

**EDUCATION**

- Doctorate of Medicine, Georgetown University School of Medicine, Washington, D.C.; Degree Received-May 1994
- Bachelor of Arts in Biological Science, Rutgers College, Rutgers University, New Brunswick, New Jersey; Degree Received-May 1990

**Honors:**

Henry Rutgers Scholar, 1990

**POSTDOCTORAL TRAINING**

- Transitional Internship, Walter Reed Army Medical Center, Washington, D.C.; Completed-June 1995
- Research Fellowship, Johns Hopkins University, Baltimore, M.D.; July 1998-June 1999.
- Orthopaedic Surgery Residency, Walter Reed Army Medical Center, Washington, D.C.; Completed July 2002
- Pediatric Orthopaedic Fellowship, San Diego Children's Hospital, San Diego, C.A.; Completed August 2003

**ACADEMIC POSITIONS**

- Assistant Professor, F. Edward Hebert School of Medicine, Uniformed University of the Health Sciences, 2005-present
- Teaching Fellow, F. Edward Hebert School of Medicine, Uniformed University of the Health Sciences, 2001-2005
- Director, Pediatric Orthopaedic Surgery, Walter Reed Army Medical Center, 2004-present
- Director, Orthopaedic Research, Walter Reed Army Medical Center, 2006-present

**PROFESSIONAL EXPERIENCE**

- Director, Pediatric Orthopaedics, Walter Reed Army Medical Center (2004-2008); Interim Medical Director, Gait and Motion Analysis Lab (2008); Director, Orthopaedic Research; (2007): Coordinate clinical and basic science research for the orthopaedic surgery service; provide pediatric and general orthopaedic care to military beneficiaries referred to Walter Reed Army Medical Center. Provide pediatric and general orthopaedic training for orthopaedic residents.
- Staff Orthopaedic Surgeon, 121 General Hospital: Provided general orthopaedic care to military beneficiaries in South Korea
- General Medical Officer Walter Reed Army Medical Center Orthopaedic Surgery Clinic: Provided general orthopaedic outpatient care to patients referred to the Walter Reed orthopaedic clinic and fracture clinic; provided inpatient orthopaedic consultation care
- Field Surgeon/Officer-in-Charge Camp Red Cloud Troop Medical Clinic: Provided primary care services and twenty-four hour emergency care to over 5,000 patients in the Uijongbu region, Korea; assisted in orthopaedic surgeries at the 121st Evacuation

Hospital; supervised fifteen to twenty medics, practical nurses, lab technicians, and radiology technicians; conducted medical training including an Algorithm Directed Troop Medical Care course and mass casualty drills-August 1995-September 1996

- Urology Teaching Assistant: Instructed medical students in physical exam methods, Georgetown University School of Medicine, Washington, D.C., 1993
- General Anatomy Teaching Assistant: Selected to assist in instruction of General Anatomy course, Georgetown University School of Medicine, Washington, D.C., 1991

### **AREAS OF CONCENTRATION**

- Pediatric Orthopaedic Sports Medicine and Trauma

### **MILITARY EXPERIENCE**

- Director, Pediatric Orthopaedics-Walter Reed Army Medical Center-September 2004-present
- Orthopaedic Surgeon-121 General Hospital-September 2003-August 2004
- Orthopaedic Surgery Resident-Walter Reed Army Medical Center-July 1997-July 2002
- Orthopaedic Clinic General Medical Officer-Walter Reed Army Medical Center-October 1996-June 1997
- Officer-in-Charge, Camp Red Cloud Troop Medical Clinic, Korea-August 1995-September 1996
- Transitional Intern-Walter Reed Army Medical Center-June 1994-June 1995
- Four Year Scholarship Recipient, Rutgers Reserve Officer Training Course, New Brunswick, NJ-1985-1990

### **MILITARY MEDICAL TRAINING**

- Basic Cardiac Life Support-July 2008
- Orthopaedic Educator's Course-November 2004
- Advanced Trauma Life Support September 2003
- Basic Microvascular Surgery Course-May 1997
- Expert Field Medical Badge Training-May 1996
- Medical Management of Chemical Casualties-August 1995
- AMEDD Officer Basic Course-July-August 1995
- Combat Casualty Care Course-October 1994

### **Awards/Honors:**

- Meritorious Service Medal- 2008
- Iraq Campaign Medal-2008
- Consumers' Research Council of America, *Americas Top Orthopedists*, 2007
- Army Commendation Medal-2008, 2007, 2004, 2002, 1996
- Global War on Terrorism Ribbon-2003
- Korean National Defense Ribbon-2003
- Army Achievement Medal-2002, 2001

