

3rd Annual
Eugene R. Mindell, M.D.
Orthopaedic Residency
Scientific Program

Department of Orthopaedics
State University of New York at Buffalo
- 2009 -
Annual Research Report



A MEMBER OF



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Chairman's Message

It is with great pleasure that I welcome you to the 3rd Annual Eugene R. Mindell, M.D. Orthopaedic Residency Scientific Program. This event serves as the culmination of the research efforts for the Department of Orthopaedics at the School of Medicine and Biomedical Sciences, State University of New York at Buffalo during the 2008-2009 academic year. I am very proud of our residents and their research accomplishments!



We are honored to have Dean G. Lorich, M.D. as our visiting professor for this year's graduation events. Dr. Lorich is the Associate Director of the Orthopaedic Trauma Service at the Hospital for Special Surgery and New York Presbyterian Hospital, as well as the Chief of Orthopaedics at New York Presbyterian Hospital. In addition, he is an Assistant Professor of Orthopaedic Surgery at the Weill Medical College of Cornell University, an Adjunct Assistant Professor at Albert Einstein School of Medicine and a member of the teaching faculty of the AO/ASIF.

This year we celebrate the success of our graduating chief residents: Thomas Duquin, M.D., Jaime Hernandez, M.D., Patrick Hlubik, M.D., and Sridhar Rachala, M.B.B.S. Their achievements have been remarkable both as clinicians and as clinician-scientists. I am very delighted to have them join the ranks as alumni and representatives of the Department of Orthopaedics at the School of Medicine and Biomedical Sciences, State University of New York at Buffalo. I have enjoyed the time they spent with us in Buffalo and wish them the very best in their future careers!

A handwritten signature in black ink that reads "Lawrence B. Bone M.D." The signature is written in a cursive, flowing style.

Lawrence B. Bone, M.D.

Professor & Department Chair

2009 Graduating Class

Thomas Duquin, M.D.

Medical School	State University of New York at Buffalo
Residency	State University of New York at Buffalo
Post Residency Plans	Mayo Clinic School of Graduate Medical Education Upper Extremity Reconstructive Surgery Fellowship



Residency Research Projects

Systematic Review of Factors Associated with Structural Healing Following Rotator Cuff Repair
Duquin T, Bisson L. Am J Sports Med. [In Press]

Squamous cell carcinoma of the thumb secondary to osteomyelitis associated with an unusual case of metastasis to the tip of the small finger Duquin T, Rauh M, McGrath B, Mindell G. Journal of Hand Surgery. [In Press]

Current trends in anterior cruciate ligament reconstruction
Duquin TR, Wind WM, Fineberg MS, Smolinski RS. Am J Knee Surg. 2009; 22(1): 7-12.

Innervation of the supinator muscle: an anatomic study
Duquin T, Chavan P, Bisson L. Poster Presentation AOSSM Annual Meeting 2009 Resident Research Presentation 2008

The effect of plantar fascia release on the transverse tarsal joint forces
Reed K, Duquin T, Axelrod J, Rohrbacher B, Mihalko W. [Submitted ORS]

Semitendinous tendon augmentation for iatrogenic medial collateral ligament injuries during total knee arthroplasty
Krackow K, Duquin T, Munjal S. [Submitted JBJS]

Arthroscopic visualization of the popliteus tendon
Finberg MS, Duquin TR, Axelrod JR. Arthroscopy. 2008; 24(2):174-7.

Repair of the ruptured distal biceps tendon: a systematic review
Chavan PR, Duquin TR, Bisson LJ Am J Sports Med. 2008; 36(8): 1618-24.

Bending strength of locking plates with and without locking screw insertion
Affonso J, Duquin T, Bone L. Poster Presentation AAOS National Meeting 2008

Tensile strength of MCL repair with and without semitendinosus augmentation
Duquin T, Wilkins R, Munjal S, Krackow K. Resident Research Presentation 2007

Location and number of cortical fixation points and the effect on reference base stability during computer-navigated total knee arthroplasty
Mihalko WM, Duquin TR, Axelrod JR, Fisher L. Journal of Arthroplasty. 2007; 22(4):605-608

Effect of one and two pin anchoring systems for reference base attachment during computer navigated TKA
Mihalko W, Duquin T, Axelrod J. Computer Aided Surgery 2006; 11: 93.

Jaime Hernandez, M.D.

Medical School	Northwestern University
Residency	State University of New York at Buffalo
Post Residency Plans	Harvard Medical School, Brigham and Women's Hospital Adult Reconstructive Surgery Fellowship



Residency Research Projects

Safe Tracker Placement in Computer-Navigated TKA
Hernandez JD, Phillips MJ, McGrath BE, Krackow KA.
Resident Research Presentation 2008
Submitted for presentation at 2010 AAOS annual meeting

Safe Angle for Suture Anchor Insertion During Acetabular Labral Repair
Hernandez JD, McGrath BE.
Arthroscopy. 2008 Dec; 24(12):1390-4.
Resident Research Presentation 2007

Tibial Wear Pattern in the Varus Osteoarthritic Knee
Hernandez JD, Krackow KA.
Resident Research Presentation 2006

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Thursday June 11, 2009

1:00 pm Interesting Cases

2:00 pm Guest Lecture

Proximal Humerus Fracture: An Old Problem with New Technology

Dean Lorich, M.D.

