The Benjamin Fox Orthopedic Research Fellowship

Division of Orthopedic Surgery at The Children’s Hospital of Philadelphia

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Director of Sports Medicine, CHOP
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Award Details
The CHOP Benjamin Fox Orthopedic Research Scholar Award promotes clinical research by giving extraordinary medical students the opportunity to investigate pertinent topics in clinical orthopedic research at The Children’s Hospital of Philadelphia. While there are several funded year-out programs for medical school students to conduct research, this award is unique because it is specifically designed for students who are interested in pursuing a career in Orthopedic Surgery. The Ben Fox Program focuses on giving the medical student clinical research opportunities, advanced orthopedic skills through weekly clinical exposure, and mentoring for residency applications and beyond.

Division of Orthopedic Surgery at The Children’s Hospital of Philadelphia
The Children’s Hospital of Philadelphia is internationally recognized for its pioneering work in pediatric orthopedic patient care, education, and basic and clinical research. The Division of Orthopedic Surgery at CHOP has consistently ranked among the top three pediatric orthopedic programs in the nation by U.S. News & World Report. CHOP orthopedic surgeons are leaders in their fields – pioneering clinical innovations, writing textbooks, chairing courses and leading regional, national and international organizations in pediatric orthopedics. We have 23 board-certified attending physicians, each with different subspecialties in pediatric orthopedics.

Eligibility
Applicants should be completing their third year of medical school (in rare circumstances, uniquely qualified students finishing their second year may be considered). The student must be in good academic standing and have an interest in pursuing a career in Orthopedic Surgery. The successful applicant will be responsible, motivated, intellectually curious and independent.

Award Stipend and Benefits
The recipient of this award will receive a $20,000 stipend to cover living expenses for the year, as well as travel expenses for national presentations.

How to Apply
Eligible students can apply by visiting the CHOP Orthopedic website located at http://www.chop.edu/service/orthopaedic-surgery/resources-for-professionals/. After clicking on the link, please go to the section entitled “Education and Fellowships”, then “Benjamin Fox Orthopedic Research Scholar.” On this page, an application can be downloaded and either filled out by hand or completed via computer and sent to the Division of Orthopedic Surgery at CHOP. Detailed directions can be found on the application. The deadline for the application is February 15, 2014. However, we recommend submitting an application as soon as possible.

If you have any questions regarding the application, contact Melissa Gunderson at gundersonm@email.chop.edu.
The Benjamin Fox Fellowship – Research

The Ben Fox Orthopedic Fellowship is a funded year-out research position designed for third year medical students destined for a career in orthopedic surgery. The goal is to launch the careers of tomorrow’s leaders in our field.

There are three components to the program: research, clinical exposure and mentoring. For the research focus, the Ben Fox fellows take on several projects, prospective and retrospective, single-center and multi-center, some of which were started prior to their arrival, and some of which will begin during their year. The research is designed to answer questions and solve problems in the area of pediatric orthopedic trauma; sports medicine; spine, hip and hand disorders; patient safety; healthcare quality and value; as well as medical economies. Students meet with Drs. Flynn, Ganley and Sankar several times per week to assure satisfactory supervision and mentorship.

There is a very strong, long established clinical research office in the Division of Orthopedics at The Children’s Hospital of Philadelphia. A few of the benefits of doing clinical research in our Division include:

• Four orthopedic research coordinators that can help the student design and complete IRB’s, adhere to Division and CHOP research policies, review clinical data, measure X-rays, and complete manuscripts for publication. They offer crucial assistance to new students and researchers who join our Division.
• Extremely active academic surgical faculty, with at least 6 internationally-known thought leaders among our 14 full-time surgeons.
• Nearly 100 open clinical IRBs, including databases for several national multicenter research groups, ripe for utilization for high-powered collaborative projects. We currently participate in the only NIH-funded orthopedic surgery clinical study (BrAIST)
• Four U.S.-trained clinical fellows and three international research fellows, each of whom has their own individual projects, but with their other obligations, often welcome and mentor medical student collaborators
• Daily clinical conferences, visiting speakers, quarterly Journal club and many other educational events to inspire and educate medical student researchers
• A high-volume clinical practice (more than 53,000 outpatient visits, 3,000 inpatient visits and 3,500 surgical procedures per year) that allows the student to shadow and gain clinical exposure to inspire research ideas
• A faculty member with an MPH, who can assist the student with study design and statistical analysis

