball pitcher: a case report. <i>The Orthopaedic Journal at Harvard Medical School.</i> 2013;Dec(15):42-49
38. Simovitch, Ryan W, MD, Bragg, William, MD, Higgins, LD, MD, Warner, JP, MD: Glenoid Bone Graft for Instability with Bone Loss. <i>Operative Techniques for Orthopaedic Surgery, Volume 3: Hand, Shoulder, and Elbow. Ch 6.</i> Editor: Sam W. Wiesel. 2013. Chapter. In Press.
39. Delaney, Ruth A, MD, Simovitch, Ryan W, MD, Miller, Lindsay R, BA, Higgins, LD, MD: Arthroscopic Capsular Release for Loss of Motion. <i>Operative Techniques in Orthopaedic Surgery 2nd edition, Part 1, Chapter 15.</i> Editor: Sam Wiesel. 2013. Chapter.
40. Bragg, William E, MD, Miller, Lindsay R, BA, Warner, JP, MD, Higgins, LD, MD: Reverse Shoulder Arthroplasty: Value and Reverse Total Shoulder Arthroplasty: The Boston Shoulder Institute Perspective. <i>Reverse Shoulder Arthroplasty.</i> Editor: Michael Wilt. 2013. Chapter.
41. Freehill MT, Mannava S, Higgins LD. Bennett’s Lesion of the Shoulder. <i>ISAKOS Newsletter: Current Concepts on Arthroscopy, Knee Surgery & Orthopaedic Sports Medicine.</i> 2014; Volume II.
42. Bragg, William E, MD, Miller, Lindsay R, BA, Warner, JP, MD, Higgins, LD, MD: Reverse Shoulder Arthroplasty: Value and Reverse Total Shoulder Arthroplasty: The Boston Shoulder Institute Perspective. <i>Reverse Shoulder Arthroplasty.</i> Editor: Michael Wilt. 2013. Chapter.
43. Axe, Jeremie, MD, Sinz, Nathan J, BA, Higgins, LD, MD. Operative Technique on Arthroscopic Partial-Thickness Articular-Rotator Cuff Repairs. <i>Operative Techniques in Orthopaedic Surgery.</i> Editor: Albert Lin, MD, Sam W. Wiesel. 2015. Chapter. In Press.
44. Sood, Amit, MD, Daniels, SD, BS, Higgins, LD, MD: Humeral Head Resurfacing/Replacement: Applications and Keys to Optimal Outcomes. <i>AAOS Advanced Reconstruction Series, Ch 34.</i> Editor: Stephen M. Howell. 2015. Chapter. In Press.

[Professional educational materials or reports, in print or other media](#)

Videos

Used by AAOS and Online for Physicians (VuMedi)

1. Jon J.P. Warner MD, Travis O’Brien BA, Monica Morman MD, Michael Defranco MD, Laurence D. Higgins MD. ***Open Latarjet for shoulder instability.*** Included in Ch. 10: instability and bone loss in book, Submitted to AAOS 2010 Annual Meeting.
2. Jon J.P. Warner MD, Travis O’Brien BA, Michael Defranco MD, Anshuman Singh MD, Monica Morman MD, Laurence D. Higgins MD. ***Latissimus dorsi tendon transfer for massive irreparable rotator cuff tear.*** Submitted to AAOS 2010 Annual Meeting.
3. Jon J.P. Warner MD, Zachary Zimmer BA, Travis O’Brien BA, Laurence D. Higgins MD. ***Posterior Bankart Repair in the Beach Chair Position.***
4. Jon J.P. Warner MD, Nata Parnes MD, Joshua Alpert MD, Zachary Zimmer BA, Laurence D. Higgins MD. ***Pectoralis Major Tendon Transfer for Scapular Winging.***

