

Michael Patrick Horan

Moore Pediatric Orthopaedics
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EDUCATION and PROFESSIONAL TRAINING

- 2010-2011 **Fellowship in Pediatric Orthopaedic Surgery**
Columbia University / Morgan Stanley Children's Hospital of New York Presbyterian
New York, NY
- 2006-2010 **Residency in Orthopaedic Surgery**
University of Kentucky Department of Orthopaedic Surgery
Lexington, KY
- 2005-2006 **Internship in General Surgery / Orthopaedic Surgery**
University of Kentucky Department of Surgery / Orthopaedic Surgery
Lexington, KY
- 2001-2005 **Doctorate in Medicine**
Medical University of South Carolina
Charleston, SC
- 1997-2000 **Master of Science, Biomechanical Engineering**
Clemson University Graduate School
Clemson, SC
- 1992-1997 **Bachelor of Science, Mechanical Engineering**
Clemson University College of Engineering
Clemson, SC
- 1989-1992 **High School, Salutatorian**
Benedictine Military School
Savannah, GA

EMPLOYMENT HISTORY

- 2011-Present **Pediatric Orthopaedic Surgeon**
Moore Pediatric Orthopaedics, Division of Moore Orthopaedic Clinic
Columbia, South Carolina
Admitting and Surgical Privileges at Palmetto Richland Children's Hospital and Providence Hospital
- 2000-2001 **Stryker Spine Division of Stryker Corporation**
Spinal Implant Development Engineer
- 1997-2000 **Clemson University Bioengineering / Mechanical Engineering Department**
Research Assistant
- 1996-1997 **Maxfli™ / Clemson University Mechanical Engineering Department**
Testing Engineer
- 1994-1996 **Great Dane Trailers Limited Partnership™**
Research and Design Engineering Intern

LICENSURE

- 2011-2012 South Carolina State Medical License #33789
- 2010-2013 New York State Medical License #257503-1
- 2005-2010 Kentucky Resident Medical License #R1278

CERTIFICATIONS

Current Certified in Basic Life Support (BLS)
Current Certified in Advanced Cardiac Life Support (ACLS)

TEACHING EXPERIENCE

2010-2011 Columbia University Pediatric Orthopaedic Fellow with direct resident supervision
2005-2010 University of Kentucky Orthopaedic Splinting Workshop Instructor
2003-2004 MUSC Immunological Basis of Disease, Supplemental Instructor
1999-2000 Clemson University Dept of Bioengineering, Biomechanics Teaching Assistant
1998-1999 Clemson University Dept of Bioengineering, Biomechanics of Sports Teaching Assistant
1997-1998 Clemson University Dept of Bioengineering, Biomedical Design Teaching Assistant

PATENTS AND DISCLOSURES

US PATENT 6,974,460. Biased Angulation Bone Fixation Assembly. Issued December 13, 2005
No Immediate Financial Relationships with Industry Sources

BOOK CHAPTERS

Horan MP, Milbrandt TA, Talwalkar V, Iwinski H. *Pediatric Diskitis*, in Essential Orthopaedics, Miller et al ed. 2009
Horan MP, Walker F, Milbrandt TA. *The Pediatric Physical Exam*, in Rang's Pediatric Orthopaedics, Miller ed. 2008
Horan MP and An YH. *Mechanical Testing of Bone*, in The Encyclopedia of Bioengineering, Katz J Ed. 2006