Completed projects by Benjamin Fox fellows are published in the best orthopedic journals, including JBJS and have presented at the American Academy of Orthopaedic Surgeons, the Scoliosis Research Society, the American Academy Society for Orthopaedic Sports Medicine, the Pediatric Orthopaedic Society of North America (POSNA), and the American Academy of Pediatrics. In many cases, whenever permissible and possible, the Benjamin Fox Fellows present their research at these national meetings. There are several Division research meetings per year and an opportunity to present research to the entire CHOP Orthopedic Division at the year-end orthopedic research symposium.
The Benjamin Fox Fellowship – Clinical Orthopedic Surgery

The second aspect of this program is strong clinical exposure. The Benjamin Fox Fellow participates actively in the outpatient clinical program in the Division of Orthopedics at CHOP. There are weekly outpatient clinics where the Benjamin Fox Fellow will be trained and mentored to participate in trauma and sports clinics. Weekly, the Benjamin Fox Fellow sees patients alongside Dr. Flynn, Dr. Ganley or Dr. Sankar, developing mastery of pediatric physical exam of the shoulder, knee, fractures, spine and hip, image interpretation and decision making. Additionally, Fellows participate in surgeon-of-the-day clinics, specifically gaining experience in the evaluation of patients with urgent injuries. Typically, by the end of the year, the Benjamin Fox Fellow functions at a level above a senior resident.

There is also an opportunity to observe surgical procedures in the operating room. The Benjamin Fox Fellows are also welcomed and encouraged to attend a very rich variety of clinical conferences in the Division of Orthopedic Surgery at CHOP, including didactic lectures, a weekly case presentation conference, University of Pennsylvania Orthopedic Grand Rounds every Thursday morning, and a quarterly clinical research journal club attended by all faculty, students, residents and fellows. With the experience in clinic, observation in the operating room, attendance of conferences, and the interaction with the University of Pennsylvania orthopedic residents and fellows, the year-out medical students advances to the next level of his/her training far ahead of those students who have spent the year just doing clinical rotations.
Orthopedic Research at The Children’s Hospital of Philadelphia

The Division of Orthopedic Surgery at The Children's Hospital of Philadelphia has a very active clinical and biomedical research program that offers stimulating opportunities for research fellows. The division has 15 active faculty members involved in clinical research; currently there are nearly 100 active retrospective and prospective research studies underway. The research group is composed of four research coordinators, one research assistant and three international research fellows.

Ben Fox Fellows and Orthopedic Research
Benjamin Fox Research Fellows are a central part of the Orthopedic research team – playing a major role in the Division’s research efforts. Ben Fox Fellows are trained within the Good Clinical Practice (GCP) guidelines including protection of human research subjects with particular emphasis on pediatrics. They are guided through the clinical research process from the development of a hypothesis to data collection and manuscript writing. The Ben Fox Fellows have the opportunity to work independently on projects of special interest to them and are encouraged to interact and collaborate with the Division’s diversified faculty.
Mentors

Dr. Ganley has been an attending surgeon at CHOP for more than 14 years. He is Director of The Sports Medicine and Performance Center at The Children’s Hospital of Philadelphia. Dr. Ganley completed a sports medicine fellowship at The Graduate Hospital, in affiliation with The University of Pennsylvania, and completed a second fellowship in pediatric orthopedics at CHOP. He is one of a small group of surgeons in the country with a primary focus on sports and trauma in the young athlete. He is a member of several multicenter research groups, is a co-founding member of the Research in Osteochondritis Dissecans of the Knee (ROCK) group, and a member of the Multicenter ACL Revision Study (MARS) group.