5. Jon J.P. Warner MD, Darren Friedman MD, Zachary Zimmer BA, Laurence D. Higgins MD. ***Hemiarthroplasty for a Comminuted Fracture of the Proximal Humerus.***
6. Harvard Shoulder Service Video Library, Harvard Medical School.
7. Jon J.P. Warner MD, Laurence D. Higgins MD, Peter Millett MD, Scott D. Pennington MD, Eric M. Berkson MD, Kyle P. Lavery BA. ***Introduction and Rationale for the Anatomical Shoulder Prosthesis.***
8. Gary Gartsman MD, Sumant Krishnan MD, Evan Flatow MD, Russell Warren MD, Laurence Higgins MD. ***How I Do a Rotator Cuff Repair.***
9. Laurence D Higgins, John Dunn, Parnes N. ***Glenosphere Conversion in the Setting of revision Inverse Prosthesis*** Harvard Shoulder Service Video Library, Harvard Medical School
10. Warner JP, Friedman DJ, Zimmer ZR, Higgins LD. Hemiarthroplasty for fractures of the proximal humerus. AAOS 2009 Annual Meeting Proceedings. Video.
11. Jon J.P. Warner MD, Jessica Wells, BA, Danny Goel, MD, James Romanowski, MD, Ifedayo Kuye, BA, Laurence D. Higgins MD. ***Scapulothoracic Fusin: Indications, Technique and Outcome.*** AAOS 2011 Annual Meeting, February 15-19, 2011 San Diego, CA. Multimedia Education Center and Featured Presentation Theatre. Award Program: MEC03 (Product no. V11003, DVD-Video, 13 minutes)
12. Invited Instructor: “Musculoskeletal Anatomy Course,” *HarvardX Massive Online Open Course (MOOC)2014.*

Abstracts, Poster Presentations and Exhibits Presented at Professional Meetings

1. Paper #21 Pectoralis Major Transfer for Treatment of Irreparable Subscapularis Tendon Tears: How Well Does It Really Work? Laurence D. Higgins, MD, Mehmet Ozbaydar, MD, Bassem Elhassan, MD, David S. Diller, BA, Daniel Massimini, BS, Jon J.P. Warner, MD ASES Specialty Day, March 8, 2008. San Francisco, CA
2. Paper #29 Management of Gleno-humeral Arthritis in Young Patients with Biological Resurfacing of the Glenoid Jon J.P. Warner, MD, Mehmet Ozbaydar, MD, Bassem Elhassan, MD, David S. Diller, BA, Daniel Massimini, BS, Laurence D. Higgins, MD. ASES Specialty Day, March 8, 2008. San Francisco, CA
3. Parnes N, Higgins LD, Thornhill T, Friedman DJ, Warner JP. Location and characteristics of re-tears of the rotator cuff after arthroscopic repair. Presented at ASES closed meeting October 24, 2009.
4. Paper #7 Timing of Rotator Cuff Repair Anshu Singh, MD, Ben Sanofsky, BA, Jae Kim, MD, Jon J.P. Warner, MD, Laurence D. Higgins, MD ASES Specialty Day. March 13, 2010. New Orleans, LA
5. PAPER #38 The Association of Long Thoracic Nerve Palsy and Suprascapular Neuropathy. Peter S. Vezeridis, MD, Robert E. Boykin, MD, Jessica Wells, BA, Laurence D. Higgins, MD, Jon J.P. Warner, MD. ASES Closed Meeting October 20-23, 2010. Scottsdale, AZ
6. Multimedia Education: Infected Total Shoulder Arthroplasty: A Novel Method for PROSTALAC Construction. Laurence D. Higgins MD, Monica Morman MD, Benjamin Sanofsky, BA, Rachel Fowler, BA. AAOS Annual Meeting 2010, New Orleans.
7. Open latarjet for shoulder instability. Laurence D. Higgins, Jon JP Warner, Travis O’Brien,