PEER REVIEWED PUBLICATIONS

Horan MP, Williams BA, Mackenzie WGS, Matsumoto H, Covington L, Saiman LR, Vitale MG. Can infection following scoliosis instrumentation surgery be a 'never event'? : dramatic reduction in infection rates at one institution after implementation of a multimodal prevention protocol. *J Child Orthop*. 2011; 5: S41
Tylkowski, C, Horan MP, Oeffinger D. Outcomes of Gastrocnemius-soleus Complex Lengthening for Isolated Equinus Contracture in Children With Cerebral Palsy. *Journal of Pediatric Orthopaedics*: October/November 2009, Volume 29, Issue 7, pp 771-778
Horan MP, Milbrandt T. Scoliosis in pediatric patients: Comorbid Disorders and Screening. *Pediatric Health*, October 2009, Vol. 3, No. 5, pp 451-456
Horan MP, Blankenship JS, Iwinski HJ. Recent Developments in Functional Assessment Tools for Ambulatory Cerebral Palsy. *Current Orthopaedic Practice: SPECIAL FOCUS: Pediatric Orthopaedics*. November 2008, Volume 19, Issue 6, pp 667-670
Horan MP. Mechanical Failure of Spinopelvic Fixation Systems During Surgical Correction of Pelvic Obliquity Associated with Neuromuscular Scoliosis: Master's Research Presented to the Bioengineering Department at Clemson University. Aug 2001

NON-PEER REVIEWED PUBLICATIONS

Dedmond B, Horan MP, An Y, Koon DE. Fixation of the Clavicle with a Locking Compression Plate: A Biomechanical Study. *University of South Carolina/ Richland Memorial Hospital Orthopaedic Journal*: V2, pp 81-85; June 2004
Merritt J, Horan MP, Shereff MJ. Lis-Franc Fracture Dislocations: a Mechanical study of ORIF vs. Percutaneous Pinning. *Medical University of South Carolina Orthopaedic Journal*: V7, pp 35-39; June 2004
Horan MP. A New Screw for improved fixation in Osteoporotic Bone. *Medical University of South Carolina Orthopaedic Journal*: V6, pp 42-43; June 2003

Wachtl SW, Horan MP, Lueem M, Martin KL, An YH, Ochsner PE. The Müller Acetabular Reinforcement Ring in Acetabular Revision Arthroplasty: A Review. Medical University of South Carolina Orthopaedic Journal: V6, pp 33-38; June 2003

POSTERS and PRESENTATIONS

Horan MP, Williams BA, Mackenzie WGS, Matsumoto H, Covington L, Saiman LR, Vitale MG. Can infection following scoliosis instrumentation surgery be a 'never event'? A dramatic reduction in infection rates at one institution after implementation of a multimodal prevention protocol. Podium presentation at 2011 2008 Pediatric Orthopaedic Society of North America Annual Meeting, Montreal, Canada, May 11-14th, 2011.

Horan MP, Williams BA, Mackenzie WGS, Matsumoto H, Covington L, Saiman LR, Vitale MG. Can infection following scoliosis instrumentation surgery be a 'never event'? A dramatic reduction in infection rates at one institution after implementation of a multimodal prevention protocol. Poster Presentation at The 30th meeting of the European Pediatric Orthopaedic Society, Basel, Switzerland, April 6th-9th, 2011.

Horan MP, Tylkowski C, Oeffinger D. Gastrocnemius-Soleus Complex Lengthening in Children with Cerebral Palsy. Orthopaedic Research and Education Foundation (OREF) Resident Research Symposium, Akron, OH 2009

Horan MP, Tylkowski C, Oeffinger D. Does the Surgical Lengthening of the Gastrocnemius-Soleus Complex Result in Excessive Ankle Dorsiflexion in Children with Cerebral Palsy? Kentucky Orthopaedic Society Annual Meeting 2008

Tylkowski C, Horan MP, Oeffinger D. Kinematic and Kinetic Results of Gastrocnemius-Soleus Complex Lengthening for Equinus Contracture in Children with Cerebral Palsy. Poster Presentation 2008 Pediatric Orthopaedic Society of North America Annual Meeting Albuquerque, New Mexico May 2008

Tylkowski C, Horan MP, Oeffinger D. Kinematic and Kinetic Results of Gastrocnemius-Soleus Complex Lengthening for Equinus Contracture in Children with Cerebral Palsy. 2008 GCMAS Annual Meeting Paper Poster Presentation