- Norman T Kirk Award-Best Resident/Fellow Paper, 41<sup>st</sup> Annual Meeting of the Society of Military Orthopaedic Surgeons-1999
- Army Physical Fitness Patch-2006, 2004, 2003, 2002, 2001, 2000, 1999, 1998, 1997, 1996, 1995
- National Defense Service Medal-2001, 1994
- Parachutist Badge-1997
- Overseas Service Ribbon-1996
- Expert Field Medical Badge-1996
- Commandants List, Officer Basic Course-1995
- Army Service Ribbon-1994

## **RESEARCH**

### **Scientific Posters:**

- Mack A, Helgeson M, Tis J: “Contralateral Structural Cortical Autograft Use In Treatment Of An Open Periarticular Knee Fracture With Segmental Bone Defect To Perform Knee Arthrodesis”; 49th Annual Meeting of The Society Of Military Orthopaedic Surgeons-December, 2007
- Cuenca R, Kilcoyne K, Groth A, Tis J, Frisch H: “Arthrodesis for Complex Periarticular Knee Fractures in operation Iraqi freedom soldiers: a case series”; 48th Annual Meeting of The Society Of Military Orthopaedic Surgeons-December, 2006
- Newton P, Upasani V, Tis J, Gaynor T, Pawelek J, Marks M, Lonner B, Crawford A: “Does Sagittal Alignment Differ Between Thoracic And Thoracolumbar Curves In Adolescent Idiopathic Scoliosis?”; Annual Meeting Of The Pediatric Orthopaedic Society Of North America-May, 2006
- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, and Chao E: “The Effect of Pulsed Electromagnetic Fields on Maturation of Regenerate Bone in a Rabbit Limb Lengthening Model”; 49th Annual Meeting of the Orthopaedic Research Society-February, 2003
- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, and Chao E: “The Effect Of Early Stimulation With Low Intensity Pulsed Ultrasound On Distraction Osteogenesis. Radiographic, Biomechanical And Histomorphometric Analysis In A Rabbit Model”; 49th Annual Meeting of the Orthopaedic Research Society-February, 2003
- McHale K, Tis J, Miranda J: “Arthroscopy, Manipulation, Debridement, and Chondroplasty for the Post-Traumatic Ankle”; 43rd Annual Meeting of The Society Of Military Orthopaedic Surgeons-December, 2001
- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, and Chao E: “The Effect of Early Stimulation with Low Intensity Pulsed Ultrasound on Maturation of Regenerate Bone After Limb Lengthening”; 114th Annual Meeting of the American Orthopaedic Association, Palm Beach, Florida, June, 2001
- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, and Chao E: The Effect of Early Stimulation with Low Intensity Pulsed Ultrasound on Maturation of Regenerate Bone After Limb Lengthening. The 7th Meeting of the International Society for Fracture Repair, Hong Kong, September, 2000.
- Tis J, Jones K, Inoue N, Frassica F, Chao E: “Microstructural, Densitometric, And Biomechanical Properties Of Regenerated Bone After Distraction Osteogenesis”; 46<sup>th</sup> Annual Meeting of the Orthopaedic Research Society-March, 2000

- Meffert R, Inoue N, Tis J, McCarthy E, Brug E, Chao E: “Primary Resective Shortening Followed by Distraction Osteogenesis for Limb Reconstruction: A Comparison to Simple Lengthening”; 46<sup>th</sup> Annual Meeting of the Orthopaedic Research Society-March, 2000
- Meffert R, Inoue N, Tis J, McCarthy E, Brug E, Chao E: “Distraction Osteogenesis After Primary Limb Shortening in Tibial Bone Defects: A Comparison Of Two Techniques”; 67<sup>th</sup> Annual Meeting of the American Academy Orthopaedic Surgeons-March, 2000
- Meffert R, Tis J, Chao E: “Mechanical Environment for External Long Bone Fixation and Distraction Osteogenesis in the Rabbit Model”; Jahres Kongress-September, 1999

\*(*Winner, Best Poster award*)

- Meffert R, Tis J, Chao E: “The Rabbit Model for Distraction Osteogenesis: A Biomechanical Comparison of Two External Fixators”; Vortagsanmeldung-April, 1999
- Tis J, Kuklo T, Schaeffer R: “Fatal Rhabdomyolysis Complicated by Bilateral Gluteal, Thigh and Leg Compartment Syndrome Following the Army Physical Fitness Test”; 40th Annual Meeting of The Society Of Military Orthopaedic Surgeons-December, 1998