Monica Mormon, Michael DeFranco. AAOS Annual Meeting 2010.
8. Latissimus dorsi tendon transfer for massive irreparable rotator cuff tear. Laurence D. Higgins, Jon JP Warner, Travis O'Brien, Monica Mormon, Michael DeFranco, Anshuman Singh. AAOS Annual Meeting 2010.
9. Paper Presentation: #164 Complications After Arthroscopic Revision Rotator Cuff Repair – A Multi Center Study. Nata Parnes MD, Michael DeFranco MD, Jessica Wells BA, Laurence Higgins MD, Jon JP Warner MD. AAOS Annual Meeting 2011. San Diego, CA.
10. Multimedia Education: Scapulothoracic Fusion: Indications, Technique and Outcome. Jon JP Warner MD, Jessica Wells BA, Danny Goel MD, James Romanowski MD, Ifedayo Kuye BA, Laurence Higgins MD. AAOS Annual Meeting 2011. San Diego, CA.
11. Paper Presentation: #317 Infection Rate in Total Shoulder Replacement: Best Practices— Antibiotic Cement. Kevin Roth MD, Daniel Goel MD, James Romanowski MD, Jessica Wells BA, Laurence Higgins MD, Jon JP Warner, MD. AAOS Annual Meeting 2012. San Francisco, CA.
12. Paper Presentation: #503 Factors Associated with Cost and Variation in Surgical Treatment of Proximal Humeral Fractures. Nitin Jain MD, Laurence Higgins MD, Ifedayo Kuye BA, Jon JP Warner MD. AAOS Annual Meeting 2012. San Francisco, CA.
13. Scientific Exhibit SE61: Scapular Winging: A Great Masquerader of Shoulder Pathology. Umasuthan Srikumaran MD, Jessica Wells BA, Michael Freehill MD, Paul Chong MD, Laurence Higgins MD, Jon JP Warner MD. AAOS Annual Meeting 2012. San Francisco, CA.

Narrative Report

I currently serve as the Chief of the Brigham and Women's Hospital Sports Medicine and Shoulder Service in the Department of Orthopedic Surgery in Boston, MA. In this role, it is my charge to develop world class and internationally renowned programs in these subspecialties. This involves the re-organization of the current program on several fronts: academic/research, education, and clinical productivity. My background to date has provided experience in the administration and growth of each of these areas.

Research:

Historical

In 2001, I cofounded the Centers for Excellence in Surgical Outcomes (CESO) at Duke University Medical Center. This entity was funded by grants that supported Orthopedic research and introduced many medical students, residents and fellows into the field of Outcomes research. While at Duke, I also served as the Scientific Director of the Cartilage Repair Centers of America, a non-profit group that investigates and collects longitudinal data on patients with articular cartilage injuries. With Joseph Guettler, MD, we studied the effects of cartilage injuries on stress distribution in the knee and were awarded the Herodicus Award from the AOSSM.

Current

Our ongoing research is centered around well designed prospective and retrospective studies on both a clinical and basic science front. We have received grants from the OREF for many of our research projects. We have developed three prospective databases which will allow not only

improved resident and fellow education, but also prospective analyses on the outcomes of surgical treatment of shoulder problems.

1. The first database is a collection of all patients' preoperative, postoperative and intra-operative findings documented by photo and video. This will allow us to access case examples of the outcome of a variety of treatments. Currently this information is maintained in a 2-terabyte server system with off-site back-up and is fully HIPAA compliant and searchable.
2. The second database is a patient outcome database. Each patient completes a questionnaire and undergoes an extensive examination, which is documented in this database. Subsequent follow-up through questionnaires and office examinations allow for the analysis and documentation of treatments and outcomes.
3. The third database is an operative database, Surgical Outcomes System (Arthrex, Inc., Naples, FL), which allows us to record all operative findings and all treatment aspects at the time of surgery.

Other Projects:

Currently we are running two prospective cohort studies: Rotator Cuff Outcomes Workgroup (Site Investigator) and Surgical Outcome System, as well as several retrospective case series, case control studies, and cohort studies. In addition, we are working on several technique papers and diagnostic procedure studies. Details on current research studies are available by request.