Wildstein MS, An YH, Horan, MP, Kmiec S, Hartsock LA. Fixation of Proximal Humerus Fractures Using a Spiral Blade Intramedullary Nail System Augmented with Norian SRS Cement. 51st Annual Meeting of the Orthopaedic Research Society, Transactions Vol. 30, 2005

Wachtl SW, Horan MP, Martin KL, Draughn RA, An YH. Is the Müller Acetabular Reinforcement Ring a Fixed Angle Device? Poster at the Swiss Orthopaedics Congress in Basel, Switzerland. Oct 2003

Wachtl SW, Horan MP, Martin KL, Draughn RA, An YH. Mechanical Testing of the Fixation of the Polyethylene Liner to the Müller Acetabular Reinforcement Ring. Poster at the Swiss Orthopaedics Congress in Basel, Switzerland: Oct 2003

Dedmond B, Horan MP, An Y, Koon DE. Fixation of the Clavicle with a Locking Compression Plate: A Biomechanical Study. Presented at USC Kimbrough-Moore Appreciation Day Resident Research Competition in Columbia, SC 2003

Dedmond B, Horan MP, An Y, Koon DE. Fixation of the Clavicle with a Locking Compression Plate: A Biomechanical Study. Presented at the annual meeting of the North Carolina / South Carolina Orthopaedic Association 2003

Horan MP. A New Twist on a Proven Screw Design: Applications in Osteoporotic Bone: Presented on Medical University of South Carolina Student Research Day 2002

Horan MP, Gharpuray VM, Thompson JD, Dooley L. Mechanical Failure of Spinopelvic Fixation during Surgical Correction of Pelvic Obliquity in Neuromuscular Scoliosis. Clemson University, 2000

TEACHING PRESENTATIONS

Horan, MP. Scoliosis for the Pediatrician: Presentation, Diagnosis, and Management. Columbia University Department of Pediatrics and Adolescent Medicine. June 2011

Horan MP. Pediatric Lower Extremity Fractures. 2011 Core Lecture Series, Columbia Orthopaedics February 2011

Horan, MP. Pediatric Orthopaedics for the Physical Therapist. 2011 Physical Therapy Student Lecture Series

Horan, MP. Pediatric Orthopaedics for the Occupational Therapist. 2011 Occupational Therapy Student Lecture Series

Horan MP. Pediatric Orthopaedic Surgery on the Equator: Medical Mission Ecuador 2010. University of Kentucky Department of Orthopaedic Surgery Grand Rounds June 2010

Horan MP. Leg Length Discrepancy. 2010 Core Lecture Series, Columbia Orthopaedics August 2010

Talwalkar V, Tylkowski C, Pienkowski DB, Horan MP. Histomorphological Analysis of a Piglet Model of Osteonecrosis of the Femoral Head. University of Kentucky Department of Orthopaedic Surgery Grand Rounds August 2007

Horan MP. Pediatric Orthopaedic Surgery on the Equator: Medical Mission Ecuador 2010. University of Kentucky Department of Orthopaedic Surgery Grand Rounds June 2010

Horan MP. Mechanical Testing of Spinopelvic Fixation Systems. Presented at Sofamor Danek Corporation: Memphis, TN. 2000

Horan MP. Mechanical Testing of Long Fusions to the Spine in Neuromuscular Scoliosis. Presented at Smith Nephew Orthopaedics: Memphis, TN. 2000

UNPUBLISHED RESEARCH PROJECTS

Horan MP, Milbrandt TA, Puleo D, Ravi N. Adsorption and Expression of Naked DNA for fluorescence of Mouse Fibroblasts on a Poly(lactic-co-glycolic acid) Scaffold. University of Kentucky Department of Orthopaedics 2007

Horan MP, Gharpuray V. Finite Element Studies of Total Knee Implant Misalignment. Clemson University Department of Bioengineering 2000

Horan MP, Bagley A. Dynamic Assessment of EMG Signal Processing, Shriners' Hospital for Children. Greenville, SC 1996