#### **Scientific Presentations:**

- Helgeson M, Tis J, Dmitriev A, Mack A, Lehman R: “Biomechanical analysis of four modern lumbosacral fixation techniques”; 49th Annual Meeting of The Society Of Military Orthopaedic Surgeons-December, 2007
- Mack A, Helgeson M, Frisch H, Tis J: “Mesenchymal stem cell bone matrix product use in treating segmental lower extremity fracture defects sustained in combat-related injuries”; 49th Annual Meeting of The Society Of Military Orthopaedic Surgeons-December, 2007
- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, and Chao E: “The effect of early stimulation with low intensity pulsed ultrasound on distraction osteogenesis. radiographic, biomechanical and histomorphometric analysis in a rabbit model”; 23rd Annual Uniformed Services University Surgical Associates Day-June,2003
- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, and Chao E: “The effect of pulsed electromagnetic fields on maturation of regenerate bone in a rabbit limb lengthening model”; 44th Annual Meeting of The Society Of Military Orthopaedic Surgeons-December, 2002
- Tis J, Klemme W, Murphy K, Kirk K, Cunningham B: “A biomechanical comparison of braided and unbraided hamstring tendons for reconstruction of the anterior cruciate ligament”; 35th Annual American Orthopaedic Association Residents Conference-April, 2002
- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, and Chao E: “The effect of pulsed electromagnetic fields on maturation of regenerate bone in a rabbit limb lengthening model”;35th Annual American Orthopaedic Association Residents Conference-April, 2002
- Tis J, Klemme W, Murphy K, Kirk K, Cunningham B: “A biomechanical comparison of braided and unbraided hamstring tendons for reconstruction of the anterior cruciate

ligament”; 43rd Annual Meeting of The Society Of Military Orthopaedic Surgeons-December, 2001

- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, and Chao E: “The effect of early stimulation with low intensity pulsed ultrasound on distraction osteogenesis. radiographic, biomechanical and histomorphometric analysis in a rabbit model”; 34th Annual American Orthopaedic Association / Orthopaedic Research and Education Foundation Residents Conference, Hershey, PA, March, 2001
- *\*(Winner, 2001 AOA-Zimmer Travel Award for Orthopaedic Residents)*
- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, Chao E: “The effect of early stimulation with low intensity pulsed ultrasound on maturation of regenerate bone after limb lengthening”; ASAMI-North America 11<sup>th</sup> Annual Meeting-February, 2001
- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, Chao E: “The effect of early stimulation with low intensity pulsed ultrasound on maturation of regenerate bone after limb lengthening”; 42<sup>nd</sup> Annual Meeting of The Society Of Military Orthopaedic Surgeons-November 2000
- Tis J, Jones K, Inoue N, Meffert R, Chao E: “The Ability Of DEXA To Predict Mechanical Properties Of Regenerate Bone In A Rabbit Model”; 7<sup>th</sup> Meeting of the International Society For Fracture Repair-September, 2000
- Inoue N, Tis J, Taylor K, McHale K, Chao E: “Effect of Low Intensity Pulsed Ultrasound (LIPU) on Distraction Osteogenesis in a Rabbit Model”; 7<sup>th</sup> Meeting of the International Society For Fracture Repair-September, 2000
- Taylor K, Rafiee B, Inoue N, Tis J, McHale K, Chao E: “The effect of early stimulation with low intensity pulsed ultrasound on maturation of regenerate bone after limb lengthening”; 7<sup>th</sup> Meeting of the International Society For Fracture Repair-September, 2000
- Meffert R, Tis J, Inoue N, Chao E: “Primary Limb Shortening To Treat Diaphyseal Bone Defects: An Experimental Comparison Of Two Reconstruction Techniques”; 67<sup>th</sup> Annual Meeting of the American Academy Orthopaedic Surgeons-March, 2000
- Tis J, Meffert R, McHale K, Chao E: “The Effect of Low Intensity Pulsed Ultrasound on Post-Distraction Callus in a Rabbit Model”; ASAMI-North America 10<sup>th</sup> Annual Meeting-March, 2000
- Meffert R, Tis J, Inoue N, Chao E: “Distraction Osteogenesis After Primary Limb Shortening In Experimentally Induced Tibial Bone Defects”; ASAMI-North America 10<sup>th</sup> Annual Meeting-March, 2000
- Cullinane D, Inoue N, Meffert R, Tis J, Rafiee B, Chao E: “Regulating Bone At The Cellular Level: A Little Evidence For Wolff’s Law”; The Annual Meeting Of The Society For Integrative And Comparative Biology-January, 2000
- Meffert R, Tis J, Inoue N, Chao E: “Limb Reconstruction After Primary Shortening in Experimentally Induced Tibial Defects in a Rabbit Model”; 41<sup>st</sup> Annual Meeting of The Society Of Military Orthopaedic Surgeons-October 1999
- *\*(Winner, Kirk Award for best resident/fellow presentation)*
- Tis J, Meffert R, Machen M, Inoue N, McHale K, Chao E: “The Effect of Low Intensity Pulsed Ultrasound on Post-Distraction Callus in a Rabbit Model”; 41<sup>st</sup> Annual Meeting of The Society Of Military Orthopaedic Surgeons-October 1999