Dr. Ganley has published more than 100 peer-reviewed scientific articles, reviews or textbook chapters, and was editor of a Clinics in Sports Medicine book on ACL injury in the young athlete this past year. He lectures nationally and internationally on ACL reconstruction, OCD lesions, sports and trauma in the young athlete. He is incoming chair of the AAOS/POSNA course “Cutting-Edge Surgical Techniques in the Young Athlete” and an advisory board member of the International Pediatric Orthopaedic Symposium. He was also chair of the 2012 AAOS Annual Meeting Instructional Course Operative Challenges and Solutions in Pediatric Sports Medicine.

Dr. Ganley is married and has five children. He enjoys the academic aspects of clinical medicine and working with the Ben Fox Fellows.
Mentors

Dr. Flynn has been an orthopedic surgeon at CHOP for more than 17 years. A graduate of Johns Hopkins University and the University of Pittsburgh School of Medicine, Dr. Flynn completed his orthopedic surgical training at Harvard in Boston, followed by a pediatric orthopedic fellowship at A.I. DuPont Hospital for Children, Wilmington, DE. He is the Associate Chief of Orthopedic Surgery and Associate Trauma Director for Orthopedics at CHOP. His areas of expertise include trauma, spine and hip disorders and cerebral palsy. He is one of a small group of surgeons in the country with a focus on spinal disorders in very young children. He is a member of several international multicenter research networks, including the Harms Study Group, the Growing Spine Study Group, and the Chest Wall and Spine Deformity Study Group.

Dr. Flynn has published more than 180 peer-reviewed scientific articles, reviews or textbook chapters and has written or edited seven books. He lectures nationally and internationally on pediatrics fractures and spine disorders. He co-Chairs the International Pediatric Orthopaedic Symposium, is past Chair of the Research Grants Committee for the Scoliosis Research Society, is President of the Pediatric Orthopaedic Society of North America (POSNA), and Chair of the American Academy of Orthopaedic Surgeons (AAOS) CME Courses Committee.

Dr. Flynn is married and has four children. He runs a yearly seminar for Penn Orthopedic Surgery Residents on work-life balance and helps teach a life balance course at the AAOS annual meeting.
Dr. Sankar has been an orthopedic surgeon at CHOP for more than four years. He is a graduate of Cornell University and the University of Pennsylvania School of Medicine. After finishing his orthopedic residency at the University of Pennsylvania, Dr. Sankar completed three additional fellowships in the areas of pediatric orthopedic surgery and adolescent hip surgery at Children’s Hospital Los Angeles, the Shriners Hospitals for Children in Los Angeles, and Boston Children’s Hospital. He is one of a small group of surgeons in the country with special expertise in complex adolescent and young adult hip reconstruction. He is a member of several multicenter research groups including the International Perthes Study Group, the International Hip Dysplasia Institute, and the Academic Network of Conservational Hip Outcomes Research (ANCHOR).

Dr. Sankar has published more than 50 peer-reviewed scientific articles, reviews or textbook chapters, and co-edits the pediatric sub-section of Operative Techniques in Orthopaedic Surgery, along with Dr. Flynn. Dr. Sankar is an at-large member of the board of directors of the Pediatric Orthopaedic Society of North America (POSNA), and is program chair for the pediatric orthopedic specialty day at the 2014 meeting of the American Academy of Orthopaedic Surgeons (AAOS).

Dr. Sankar is married and has two children.
The Children’s Hospital of Philadelphia

The Children’s Hospital of Philadelphia (CHOP) is not only the oldest pediatric hospital in the United States, it is also one of the top-ranked children’s hospitals in the world. In addition to providing excellent patient care, CHOP excels at research by devising and committing to projects aimed at developing cures for chronic and fatal pediatric illnesses and disorders. Because awareness of disease is important in the prevention of illness, CHOP also strives to educate the public – not only on ways to prevent disease – but also on ways to support independent living for those with debilitating conditions.

