



The Children's Hospital of Philadelphia

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Greetings from the Division of Orthopaedic Surgery at the Children's Hospital of Philadelphia (CHOP)! The CHOP orthopaedic faculty had an exceptional year, marked with much growth and positive change for both our clinical and research programs. We are also pleased to announce that CHOP shares the number one spot among the best pediatric institutions in the country, as determined by the 2011 US News and World Report.

Clinical Program

Our orthopaedic faculty (Figure 1) continues to expand and is currently comprised of twenty one total providers, including eighteen specially trained pediatric orthopaedic surgeons (fourteen operative and four non-operative), and three pediatricians with sports medicine training.



Figure 1. A few members of the CHOP Orthopaedic team during the Jesse T. Nicholson Visiting Professorship event in May of 2011.

CHOP Orthopaedics is pleased to announce that Keith Baldwin, MD, MSPT, MPH (Figure 2A) will be joining the department in August of 2012. Dr. Baldwin obtained his medical training at Robert Wood Johnson Medical School in New Brunswick, NJ. He completed his residency at the University of Pennsylvania, and is currently finishing a fellowship in pediatric orthopaedics here at CHOP. Dr. Baldwin has a highly specialized skill set and is interested in adult and pediatric neuromuscular disease and trauma. He has also recently completed the AAOS/ORS/OREF Clinician Scientist

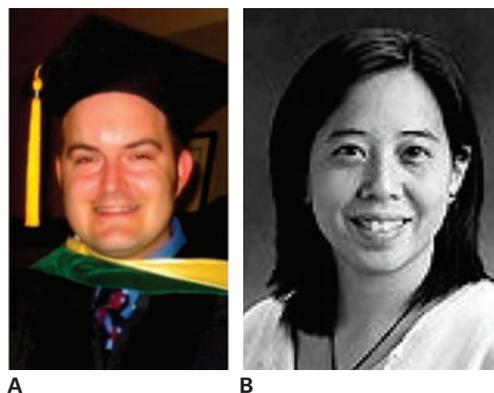


Figure 2 (A-B). From left to right, Dr. Keith Baldwin and Dr. Christina Master.

Training program, and brings a knowledge of study design and epidemiology and statistical methods to the department.

We are excited to announce that Christina Master, MD (Figure 2B) has joined our faculty as our third pediatrician with sports medicine training. Dr. Master graduated from the University of New York at Buffalo School of Medicine and Biomedical Sciences and completed her pediatric residency at the CHOP, where she was chief resident. She spent 17 years with the Pediatric Residency Training Program at CHOP, 11 of which were as the Associate Program Director. She recently completed a sabbatical year in fellowship training in primary care sports medicine at the Hospital of the University of Pennsylvania with Drs. Arthur Bartolozzi and Gary Dorshimer. Dr. Master's research interests include concussion and issues in graduate medical education. Dr. Master is currently on the faculty of CHOP and The Perelman School of Medicine at The Hospital of the University of Pennsylvania as an Associate Professor of Clinical Pediatrics

Our department also staffs seven nurse practitioners, four registered nurses, four physician's assistants, four cast technicians, and two athletic trainers who are able to evaluate, diagnose, and treat the full range of musculoskeletal disorders, as well as an additional staff of 42 office personnel.

CHOP Orthopaedic Attendings' Retreat 2012

The 2012 biennial CHOP Orthopaedic Attendings' retreat was held at the Four Seasons Hotel in Philadelphia on February 18th, 2012. The CHOP Orthopaedic strategic plan was reviewed. Clinical, educational, research, and advocacy related goals were discussed in depth, with the aim of improving procedures in all four areas. Five, ten and fifteen year goals

and objectives were evaluated, including the construction of the Ambulatory Care Center (ACC), a five story building to be built on Civic Center Boulevard for outpatient care.