Chief of Orthopaedics at New York Presbyterian Hospital

Associate Director Orthopaedic Trauma Service

Hospital for Special Surgery/NYP Hospital

Friday June 12, 2009

7:30 am Refreshments

8:00 am Welcome and Introductions

Lawrence B. Bone, M.D.—Professor and Department Chair

8:15 am Scientific Session I

Medial Patellofemoral Ligament Repair at the Femoral Origin with and without Lateral Release:
A Biomechanical Study

Presenter David Privitera, M.D.

Mentor John Marzo, M.D.

Rush Rods for Use in Open Reduction and Internal Fixation of Fibula Fractures

Presenter Glen Gaebe, M.D.

Mentor Mark Anders, M.D.

Biomechanical Comparison of FiberWire and FiberTape in a Bovine Rotator Cuff Model

Presenter Leslie Manohar, M.D.

Mentor Leslie Bisson, M.D.

The Effects of Fill Volume and Fracture Severity on the Biomechanical Properties
of the Lumbar Spine After Vertebroplasty

Presenters Harvinder Bedi, M.D. and Daniel Barba, M.D.

Mentors Mark Ehrensberger, Ph.D. and Joseph Kowalski, M.D.

Hip Resurfacing Arthroplasty: The Buffalo Experience

Presenter Jesse Affonso, M.D.

Mentors Brian McGrath, M.D. and Matthew Phillips, M.D.

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Suture Bridge Repair of the Subscapularis is Stiffer and Fails at Higher Loads than Isolated Suture Repair:
A Cadaveric Study

Presenter John West, M.D.
Mentor Leslie Bisson, M.D.

10:00 am Break

10:15 am Scientific Session II

The Effects of Inflammation on the Electrochemical Properties of Titanium

Presenter Glen Rudolph, M.D.
Mentor Mark Ehrensberger, Ph.D.

How Much of the Long Head of the Biceps Tendon is Visible Arthroscopically? A Cadaveric Study

Presenter Jennifer Gurske, M.D.
Mentors Marc Fineberg, M.D. and Leslie Bisson, M.D.

Risk of Subtrochanteric Femur Fracture Following Core Decompression:

A Biomechanical Comparison of Two Techniques

Presenter Ryan Wilkins, M.D.
Mentor Mark Anders, M.D.

Does Soaking in Chlorhexidine Affect the Strength of Bone-Patellar Tendon-Bone ACL Grafts?

Presenter Joshua Jones, M.D.
Mentor Leslie Bisson, M.D.

The Effect of Longitudinal Splitting on the Energy Absorbed by a Tibialis Anterior Allograft:

Implications for Double-Bundle ACL Reconstruction

Presenter Lindsey Clark, M.D.
Mentor Leslie Bisson, M.D.

11:45 am Guest Lecture

Femoral Neck Fracture: My Thoughts!

Dean Lorich, M.D.

Chief of Orthopaedics at New York Presbyterian Hospital

Associate Director Orthopaedic Trauma Service

Hospital for Special Surgery/NYP Hospital

12:45 pm Closing Remarks

Director's Report

This marks my first year as the Director of Orthopaedic Research and my first Director's Report. It has been invigorating to be a part of the Department of Orthopaedics during such a fruitful time for its clinical and basic science research endeavors. During 2008-2009, the department has put forth 44 journal articles in press or in review, 73 conference presentations, and 19 conference posters! These are listed on the subsequent pages by first author. These impressive numbers are a testament of the department's commitment to orthopaedic research. A few of this year's highlights from the Orthopaedic Research Laboratory are summarized below.



The Orthopaedic Research Laboratory has upheld its tradition of excellence in orthopaedic biomechanics research as is evident from the seven biomechanics projects presented in this year's 3rd Annual Eugene R. Mindell, M.D. Orthopaedic Residency Scientific Program. The investigations of hard and soft tissue orthopaedic procedures conducted in the Biomechanics Lab continue to be recognized and supported by leading companies in the subspecialties of sports medicine arthroscopy, spine, trauma, and total joints.

This year also saw the expansion of scientific inquiry with the creation of the Bioelectrochemistry Laboratory within the Orthopaedic Research Laboratory. This new lab combines analytical electrochemistry, materials science, and cell biology to study the biological and electrochemical interactions present at the surface of metallic biomaterials used in orthopaedic surgery. The Bioelectrochemistry Lab was recently awarded equipment funding from the UB Center for Advanced Biomedical and Bioengineering Technology. This enabled the acquisition of a scanning electrochemical microscope to study localized corrosion and electrochemical properties of implant alloys.

Bioelectrochemistry
Laboratory



The Orthopaedic Research Laboratory is also continuing to expand its network of research collaborators within the University at Buffalo. Currently, we are engaged in projects with collaborators from the UB Schools of Medicine, Dentistry, Public Health and Health Professions, and Engineering. In addition, we are pursuing interactions with local industries serving the medical device sector.

Several members of the department have received national and regional recognition for their research efforts. Geoffrey A. Bernas, M.D. received the 2008 Excellence in Research Award presented by the American Orthopaedic Society for Sports Medicine for his biomechanical investigation of ulnar collateral ligament reconstruction of the elbow. The resident physicians have also received research accolades. Jesse Affonso, M.D. was awarded 1st prize at the 2008 WNY regional research symposium held in conjunction with the John Border Lecture for Trauma Centers for his biomechanical study of fracture fixation plates. Leslie Manohar, M.D. won 3rd prize in the 2009 University at Buffalo Annual Resident Scholarly Exchange Day for her project comparing suture-bridge and transosseous/suture anchor rotator cuff repairs. Most recently, Jennifer Gurske-DePerio, M.D. won 3rd place at the OREF Resident Symposium for her research looking at the effects of medial meniscal posterior horn avulsion and repair on meniscal displacement.