- Meffert R, Tis J, Inoue N, Brug E, Chao E: “Distraction Osteogenesis After Primary Limb Shortening in Experimentally Induced Tibial Bone Defects”; Jahres Kongress-September, 1999
- Tis J, Machen M, Meffert R, Inoue N, McHale K, Chao E: “The Effect of Low Intensity Pulsed Ultrasound on Regenerate Bone in a Biomechanically Unstable Environment”; (Finalist) 19th Annual Uniformed Services University Surgical Associates Day-March, 1999
- Tis J, Machen M, Meffert R, Inoue N, Chao E, McHale K: “Low Intensity Ultrasound For Maturation Of Regenerate Bone After Limb Lengthening: A Pilot Study”; 40th Annual Meeting of The Society Of Military Orthopaedic Surgeons-December 1998
- Tis J, Berrey H, Temple H: “Recognition and Treatment of Osteosarcoma in the Military Healthcare System”; 36th Annual Meeting of The Society Of Military Orthopaedic Surgeons-November 1994
- Tis, J : “Dehydration and Rehydration in the Yucatan Miniature Swine: A Model for Voluntary Dehydration”; Presented as a Henry Rutgers Thesis-May 1990

**Publications:**

- Mack AW, Helgeson MD, Tis JE. Contralateral structural femoral autograft use in treatment of an open periarticular knee fracture to perform knee arthrodesis. *J Orthop Trauma*. 2008 Sep;22(8):576-80.
- Baum B, Lipton J, Schnall B, Tis J. Correlation of residual limb length and gait parameters in amputees. *Injury*. 2008;39:728-733.
- Tis J, Lehman R. Anterior approaches to the distal lumbar spine and sacrum. In Bridwell ed. *Operative Spine Surgery*: Lippincott Williams & Wilkins 2008: In Press (accepted 12/07)
- Tis J, Kuklo T. Costotransversectomy. In Vaccaro and Albert eds. *Spine Surgery: Tricks of the Trade*. New York. Thieme Medical Publishers 2007: In Press
- Taylor K, Rafiee B, Tis J, Inoue N. Low-intensity pulsed ultrasound does not enhance distraction callus in a rabbit model. *Clin Orthop Relat Res*. 2007 Jun;459:237-45.
- Upasani V, Tis J, Bastrom T, Pawelek J, Marks M, Lonner B, Crawford A, Newton P. Analysis of sagittal alignment in thoracic and thoracolumbar curves in adolescent idiopathic scoliosis: how do these two curve types differ? *Spine*. 2007 May 20;32(12):1355-9.
- Freedman B, Lin D, Tis J. Pigmented villonodular synovitis of the calcaneocuboid joint in an 11 year old child with subtalar coalition. *Foot Ankle Int*. 2007 Apr;28(4):1-5.
- Tis J, Sharif S, Shannon B, Dabney K, Miller F. Complications associated with multiple, sequential osteotomies for children with cerebral palsy. *J Pediatr Orthop B*. 2006 Nov;15(6):408-13.
- Taylor K, Inoue N, Rafiee B, Tis J, McHale K, Chao E. Effect of pulsed electromagnetic fields on maturation of regenerate bone in a rabbit limb lengthening model. *J Orthop Res*. 2006 Jan;24(1):2-10.
- Elomrani N, Kasis A, Tis J, Saleh M. Outcome after foot and ankle deformity correction using circular external fixation. *Foot Ankle Int*. 2005 Dec;26(12):1027-32.