Teaching

CHOP Orthopaedics currently funds three one-year clinical fellowships, and three one-year research fellowships. The 2011-2012 **clinical fellows** are Keith Baldwin, MD, MSPT, MPH (Figure 3A); Omohodion T. Binitie, MD (Figure 3B) and Corinna Franklin, MD (Figure 3C). This year's **research fellows** are Chanika Angsanuntsukh, MD from Bangkok, Thailand (Figure 4A); Camila Bedeschi Rego De Mattos, MD from Brazil (Figure 4B); and Denis Seguchi Sakai, MD from San Paulo, Brazil (Figure 4C). Following completion of their clinical fellowships, Dr. Baldwin has accepted an offer to work as an orthopaedic surgeon within our department; Dr. Binitie will complete a fellowship in orthopaedic oncology at the Moffitt Cancer Center in Tampa, Florida and Dr. Franklin is seeking an Attending position. Dr. Angsanuntsukh plans to return to work in Thailand, Dr. De Mattos will complete a Pediatric Orthopaedic Surgery Fellowship at the Shriners' Hospital in Portland, Oregon, and Dr. Sakai will return to Brazil to work with Dr. Patricia Fucs and finish his mastership in Spinal Cord Injury at Campinas State University.

The Division of Orthopaedic Surgery continues to reach out to the international community of specialists by participating in the Visiting International Scholars Program (VISP), a program designed to provide international orthopaedic surgeons with the opportunity to observe clinical care of pediatric patients in a high volume, university, academic setting.

Research Program

The recent hire of one of the top musculoskeletal basic science research teams in the United States has laid the framework for the development of a vibrant basic and translational musculoskeletal translational research program here at CHOP. This team is comprised of sixteen individuals in total, including four faculty members, led by Maurizio Pacifici, Ph.D; six post-doctoral fellows; a research associate; three research technicians; a graduate student and a program manager (Figure 5). The team's biomedical research focuses on



Figure 3 (A-C). From left to right, the CHOP Orthopaedic 2011-2012 clinical fellows: Dr. Keith Baldwin (A), Dr. Omohodion Binitie (B) and Dr. Corinna Franklin (C). Dr. Baldwin will be joining the division as an Attending Surgeon in the summer of 2012, Dr. Binitie will complete a fellowship in orthopaedic oncology at the Moffitt Cancer Center in Tampa, Florida, and Dr. Franklin is seeking an Attending position. Orthopaedics has applied for a fourth clinical fellow.

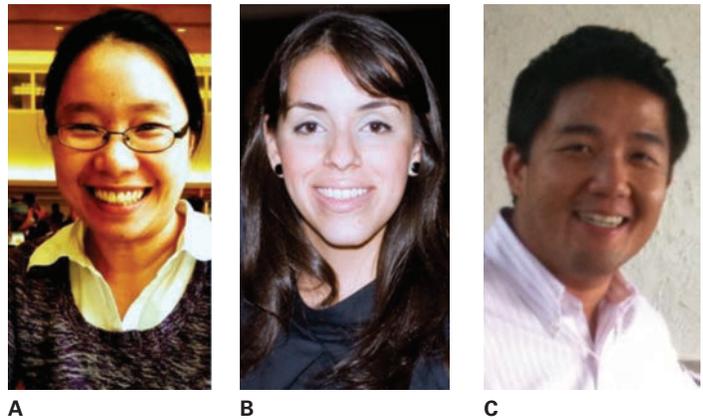


Figure 4 (A-C). the CHOP Orthopaedic research fellows, from left to right: Dr. Chanika Angsanuntsukh (A), Dr. Camila De Mattos (B), and Dr. Denis Sakai (C). Dr. Angsanuntsukh will return Thailand for work, Dr. De Mattos will complete a Pediatric Orthopaedic Surgery Fellowship at the Shriners' Hospital in Portland, Oregon, and Dr. Sakai will return to Brazil to work with Dr. Patricia Fucs and finish his mastership in Spinal Cord Injury at Campinas State University.

clarifying the mechanisms that control skeletal development and growth in fetal and postnatal life. Their intent is to use the resulting information and insights to understand the pathogenesis of congenital and acquired skeletal disorders such as multiple hereditary exostoses, developmental dysplasia of the hip and heterotopic ossification.

Bong Lee, MD, as a gesture of his commitment to CHOP Orthopaedics and to the service of pediatric patients in the Philadelphia area, made a large donation to create the *Bong and Mi-Wha Lee Endowed Chair in Pediatric Orthopaedic Surgery at CHOP*. His generosity has helped enable the Division to continue with its ongoing pediatric orthopaedic education and research. This Endowed Chair was awarded to Maurizio Pacifici, Ph.D in an effort to support and develop our translational research program. An event was held in October of 2011 to honor and thank Dr. Lee for his generous gift. (Figure 6)

CHOP Orthopaedics is also working in collaboration with the Center for Applied Genomics to compile a database of DNA samples obtained from families with multiple individuals affected with adolescent idiopathic scoliosis (AIS). The goal



Figure 5. A group picture of the CHOP Orthopaedic Translational Research team led by Maurizio Pacifici, Ph.D.