Horan MP, Gharpuray V. Finite Element Analysis Model of Intervertebral Disc Prolapse. Clemson University Department of Bioengineering 1996

HONORS AND AWARDS

Fellowship Awards

Stryker Spine Fellowship POSNA Travel Grant: \$3250 for Accredited Educational Travel to the Pediatric Orthopaedic Society of North America Annual Meeting in Montreal, Canada May 2011

Salient Surgical Technologies Travel Grant: \$2750 for Accredited Educational Travel to the European Pediatric Orthopaedic Society Annual Meeting in Basel Switzerland April 2011

Residency Awards

AOA / OREF / Zimmer Resident Leadership Forum, Bonita Springs, FL 2009

University of Kentucky Department of Surgery Resident Teaching Award 2008

Kentucky Orthopaedic Association's Harkess-Brower 1st Place Research Award 2008 - \$500

AAOS Clinical Scientist Development Program Award Recipient 2008

AOA / OREF / Zimmer Resident Leadership Forum, Quebec CA 2008

POSNA / AAOS International Pediatric Orthopaedics Symposium Scholarship Recipient 2007, 2008

POSNA Best Poster Award Nominee 2008

University of Kentucky Institutional Orthopaedic Research Grant: \$15,000

Medical School Awards

Clinical Honors in Orthopaedic Surgery, Cardiothoracic Surgery, Internal Medicine and Obstetrics/Gynecology

1st Place Research Paper: "Fixation of the Clavicle with a Locking Compression Plate: A Biomechanical Study" at 2003 USC Kimbrough-Moore Appreciation Day Resident Research Competition presented by Barnaby Dedmond, MD

2nd Place SC Resident Research paper: "Fixation of the Clavicle with a Locking Compression Plate: A Biomechanical Study" at North Carolina/South Carolina Orthopaedic Association 2003 annual meeting presented by Barnaby Dedmond, MD

1st Place Clinical Science Professional Research \$500 Prize: "A New Twist on a Proven Screw Design: Applications in Osteoporosis" 2002

MUSC Summer Health Professions Research Fellowship \$3000 Stipend + \$500 Supplies 2002
Designed, researched and constructed a project to aid in the treatment of osteoporosis

Immunology and Microbiology Class Paper Recognition (2002) *New Developments in Gene Therapy Methods used for Inducing T-Cell Tolerance*"

Clemson University Awards:

Clemson University Vincent \$1500 Fellowship for the Performing Arts 2000, 1999
Kennedy Center American College Theatre Festival *National Acting Nomination* 2000, 1999
South Carolina State Theatre Festival Honor invitation performance of August Flight 1999
Clemson University Cadet Commander's Cup for Leadership
Clemson Presidential Alumni Scholar 1992-1996
Clemson Calhoun Scholar 1992-1994
National Society of Pershing Riflemen Awards:
Gold Medal of Excellence 1995
Bruce Knight Memorial Award 1994
Commander's Award for Leadership 1994, 1995
Best Cadet 1992

PROFESSIONAL ORGANIZATIONS AND AFFILIATIONS

American Academy of Orthopaedic Surgery, *Candidate Member*,
Pediatric Orthopaedic Society of North America, *Candidate Member*
Medical Society of South Carolina, *Member*
Clemson Bioengineering Society, *Alumni Member*
Sawbones: Orthopaedic Student Interest Group (Founder) MUSC, University of Kentucky

VOLUNTEER WORK

Active participant in Medical Mission Ecuador 2010, 2011
Providing completely free Pediatric Orthopaedic Surgical care to the children of Ambato, Ecuador
Fundraising and solicitation of sponsorships for Medical Mission Ecuador
<http://www.wix.com/~mmecuador/mme1>

OUTSIDE INTERESTS AND HOBBIES

Spending time with family
Bicycle riding & commuting, fitness running, weightlifting, and racquetball
Herpetology
Military Drill and Ceremonies
Automotive Enthusiast, Automotive Repair
Travel