This year's research achievements most certainly would not have been possible without the hard work, insight, and dedication of research coordinator Cathy Buyea, laboratory specialist Craig Howard, and research associate Mary Bayers-Thering. Recognition also needs to be given to Tim Palaszewski, Tammy Smith, and Kathleen Lafferty for their help in organizing and producing this annual report. Our goal is to expand the scope and depth of this booklet in the years to come to showcase all of the department's scientific pursuits.

Overall, this year has been very successful and all members of the department should be commended on their contributions to this research excellence. I look forward to working with all of you as the department continues to extend its distinction in clinical and basic science orthopaedic research!

Congratulations to the graduating chief residents!

Mark T. Ehrensberger, Ph.D.

Director of Orthopaedic Research

ORTHO LAB

Scientific Activities

2008-2009 Journal Articles (44)

Anavian J, Khanna G, Plocher EK, Wijdicks CA, Cole PA. "Progressive Displacement of Scapula Fractures." *Accepted-The Journal of Trauma, Injury, Infection and Critical Care* 2009

Antoci V, Phillips MJ, Krackow KA, Antoci Jr, V. "The Treatment of Recurrent Chronic Infected Knee Arthroplasty with a 2-Stage Procedure" *Case Report Summary in Journal of Arthroplasty* 2009 24(1): 159.

Arumugam V, Lee JS, Nowak JK, Pohle RJ, Nyrop JE, Leddy JJ, Pelkman CL. "A High-Glycemic Meal Pattern Elicited Increased Subjective Appetite Sensations in Overweight and Obese Women" *Appetite* 50(2-3):215-222, 2008.

Bisson, L, Gurske, J. "Axial and Saggital Knee Geometry as a Risk Factor for Non-Contact ACL Injury: A Case-Control Study" *Arthroscopy*, in review.

Bisson, L, Sanders, S, McCormack, R, Noor, S. "Common Carotid Artery Laceration in a Profession Hockey Player" *American Journal of Sports Medicine*, in press.

Bisson LJ, Manohar LM, Wilkins RD, Gurske-Deperio J, Ehrensberger MT. "Influence of Suture Material on the Biomechanical Behavior of Suture-Tendon Specimens" *American Journal of Sports Medicine* 2008 36(5):907-912.

Bisson, LJ, Manohar LM. "A Biomechanical Comparison of Suture-Bridge and Transosseous/Suture Anchor Rotator Cuff Repairs in Human Cadavers." *Accepted- American Journal of Sports Medicine* 2009.

Bisson LJ, Moyer M, Lanighan K, Marzo, JM. "Complications Associated with Repair of a Distal Biceps Rupture Using the Modified 2-Incision Technique" *Journal of Shoulder and Elbow* 2009 17(1): S67-71.

Chavan, R, Duquin T, Bisson L. "Distal Biceps Repair: A Systematic Review" *American Journal of Sports Medicine* 2008.

DeNysschen CA, Burton HW, Horvath PJ, Leddy JJ, Browne RW. "Resistance training with soy vs. whey protein supplements in hyperlipidemic males" *Journal of the International Society of Sports Nutrition* 6:8, 2009.

Doak J, Ferrick M. "Nonoperative Management of Pediatric Grade 1 Open Fractures with Less Than a 24 Hour Admission" *Journal of Pediatric Orthopaedics* 2009; 29(1):49-51.

Duquin, T, Buyea, C, Bisson, L. "Which Method of Rotator Cuff Repair Leads to the Highest Rate of Structural Healing: A Systematic Review" *American Journal of Sports Medicine*, in press.

Duquin T, Wind W, Fineberg M, Smolinski R, Buyea C. "Current trends in anterior cruciate ligament reconstruction" *Journal of Knee Surgery* 2009; 22(1):7-12.

Ehrensberger MT, Gilbert JL. "A Time-Based Potential Step Analysis of Electrochemical Impedance Incorporating a Constant Phase Element: A Study of Commercially Pure Titanium in Phosphate Buffered Saline" *Accepted - Journal of Biomedical Materials Research* 2009.

Ehrensberger MT, Gilbert JL. "The Effect of Scanning Electrical Potential on the Short-Term Impedance of Commercially Pure Titanium in Simulated Biological Conditions" *Submitted for Review--Journal of Biomedical Materials Research* 2009.

Ehrensberger MT, Gilbert JL. "Titanium is NOT the Most Biocompatible Metal Under Cathodic Potential: The Relationship Between Voltage and MC3T3 Pre-Osteoblast Behavior on Electrically Polarized cpTi Surfaces" *Submitted for Review--Journal of Biomedical Materials Research* 2009.

Ehrensberger MT, Gilbert JL. "The Effect of Static Applied Potential on the 24 Hour Impedance of Commercially Pure Titanium in Simulated Biological Conditions" *Submitted for Review--Journal of Biomedical Materials Research* 2009.

Gerlach KE, HW Burton, JM Dorn, JJ Leddy, R. Melton and PJ Horvath. "Nutrition and Injury in Female Runners" *Journal of the International Society of Sports Nutrition* 2008 5:1.