Figure 6. From left to right, Dr. Bong Lee and Dr. Maurizio Pacifici at the Endowed Chair dedication event held in October 2011 at the CHOP Colket Translational Research Building.

is to perform whole genome sequencing with these familial blood samples to further understand the effect of genetics on the development of AIS.

CHOP Orthopaedics, in collaboration with the Center for Childhood Cancer Research (CCCR) and the Abramson Family Cancer Research Institute (AFCRI), has developed a position to establish, maintain, and oversee extramurally funded research projects in basic mechanisms of sarcoma pathogenesis and progression.

The CHOP Orthopaedic Surgery division is currently conducting 84 ongoing, active clinical research and basic science projects. Investigators within the division have been awarded funding from both internal and external sources to conduct these studies. In the past two years, the division has published 116 articles in major orthopaedic journals, including (but not limited to) JBJS, SPINE, JPO and CORR.

Our pediatric orthopaedic faculty continues to present research studies at orthopaedic conferences around the world, including the American Association of Orthopaedic surgery (AAOS), the Pediatric Orthopaedic Society of North America (POSNA), the European Pediatric Orthopaedic Society (EPOS), the Scoliosis Research Society (SRS), the American Orthopaedic Society for Sports Medicine (AOSSM), the Musculoskeletal Tumor Society (MSTS), and many more.

In 2009, our department initiated an annual Benjamin Fox Scholarship Award for medical students who are interested in conducting research for a year within Orthopaedics. In June, our department awarded Wajdi Kanj, an upcoming fourth year medical student at Robert Wood Johnson Medical School and David Ramski, a third year medical student at Georgetown University with this scholarship. Wajdi is focusing his research on surgical site infection, patient safety, outcomes and complications in spinal surgery as well as sports related injuries. David is studying Monteggia fractures, anterior cruciate ligament tears in children, and healing mechanisms in patients with osteochondritis dissecans.

Recognitions and Achievements

Our Attendings have assumed several leadership roles within the pediatric orthopaedic community.

Robert Campbell, MD received his official academic appointment as a Professor at the Perelman School of Medicine at the University of Pennsylvania, and received the Distinguished Alumnus Award from Johns Hopkins University, recognizing those Alumni who have typified the Johns Hopkins University Tradition of excellence and achievement, and humanitarian service. His Center for Thoracic Insufficiency Syndrome at CHOP continues to expand clinically and new research initiatives are ongoing.

John P. Dormans, MD, FACS, current Chief of Orthopaedic Surgery at CHOP, was named *President of Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT)*—United States and also President Elect of the World Orthopaedic Concern (WOC) for the 2011-2014 term. Dr. Dormans completed his term as President of the Pediatric Orthopaedic Society of North America (POSNA) in May of 2010, and now holds the position of Past President. Additionally, his research study entitled “A Genome Wide Association Study Identifies IL17RC as an Adolescent Idiopathic Scoliosis Locus” received the 2011 SRS Russell Hibbs Award Winner for Best Basic Science Paper, augmenting his past clinical SRS Hibbs award in 2006 for a study entitled “Detection of Impending Neurologic Injury During Surgery for Adolescent Idiopathic Scoliosis: A Comparison of Transcranial Motor and Somatosensory Evoked Potential Monitoring in 1121 Consecutive Cases”. He participated in four visiting professorships this year at the University of Virginia in Charlottesville, VA; Helen De Vos Children’s Hospital in Grand Rapids, Michigan; Royal Hospital for Sick Children in Glasgow, Scotland; Rainbow Babies and Children’s Hospital in Cleveland, Ohio; and was awarded the “Distinguished Achievement Award” from his high school, Concordian Lutheran High School, in Fort Wayne, Indiana.

Denis Drummond, MD, CHOP Orthopaedic’s Chief Emeritus, was awarded the Scoliosis Research Society’s (SRS) 2012 Lifetime Achievement Award. This prestigious honor recognizes an SRS member for his or her commitment to the society as well as his or her contributions to spinal deformity care. Dr. Drummond continues to direct clinical research function within CHOP Orthopaedics and will work with Keith Baldwin to continue this program with the ideas presented during the division’s Attending’s retreat held in February of 2012.