- Jones K, Inoue N, Tis J, McCarthy E, McHale K, Chao E. Quantification of the microstructural anisotropy of distraction osteogenesis in the rabbit tibia. *Iowa Orthop J.* 2005;25:118-22.
- Tis J, Kuklo T. Fracture Risk, Bone Densitometry and the Medical Management Of Osteoporosis. *Seminars in Spine Surgery.* 2005; 17(4):137-43.
- Tis J, Reiter F, Saleh M. Treatment of a supracondylar femoral nonunion in a patient with osteoporosis by square osteotomy and acute shortening. *Injury.* 2005 Mar;36(3):454-7.
- Tis J, Chambers H, Ball S. Transtalar Drilling of Osteochondral Lesions of the Talus in Children and Adolescents. *Techniques in Foot & Ankle Surgery.* 2004; 3(1):62-7.
- Machen M, Tis J, Inoue N, Meffert R, Chao E, McHale K. The effect of low intensity pulsed ultrasound on regenerate bone in a less-than-rigid biomechanical environment. *Biomed Mater Eng.* 2002;12(3):239-47.
- Tis J, Klemme W, Kirk K, Murphy K, Cunningham B. Braided hamstring tendons for reconstruction of the anterior cruciate ligament. A biomechanical analysis. *Am J Sports Med.* 2002 Sep-Oct;30(5):684-8.
- Tis J, Meffert R, Inoue N, McCarthy E, Machen M, McHale K, Chao E. The effect of low intensity pulsed ultrasound applied to rabbit tibiae during the consolidation phase of distraction osteogenesis. *J Orthop Res.* 2002 Jul;20(4):793-800.
- Meffert R, Inoue N, Tis J, Brug E, Chao E: Distraction Osteogenesis After Primary Limb Shortening in Tibial Bone Defects: A Comparison Between Monofocal And Bifocal Techniques In Rabbits. *J. Bone Joint Surg., 82A:* 799-808, 2000.
- Kuklo T, Tis J, Moores L, Schaeffer R: Fatal Rhabdomyolysis With Bilateral Gluteal, Thigh And Leg Compartment Syndrome Following The Army Physical Fitness Test: A Case Report. *Am. J. Sports Med., 28(1):* 112-116, 2000.
- Meffert R, Tis J, Inoue N, McCarthy E, Brug E, Chao E: Primary Resective Shortening Followed by Distraction Osteogenesis for Limb Reconstruction: A Comparison with Simple Lengthening. *J. Orth. Res., 18(4):*629-636, 2000.
- Meffert R, Tis J, Lounici S, Rogers J, Inoue N, Chao E: Comparison of two systems for tibial external fixation in rabbits. *Lab Anim Sci., 49(6):* 650-654, 1999.
- Tis J, Berrey H, Temple H: Recognition and Treatment of Osteosarcoma in the Military Healthcare System. *Military Medicine, 163, 3:* 169-173, 1998.

Invited Lectures:

- Treatment of modern military blast wounds of the lower extremities, Orthofix Trauma Course, Verona Italy, June 17, 2007.
- Hip arthroscopy in children, Texas Children's Hospital, Houston, TX, April 1<sup>st</sup>, 2007.
- Treatment of lower extremity blast injuries: one pediatric orthopaedic surgeon's experience, Orthofix exhibit at the American Academy of Orthopaedic Surgeons Annual Meeting, San Diego, 2007.
- American Academy of Orthopaedic Surgeons Board Maintenance of Certification Preparation and Review, Pediatric Section, Washington, DC, Nov 18, 2006.

- Treatment of bone deficits with bifocal versus monofocal lengthening, Treatment of Blast Injuries Regional Ilizirov Course, Washington, DC Nov, 2001.

**GRANTS:**

- The Effects Of Amputation Level On Transfemoral Amputee Function-A Pilot Study. Military Amputee Research Project (LOG# P05-A002); \$50,000; awarded March 2006.

**CERTIFICATIONS**

- Board Certified; American Board of Orthopaedic Surgery-July 2015
- License to Practice Medicine and Surgery; State of Virginia- April 2010
- License to Practice Medicine and Surgery; State of California- April 2010
- Advanced Trauma Life Support-September 2008
- Basic Cardiac Life Support-July 2007

**MEMBERSHIPS/EXTRACURRICULAR ACTIVITIES**

- Arthroscopy Association of North America-associate member-2002-2007
- Scoliosis Research Society-candidate member-2005-present
- Pediatric Orthopaedic Society of North America-2006-present
- American Academy of Orthopaedic Surgeons-Fellow-2005-present
- Veteran Corps. Of Artillery-1995-present
- Society of Military Orthopaedic Surgeons-1999-2002