Hamill CL, Smith JS, Shaffrey C, Berven S, Glassman S, Horton W, Ondra S, Schwab F, Shainline M, Ming Fu K, Bridwell K. "Operative versus Nonoperative Treatment of Leg Pain in Adults with Scoliosis: A Retrospective Review of a Prospective Multi-centered Database with Two-Year Follow-up"
Submitted for review - The Journal Of Bone and Joint Surgery 2008

Hein C, Gurske-Deperio J, Ehrensberger MT, Marzo J. Effects of Medial Meniscal Posterior Horn Avulsion and Repair on Meniscal Displacement. *Submitted for Review-American Journal of Sports Medicine 2009.*

Hernandez JD, McGrath BE. "Safe Angle for Suture Anchor Insertion During Acetabular Labral Repair"
Arthroscopy. 2008; 24(12):1390-4.

Horvath PJ, Lo Bue-Estes C, Browne RW, Burton H, Leddy JJ, Griffin K, and Willer B. "Salivary and plasma markers during and following short-term maximal aerobic exercise assessed during cognitive assessment"
Med. Sci. Sports Exerc 40(5):S453, 2008 (abstract)

Jordan, M., Leddy, J., Bisson, L. "Pediatric Fractures in Sports: Epidemiology and Strategies for Prevention."
Journal of Musculoskeletal Medicine. 2008;25:230-234.

Lazar MA, Plocher EK, Egol KA. "Obesity and Its Relationship With Pelvic and Lower Extremity Orthopedic Trauma."
Accepted- The American Journal of Orthopedics.

Leddy JJ, Waxmonsky JG, Salis R, Paluch RA, Gnagy EM, Mahaney, Erbe R, Pelham WE, Epstein LH. "Dopamine-Related Genotypes and The Dose Response of Methylphenidate on Eating in ADHD Youth"
Journal of Child and Adolescent Psychopharmacology (in press).

Leddy JJ, Izzo J. "Hypertension in Athletes" *Journal of Clinical Hypertension (in press).*

Leddy JJ, Kozlowski K, Donnelly JP, Pendergast, Epstein LH, Willer B. "Sub-symptom Threshold Exercise Training for Post-concussion Syndrome" *Submitted for Review-Clinical Journal of Sports Medicine.*

Leddy JJ, Kozlowski KF, Pendergast DR, Donnelly J, Fung M, and Willer B. "Quantitative Progressive Exercise Rehabilitation (QPER) for Post Concussion Syndrome" *Med. Sci. Sports Exerc 40(5):S68, 2008.*

Lo Bue-Estes C, Burton H, Leddy JJ, Willer B and Horvath PJ. "Changes in cognitive function during and following short-term maximal aerobic exercise in young women" *Med. Sci. Sports Exerc 40(5):S453, 2008.*

Lo Bue-Estes C, Willer B, Burton H, Leddy JJ and Horvath PJ. "Effect of short-term exercise to exhaustion on cognitive function in women" *Perceptual and Motor Skills 107:933-945, 2008.*

Marzo JM, Gurske-DePerio J. "Effects of medial meniscus posterior horn avulsion and repair on tibiofemoral contact area and peak contact pressure with clinical implications" *American Journal of Sports Medicine 2009 Jan;37(1):124-9.*

Marzo, JM. "Medial Meniscus Posterior Horn Avulsion" Perspectives on Modern Orthopedics
Journal of the American Academy of Orthopedic Surgery 2009 17(1), 276-283.

Mihalko WM, Munawar A, Phillips MJ, Bayers-Thering M, Krackow KA. "Passive Knee Kinematics Before and After Total Knee Arthroplasty" *Journal of Arthroplasty, Vol. 23 (1), pp. 57-60 2008.*

Munjal S, Rauh MA, Carney, K, Fineberg MS, Mihalko WM. "Fixation Strength of Tibial Inlay Graft with One versus Two Screws: A Cadaveric Study" *Orthopedics 2008*

Mutty C, Jensen E, Manka M, Anders M, Bone L. "Femoral Nerve Block for Diaphyseal and Distal Femur Fractures in the Emergency Department-Surgical Technique" *Journal of Bone and Joint Surgery 2008 90:218-226.*

Pilson H, Reddix R, Mutty C, Webb LX. "The Long Lost Art of Preoperative Planning-Resurrected?"
Orthopaedics 2008 31:1238.

Plocher EK, Anavian J, Vang S, Cole PA. "Progressive Displacement in Clavicle Fractures."
Submitted for review Journal of Shoulder and Elbow Surgery 2009

Scientific Activities

Rauh MA, and Armstrong DG. "A Retrospective Analysis of Treatments and Outcomes in Patients with Late-Onset Tibia Vara" *Orthopedics* 2008

Rauh MA, Clark LD, Krackow KA, Mihalko WM. "The Effect of Drill Hole Size on the Fixation Strength of a Cemented Prosthetic Patellar Button" *Orthopaedics* 2008;31:541.

Rauh MA, Clark L, Mutty C, and M Anders. "Utilization of the Quick Couple Drill Attachment as an Intraoperative Metal File" *American Journal of Orthopedics* 2008

Rauh MA, Duquin T, McGrath BE, Mindell EM. "Squamous Cell Carcinoma of the Thumb Associated with Tendon Sheath Spread to the Tip of the Small Finger" *Accepted-Journal of Hand Surgery* 2009.