John Flynn, MD served as the chairman of the 2011 International Pediatric Orthopaedic Symposium (IPOS) in Orlando, Florida. This conference attracted 340 registrants, a number that continues to increase each year, and included lectures on a large variety of orthopaedic pediatric topics. Dr. Flynn was also promoted to full Professor of the Perelman School of Medicine at the University of Pennsylvania and named the POSNA Vice President for 2011-2012, President Elect for 2012-2013 and President for 2013-2014 terms. He was also the Editor of the AAOS Orthopaedic Knowledge Update

10 textbook. Dr. Flynn continues to mentor and supervise the medical students selected to participate in our Benjamin Fox Fellowship program.

Theodore Ganley, MD, is the Sports Medicine Director at CHOP supporting the clinical, research and outreach initiatives which continue to expand. Dr. Ganley was the senior author on a pediatric ACL paper published this year which received the AOSSM award as the year's best clinical paper. Dr. Ganley's research on tibial spine fractures was also selected for the award session of the POSNA Annual meeting. The surgical skills course on Pediatric sports surgery of which he is co-director was selected by the AAOS as a "Standing Room Only DVD" and he was co-medical editor for this. He was the Editor for this year's Clinics in Sports Medicine Text on ACL injuries in the Young Athlete. He was appointed to the IPOS advisory board. He contributed 19 articles this past year, comprised of peer-reviewed articles and textbook chapters. He was a visiting professor outside of the country this past year in Tel Aviv, Israel and Calgary, Canada. He was selected as moderator or instructor at instructional course lectures for the AAOS, AAP, AOSSM, IPOS and POSNA this past year.

Matthew Grady, MD has been named the Director of the new CHOP Primary Care Sports Medicine Fellowship. He was also appointed clinical Assistant Professor of Pediatrics at the University of Pennsylvania's Perelman School of Medicine.

John Todd Lawrence, MD, Ph.D was promoted to Assistant Professor at the Perelman School of Medicine at the University of Pennsylvania. He was recently awarded the Air Cast Award, administered by the American Orthopaedic Society for Sports Medicine (AOSSM), and was awarded the OmeGa Core Competency Grant for the 2011-2012 academic year. This funding will support resident education as it pertains to fracture care through the development and implementation of a simple distal radius fracture reduction and casting simulation-based teaching program.

Wudbhav Sankar, MD, continues to build and direct the adolescent and young adult hip program at CHOP, and has established a comprehensive clinical hip database. He has been invited to speak at instructional course lectures during the 2012 AAOS annual meeting as well as the 2012 POSNA one

day course on the topic of hip conserving surgery. Dr. Sankar has been named program chair for POSNA specialty day for the 2014 AAOS annual meeting and continues to actively publish in the area of pediatric hip deformity and trauma.

Angela Smith, MD gave an invited talk on children and adolescents in elite sports at the American Orthopaedic Society for Sports Medicine (AOSSM) Specialty Day held during the 2011 AAOS Annual Meeting in February and led a "People to People" sports medicine delegation to Moscow and St. Petersburg, Russia in September. Outside of her clinical and academic activities, she was recognized as the US Figure Skating National Showcase Masters Champion for dramatic entertainment in August

David Spiegel, MD, was promoted to Associate Professor of Orthopaedic Surgery, and was appointed to the Orthopaedics Overseas Board of Directors. He is working on co-editing a textbook entitled "Global Orthopaedics and Traumatology", which aims to bridge gaps in knowledge and experiences between surgeons in resource rich and resource poor environments. He spent two weeks in China promoting the Ponseti method in Shanghai and Harbin, his fourth trip to China to promote development of the Ponseti method of clubfoot care. He also participated in a one week workshop in Basrah, Iraq, and 3 weeks teaching in Nepal. He is chairing a committee on "surgery and health systems" as part of WHO's Global Initiative for Emergency and Essential Surgical Care. He and his wife are expecting their first child in March of 2012.

Lawrence Wells, MD continues to work as the CHOP Director of Operations for Orthopaedic Ambulatory Surgery and as CHOP Orthopaedic's Safety Office. Additionally, he is working on several committees focusing on topics pertaining to patient safety, satisfaction and infection prevention. This past year, he was invited as a visiting professor at the University of Cincinnati, served as a faculty member for the AO Spine North America course on Pediatric Fracture Care, and participated in the IPOS course held in December. He was also promoted to Associate Professor of the Perelman School of Medicine at the University of Pennsylvania.

Congratulations also to Dr. Richard Davidson on his recent promotions within the University of Pennsylvania.