Teaching:

While at Duke University, I served as the Director of the Sports Medicine and Shoulder Fellowship. I was responsible for the education of the fellows, residents and students that rotated through this division. While in this capacity, the program applied and was accredited by the American Council on Graduate Medical Education (ACGME). Additionally, I serve on the Education Committee for both the American Shoulder and Elbow Society (ASES) and the American Orthopedic Society for Sports Medicine (AOSSM). I serve as the Chair of the AAOS Sports Medicine Quality Summit Steering Committee and the Chair of the ASES Value-Based Shoulder Committee. I am currently appointed as a Lecturer in the Department of Orthopedic Surgery, Brigham & Women's Hospital, Harvard Medical School. My current role allows me to participate as a teacher and mentor for the following training programs:

1. Boston Shoulder Institute Fellowship Program at BWH & MGH: Since coming to Harvard I refined our Shoulder Fellowship which was initially partnered with the University of Zurich. This program trained twelve fellows through 2007 at which time it was discontinued in favor of a more extensive fellowship based entirely at Harvard (MGH and BWH). Today I serve as the Fellowship Program Director. We accept 4 Fellows each academic year as part of a match program administered through the American Shoulder and Elbow Surgeons (ASES). I collaborate with the MGH Co-Chief of the program, Dr. Jon JP Warner, to provide our fellows with the highest level of training in the operating room, outpatient setting and in research. In order to maintain the international flavor and to broaden the experiences of the Shoulder Fellows, we have partnered with three international experts in Shoulder Surgery. Each fellow spends two months abroad in Europe, optimizing their experience by selecting from this illustrious international faculty. Additionally, the fellow may choose to spend a

month on the Elbow Service at the Mayo Clinic, the premiere elbow fellowship.

2. Brigham and Women's Hospital Sports Medicine Fellowship: The BWH Sports Medicine Fellowship Program accepts two Sports Medicine Fellows each year as part of the ACGME accredited Fellowship program. These individuals spend 4 months rotating on my practice to learn the techniques specific to the care of complex shoulder and elbow problems.
3. Harvard Combined Orthopedic Residency Program: I am involved with our Residency training program, which collaborates with MGH, BIDMC, CHB and the VA Orthopedic Surgery Departments. Each PGY-5 Resident interested in treatment of the shoulder spends two months working with my practice.
4. The Visiting International Shoulder Scholar Program allows foreign physicians with an academic interest in shoulder problems to come and participate in research as well as observe clinical cases. This is a minimum six month commitment. Fellows have been selected from over 10 countries since 2005. Countries represented include Finland, France, Korea, Japan, Taiwan, Hong Kong, Italy, Jordan, China, Germany and Brazil.

Clinical:

My career began at Duke University, where I was an Assistant Professor of Surgery in the Division of Orthopaedics. While at Duke, I served as the Orthopaedic Team Physician for Duke University Athletics caring for all student-athletes. I was recognized for my dedication to the Men's Basketball and Lacrosse teams from 1998-2005. As such, I was responsible for the growth and budgeting for the Sport Medicine Division. In addition, I served as the Orthopaedic Team Physician for North Carolina Central University (NCCU) and was acknowledged for my commitment having the training room at NCCU named in my honor.

I maintain an extremely busy clinical and surgical practice at the Brigham and Women's Hospital working at the main campus and several of the satellite offices in the area. My clinic schedule involves two full clinic days each week. The average number of patients evaluated in the course of the week is 150. This encompasses all types of shoulder problems, including complex revision problems after failed surgery. Three full days are spent each week in the operating room for both inpatient and outpatient cases. I specialize in disorders of the shoulder, knee, and elbow as well as all sports-related injuries. I employ advanced open and arthroscopic surgical techniques to restore damaged joints, ligaments, and bones. The BWH Sports Medicine and Shoulder Service serves as a regional referral center, as well as a National and International Center for the referral of patients with difficult shoulder and sports medicine related issues. Approximately 15% of all patients are either international or from distant states. The annual number of surgical cases that I perform is between 400 and 450. My complex and revision surgeries include treatment of rotator cuff injuries, shoulder instability, complex shoulder fractures, shoulder replacement and knee instability (in particular ACL, PCL and complex ligamentous injuries). I am currently the team physician for the Brookline High school in Brookline, MA. In this role, I work in union with the high school's head athletic director and athletic trainer as the primary consult for students who are referred for sports related injuries.