Sanders, S, Krowka, S, Giacobbe, A, Bisson, L. "Third Degree Burn from a Grounding Pad During Arthroscopic Surgery" *Arthroscopy, in press.*

Sanders, S, Hartrich, W, Bisson, L. "Sternal Non-Union Following Sternotomy in a Professional Ice Hockey Player" *Orthopaedic Review, in press.*

Santo AS, Cunningham A M, Alhasson S, Browne RW, Burton H, Leddy JJ, Grandjean PW, Horvath SM, Horvath PJ. "NMR Analysis Does Not Increase Sensitivity to the Effect of Soy Protein on CVD Risk When Compared to the Traditional Lipid Profile" *Applied Physiology, Nutrition, and Metabolism* 33(3):489-500, 2008.

2008-2009 Conference Presentations (73)

Antoci V, Phillips MJ, Antoci Jr. V, Krackow KA. "Antibiotic-Impregnated Cement Rod-Spacer" *Paper#1552 Annual Meeting of the Orthopaedic Research Society* 2009.

Bisson, L. "Major Vessel Injuries in Hockey" *NHL Team Physicians' Meeting* 2009.

Bisson L, Kumar A. "Does gender influence meniscal tear patterns in ACL deficient knees?" *World Congress in Sports and Trauma* 2008.

Bisson, L. "Young Sports Medicine Physician's Workshop" *American Orthopaedic Society for Sports Medicine*, 2008.

Bone LB. "Fracture dislocation of the talus" *September 2008-Chairman-Masters Fracture Course*

Bone LB. "Emergency management of pelvic fractures" *September 2008-Chairman-Masters Fracture Course*

Bone LB. "Calcaneal fractures" *September 2008-Chairman-Masters Fracture Course*

Bone LB. "Damage Central Orthopaedics" *September 2008-Chairman-Masters Fracture Course*

Bone LB. "Proximal humerus fractures" *September 2008-Chairman-Masters Fracture Course*

Bone LB. "Distal humerus fractures" *September 2008-Chairman-Masters Fracture Course*

Bone LB. "Symposium: Co-management of fragility fractures patients" *October 2008 OTA*

Bone LB. "Management of distal femur fractures in the elderly "State of the Art"" *December 2008-Geriatric Fracture Course*

Bone LB. "Sub-capital hip fractures" *December 2008-Geriatric Fracture Course*

Bone LB. "New implant design for osteoporotic fractures" *December 2008-AO International Course Chairman, Masters Fracture Course*

Bone LB. "Distal femur fractures" *December 2008-AO International, Course Chairman, Masters Fracture Course*

Bone LB. "Plating of femur fractures" *March 2009-AO North America, Advanced Fracture Course*

Bone LB. "Plating of tibial fractures" *March 2009-AO North America, Advanced Fracture Course*

Bone LB. "Management of malunions" *March 2009-AO North America, Advanced Fracture Course*

Bone LB. "Fractures dislocations of the talus" *April 2009-OTA Resident Course*

Bone LB. "Treatment of elbow fracture dislocations" *April 2009-OTA Resident Course*

Clark LD, Bisson LB "The Effect of Longitudinal Splitting on the Energy Absorbed by a Tibialis Anterior Allograft: Implications for Double Bundle ACL Reconstruction"
Orthopaedic Research Education Foundation Resident Symposium, Rochester, NY (May 2009).

Ehrensberger MT. "Interfacial Bioelectrochemistry at Electrically Polarized cpTi Surfaces"
Research Seminar, Department of Oral Science, University at Buffalo 2009.

Ehrensberger MT. "Titanium is NOT the Most Biocompatible Material Under Cathodic Polarization"
Research Seminar, Restorative Dentistry Department, University at Buffalo 2009.

Ehrensberger MT. "Titanium is NOT the Most Biocompatible Material Under Cathodic Polarization"
Research Seminar, Department of Biomedical Engineering, SUNY Downstate 2009.

Errabolu J, Leddy JJ, Mitchell V. "An Uncommon Metabolic Deficiency with a Common Complaint in a College Track and Field Athlete" *AMSSM Annual Meeting 2009.*

Errabolu J and Leddy JJ. "Excema Herpeticum. A Dermatologic Emergency in a College Wrestler"
AMSSM Annual Meeting 2009.

Ferrick MR. "Osteonecrosis After Unstable Slipped Capital Femoral Epiphysis"
Lamplighters Orthopedic Association 52nd Annual Meeting 2008.

Gurske-DePerio J, Hein C, Ehrensberger MT, Marzo J. "Effects of Medial Meniscal Posterior Horn Avulsion and Repair on Meniscal Displacement"
Orthopaedic Research Education Foundation Resident Symposium, Rochester, NY (May 2009).

Horvath PJ, Lo Bue-Estes C, Browne RW, Burton H, Leddy JJ, Griffin K, and Willer B. "Salivary and plasma markers during and following short-term maximal aerobic exercise assessed during cognitive assessment"
ACSM Annual meeting 2008.

Hamill CL. "Adult Lumbar Scoliosis: State-of-the-Art Treatment (Operative and Non-operative)"
American Academy of Orthopaedic Surgeons 75th Annual Meeting 2008

Hamill CL. "Distal Anchor Selection for Adult Spinal Deformity (S1 vs S2 / ileum): The Effect on Sagittal Alignment and Outcomes" *Scoliosis Research Society 43rd Annual Meeting 2008.*

Hamill CL. "Operative versus Non-operative Treatment of Leg Pain in Adults with Scoliosis: A Retrospective Review of a Prospective Multicenter Database with Two-Year Follow-Up" *Scoliosis Research Society 43rd Annual Meeting 2008.*

Hamill CL. "Sagittal Spinopelvic Alignment Change after Lumbar Pedicle Subtraction Osteotomy: a Multicenter Analysis of 113 Patients with a Minimum 2 Years Follow-Up" *Scoliosis Research Society 43rd Annual Meeting 2008.*

Hamill CL. "The Changing Practice of Adult Spinal Deformity Surgery: An Emerging New Paradigm for Surgical Approach; Staged Procedures and Fusion Levels" *Scoliosis Research Society 43rd Annual Meeting 2008.*

Hamill CL. "Management of Pseudarthrosis: When to Operate vs. Not? How to Fix the Pseudarthrosis in Terms of Posterior-Only or Anterior and Posterior, Including Fixation Points and Bed Preparation" *Spinal Deformity Study Group Symposium: Emerging Trends and Advanced Surgical Techniques in Spinal Deformity 2008.*

Krackow, KA., Swank, ML, Wixson, RL, Stiehl, JB (moderator). "CAOS in Orthopaedic Reconstruction Instructional Course Lecture #263" *Annual Meeting of American Academy of Orthopaedic Surgeons 2008.*

Scientific Activities

- Krackow, KA, Dennis, DA, Hanssen, AD, Vince, K., Whiteside, LA, Scuderi, GR, (moderator). "Techniques in Revision Total Knee Arthroplasty Instructional Course #55K" *Annual Meeting of American Academy of Orthopaedic Surgeons 2008.*
- Krackow, KA. "Computer Navigation for Severe Deformities" *Specialty Day at the American Academy of Orthopaedic Surgeons 2008.*
- Krackow, KA. "The Role of Osteotomy: Unloading the Compartments" *Current Concepts in Joint Replacement 2008.*
- Krackow, KA (Debate) "Extra-Articular Deformity: Always Correctable Intra-Articularly (opposing view)" *Current Concepts in Joint Replacement 2008.*
- Krackow, KA. "Correcting Varus Deformity: Unbowed" *Current Concepts in Joint Replacement 2008.*
- Krackow, KA. "Computer Navigation in Orthopaedic Surgery-TKR" *Resident Graduation, Atlanta Medical Center 2008.*
- Krackow, KA. "New Perspectives in Deformity: Management at the Knee – Laboratory and Clinical Information" *Resident Graduation, Atlanta Medical Center 2008.*
- Krackow, KA. "Computer Navigation in Orthopaedic Surgery" *ORMC Grand Rounds 2008.*
- Krackow, KA. "Navigation – Understanding It and Its Place in Your Practice" *All Fellows Meeting – Homer Stryker Center 2008.*
- Krackow, KA. "Knee Alignment – What You May Not Know" *All Fellows Meeting – Homer Stryker Center 2008.*
- Krackow, KA. "Technical and Planning Tips for Staying Out of Trouble in TKR" *All Fellows Meeting – Homer Stryker Center 2008.*
- Krackow, KA. "Initial Experience with Shape Fitting Technology" *Advanced Navigated Hip and Knee Symposium 2008.*
- Krackow, KA. (moderator) "Point/Counterpoint Sessions on Tool Trackers, Ortholock Device, Gap Balancing, Navigating Tibial Rotation and ASM Navigation" *Advanced Navigated Hip and Knee Surgery Symposium 2008.*
- Krackow, KA. (Lab Leader) "Hands on Surgical Lab on Primary TKR with Navigation" *Orthopaedic Learning Center Course – Knee Arthroplasty-Uni, Total & Revision, Insight, New Techniques 2008.*
- Krackow, KA. (panel member) "Case Based Panel Discussion on Highly Crossed Linked Poly, Uncemented TKR, Gender Specificity and Modularity" *Orthopaedic Learning Center Course – Knee Arthroplasty-Uni, Total & Revision, Insight, New Techniques 2008.*
- Krackow, KA. "Preoperative Planning and Treatment Options" *Triathlon TS Meeting 2008.*
- Krackow, KA. "The Role of Osteotomy: Unloading the Compartments" *Current Concepts in Joint Replacement 2008*
- Krackow, KA. "The Krackow Stitch: Why, When and How (video)" *Current Concepts in Joint Replacement 2008.*
- Krackow, KA. "Everything You Want to Know About Computerized Knee Surgery" *Lamplighters Orthopedic Association 52nd Annual Meeting 2008.*
- Leddy JJ. "Blood Pressure Issues in Athletes" *23rd Annual Scientific Meeting of the American Society of Hypertension 2008.*
- Leddy JJ, Kozlowski K, Donnelly JP, Pendergast, Fung M, Willer B. "Quantitative Progressive Exercise Rehabilitation (QPER) for Post Concussion Syndrome" *American College of Sports Medicine Annual Meeting 2008.*
- Leddy JJ, Kozlowski K, Donnelly JP, Pendergast, Willer B. "A Controlled Trial of Sub-symptom Threshold Exercise Training for Post-concussion Syndrome" *FIFA 3rd International Conference on Concussion in Sport 2008.*

Lo Bue-Estes C, Burton H, Leddy JJ, Willer B and Horvath PJ. "Changes in cognitive function during and following short term maximal aerobic exercise in young women" *ACSM Annual meeting 2008*.

Manohar LM, Bisson, LJ. "A Biomechanical Comparison of Suture-Bridge and Transosseous/Suture Anchor Rotator Cuff Repairs in Human Cadavers" *American Academy of Orthopaedic Surgeons Annual Meeting 2009*.

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Marzo J. "Medial Patellofemoral Ligament Repair with and without Lateral Retinacular Release" *American Orthopedic Society for Sports Medicine Annual Meeting 2009*.

Marzo J. "Tibial Stress Fractures. Sports Medicine & the NFL: A Sideline Perspective." *American Orthopedic Society for Sports Medicine Annual Meeting 2009*.

Marzo J. "The Education Ladder to a Career in Sports Medicine" *Broome Tioga Scholastic Recognition June 11, 2008 Binghamton, New York*

Marzo J. "Loss of Meniscus Tissue in the Knee: Solutions to the Problem" *Lamplighters Orthopedic Association 52nd Annual Meeting 2008*.

Marzo J. "Does Use of Electrical Stimulation for Ankle Sprain Hasten Recovery?" *NFL Physicians Society Scientific Meeting 2008*

Mihalko, WM, Phillips, MJ, McQueen DA, Bach, J., Nogler, M., Krackow, KA. "Functional Flexion Axis of the Knee as a Registration Tool for Femoral Component Placement in TKA" *Paper #197. Annual Meeting of the American Association of Orthopaedic Surgeons 2008*.

Mihalko, WM, Phillips, MJ, McQueen, D., Bach, J., Nogler, M., Krackow, KA. "The Functional Flexion Axis of the Knee as a Basis for Femoral Component Positioning During TKA" *Paper #169. Annual Meeting of the Orthopaedic Research Society 2008*.

Rachala, S., Krackow, K. A., Manohar, L., Bayers-Thering, M.T., Chirumamilla, V. "Surface Temperature After Total Knee Arthroplasty" *Paper # 448 Annual Meeting American Academy of Orthopaedic Surgeons 2008*.

Rauh, MA, Munjal, S, Phillips, MJ, and KA Krackow. Surgical Navigation in Adult Reconstruction Surgery: Techniques and Clinical Experience. *Instructional Course 57 Annual Meeting of the American Association of Orthopaedic Surgeons 2008*.

Vitale MG, Privitera DM, Gomez JA, Hatsumoto H, Klinge SA, Corona J, Hyman JE, Roye DP Jr. "Pedicule Screw Placement in Pediatric Scoliosis Surgery: Do Non-Idiopathic Patients Have Higher Misplacement Rates?" *Annual Meeting American Academy of Orthopaedic Surgeons 2009*

Vitale MG, Gomez JA, Privitera DM, Hatsumoto H, Hyman JE, Roye DP Jr. "Pedicule Screw Placement after Pediatric Spinal Deformity: Do Non-Idiopathic Patients Have Higher Misplacement Rates?" *15th International Meeting on Advanced Spine Techniques 2008*

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2008-2009 Conference Posters (19)

Anavian J, Khanna G, Plocher EK, Wijdicks CA, Cole PA. "Progressive Displacement of Scapula Fractures." *55th Annual Meeting of the Orthopaedic Research Society 2009*.

Antoci, V., Phillips, MJ. Antoci Jr., V., Krackow, KA., "Mid-term to Long-Term results of Infected Total Knee Arthroplasty Treatment" *Poster #405 Annual Meeting of the Orthopaedic Research society 2008*.

Scientific Activities

Chavan R, Duquin T, Bisson L. "Distal Biceps Repair: A Systematic Review" *ISAKOS Biennial Meeting 2009*.

Clark LD, Bisson LB "Can Partial Lacerations of the Tibialis Posterior Tendon be Treated with Early Weightbearing Following Repair with Ethibond® or FiberWire®? A Biomechanical Study"
2009 University at Buffalo Annual Resident Scholarly Exchange Day.

Duquin T, Chavan R, Bisson L. "Innervation of the Supinator and its Influence on Two-Incision Distal Biceps Repair"
American College of Sports Medicine Annual Meeting 2009.

Ehrensberger MT, Gilbert JL. "The In-Vitro Response of Pre-Osteoblast Cells Cultured on Electrically Polarized Titanium: Implications for Fretting Corrosion of Modular Joint Replacements"
Gordon Research Conference-Bioelectrochemistry

Ehrensberger MT, Gilbert JL. "Electrochemical Thresholds for Pre-Osteoblast Behavior on Electrically Polarized cpTi: Implications for Modular Implant Fretting Corrosion" *55th Annual Meeting of the Orthopaedic Research Society 2009*.

Gurske-DePerio J, Marzo J. "Effects of Medial Meniscus Posterior Horn Avulsion and Repair on Medial Compartment Tibiofemoral Contact Area and Peak Contact Pressure"
American Orthopaedic Society for Sports Medicine Annual Meeting 2008.

Gurske J, Fineberg M, Bisson L. "Which Methods of Distal Biceps Repair Will Allow Immediate Active Motion?"
Arthroscopy Association of North America Annual Meeting 2009.

Gurske-DePerio J, Marzo J. "Effects of Medial Meniscus Posterior Horn Avulsion and Repair on Medial Compartment Tibiofemoral Contact Area and Peak Contact Pressure" *Arthroscopy Association of North America Annual Meeting 2009*.

Gurske-DePerio J, Marzo J. "Effects of Medial Meniscus Posterior Horn Avulsion and Repair on Medial Compartment Tibiofemoral Contact Area and Peak Contact Pressure"
2009 University at Buffalo Annual Resident Scholarly Exchange Day.

Jones JL, McGrath BE, Tetro M. "Reconstruction following Oncologic Resection of the Proximal Humerus and Rotator Cuff using Allograft Bone and Reverse Total Shoulder Arthroplasty" *submitted Connective Tissue Oncology Society 2009*

Manohar LM, Wilkins R, Gurske-Deperio J, Ehrensberger MT, Bisson LJ. "Influence of Suture Material on the Biomechanical Behavior of the Suture-Tendon Interface: A Controlled Study in Bovine Rotator Cuff Specimens."
Arthroscopy Association of North America Annual Meeting 2008.

Manohar LM, Bisson, LJ. "A Biomechanical Comparison of Suture-Bridge and Transosseous/Suture Anchor Rotator Cuff Repairs in Human Cadavers" *Arthroscopy Association of North America Annual Meeting 2009*.

Manohar LM, Bisson, LJ. "A Biomechanical Comparison of Suture-Bridge and Transosseous/Suture Anchor Rotator Cuff Repairs in Human Cadavers" *2009 University at Buffalo Annual Resident Scholarly Exchange Day*.

Marzo J. "Use of a Non-Cannulated screw for Difficult 5th Metatarsal Fractures in Athletes"
NFL Physicians Society Scientific Meeting 2008.

Mihalko WM, Phillips MJ, Rakebrand E, Kilma St, Stock T, Krackow KA. "Variability of Digitizing the Epicondylar Axis Using CT Scan Based Imaging"
Annual Meeting of the American Association of Orthopaedic Surgeons 2008.

Mihalko WM, Rakebrand E, Klima S, Stock T, Krackow, KA. "Variation in the Registration of the Epicondylar Axis During Computer Navigated TKA"
Annual Meeting of the Orthopaedic Research Society 2008.

Mihalko W, Bayers-Thering MT, Krackow KA, "Relationship of the Femoral Epicondylar Axis in Deformed Osteoarthritic Knees"
Annual Meeting American Academy of Orthopaedic Surgeons 2009.

Plocher EK, Anavian J, Vang S, Cole PA. "Progressive Displacement in Clavicle Fractures."
55th Annual Meeting of the Orthopaedic Research Society 2009.

2009 Residents & Fellows

Graduating Residents

Thomas Duquin, M.D.
Jaime Hernandez, M.D.
Patrick Hlubik, M.D.
Sridhar Rachala, M.B.B.S.

Orthopaedic Residents

Jesse Affonso, M.D.
Lindsey Clark, M.D.
Jennifer Gurske, M.D.
Leslie Manohar, M.D.

Harvinder Bedi, M.D.
Glen Gaebe, M.D.
Joshua Jones, M.D.
Glen Rudolph, M.D.

Daniel Barba, M.D.
David Privitera, M.D.
John West, M.D.
Ryan Wilkins, M.D.

Donald Hohman, Jr., M.D.
Elizabeth Plocher, M.D.
Kory Reed, M.D.
Nikola Zivaljevic, M.D.

Orthopaedic Sports Medicine Fellows

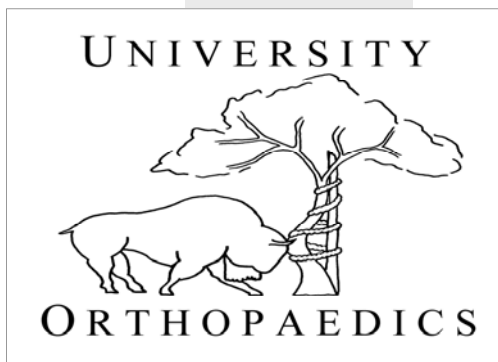
John Gibbs, D.O.
Samuel Sanders, M.D.

Primary Care Sports Medicine Fellows

Jeevan Errabolu, M.D.
Pandu Sridhar, M.D., M. P. H.

Hand Fellows

Matthew Loos, M.D.
Nabeel Khan, M.D.



Faculty

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Spine Surgery

Kenneth A. Krackow, M.D.
Lower Extremity Joint Replacement & Reconstruction

Brian E. McGrath, M.D.
*Adult Reconstruction,
Hip Arthroscopy & Orthopaedic Oncology*

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Professor Emeritus

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Lower Extremity Joint Replacement & Reconstruction

Mario D. Santilli, M.D.
Lower Extremity Joint Replacement & Reconstruction

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Trauma Surgery & General Orthopaedics

Lawrence B. Bone, M.D.
Trauma & Reconstructive Surgery

James J. Czorny, M.D.
Rehabilitation Medicine

Joseph M. Kowalski, M.D.
Spine Surgery

Christopher E. Mutty, M.D.
Trauma Surgery & General Orthopaedics

Christopher A. Ritter, M.D.
Foot & Ankle Surgery, Trauma Surgery

Bernhard J. Rohrbacher, M.D.
Foot & Ankle Surgery

Philip M. Stegemann, M.D.
Shoulder Surgery & General Orthopaedics

Orthopaedic Research Laboratory

Mark T. Ehrensberger, Ph.D.
Director of Orthopaedic Research

University Sports Medicine

Geoffrey A. Bernas, M.D.
Sports Medicine, Knee & Shoulder Arthroscopy

Leslie J. Bisson, M.D.
Sports Medicine, Knee & Shoulder Arthroscopy

Scott R. Darling, M.D.
Primary Care Sports Medicine

David M. Davidson, D.P.M.
Sports Podiatry

Marc S. Fineberg, M.D.
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Rajiv K. Jain, M.D.
Primary Care Sports Medicine

John J. Leddy, M.D.
Primary Care Sports Medicine

John M. Marzo, M.D.
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