CHOP was founded in 1855, when Francis West Lewis MD, inspired by his visit to the Great Ormond Street Hospital for Sick Children in London, built the first pediatric hospital in the United States. In collaboration with three other doctors, the team constructed a pediatric center that included 12 beds and a dispensary. A year later, the hospital’s physicians treated 67 inpatients and 306 clinical patients. Since its first year, the hospital has relocated its building on three separate occasions. On June 23rd, 1974, the hospital settled at 34th Street and Civic Center Boulevard, its current location. In 1976, C. Everett Koop, MD, not only established the pediatric surgical division, but also performed ground-breaking procedures that brought notoriety to the hospital.

In 2013, CHOP earned recognition as the nation’s best pediatric hospital from two respected publications: *U.S. News & World Report* named CHOP No. 1 on its 2013-2014 Honor Roll of Best Children’s Hospitals in the nation; and *Parents magazine* named CHOP No. 1 on its 2013 list of Top 10 Best Children’s Hospitals. To learn more, see Why Choose CHOP?
History of the Division

In 1889, with the financial help of the Ladies’ Auxiliary, DeForest Willard organized the first orthopedic children’s ward at the University of Pennsylvania. Since then, The Children’s Hospital of Philadelphia has seen six Chiefs of Orthopedic Surgery. The first, Charles Merrill, MD, was instated as Chief, but unfortunately died one month later.

In 1936, Jesse Nicholson, MD, replaced Merrill as Chief of Orthopedic Surgery. Nicholson’s position as Chief ended in 1968, and he was succeeded six years later by Stanley Chung, MD, who served from 1974-1979. In 1979, Hugh Watts, MD, took over as Division Chief. Six years later, Denis Drummond, MD, succeeded Dr. Watts, and served 1985-1996. CHOP’s current Chief of Orthopedic Surgery, John P. Dormans, MD, has lead the Division since 1996.
The City of Philadelphia

A Brief History of Philadelphia

- In 1682, William Penn bought land from the local Lenape Indian village of Shackamaxon.
- In 1701, Penn issued a Charter, establishing Philadelphia as a city.
- From 1790 to 1800, Philadelphia served as the capital of the United States of America.
- As businesses boomed within this area, the population reached two million residents in 1950.
- Today, Philadelphia remains a commercial, educational, and a diverse center of culture, art, architecture, cuisine, and sports.

Philadelphia and Medicine

- Philadelphia has become an important center for medicine, an association that the city has had since its colonial period.
- Philadelphia is home to the first hospital in the British North American colonies.
- Philadelphia is also the home of the first medical school, located today at the University of Pennsylvania.
- The first pediatric hospital in the United States was established in Philadelphia in 1855 (The Children’s Hospital of Philadelphia).
- Major hospitals within Philadelphia are also affiliated with Temple University School of Medicine, Drexel University College of Medicine, Thomas Jefferson University, and Philadelphia College of Osteopathic Medicine.
The City of Philadelphia

Ideal Location

- Philadelphia is located ideally between many of the popular attractions found on the northeast coast of the United States.
- As indicated on the map to the right, Philadelphia (point A) is a short distance from New York City (point B - 95 miles), the Pocono Mountains (point C – 135 miles), Cape May (point D – 92 miles), and Baltimore (point E – 100 miles).
- The area surrounding Philadelphia has much to offer: whether its seeing Broadway shows in New York, skiing in the Pocono’s, relaxing on the beach in Cape May, or visiting Baltimore’s Inner Harbor to catch and dine on some of the best crab on the east coast, the Philadelphia area is brimming with things to see, do and experience.

Art and Food

- Philadelphia is home to many museums, including the Philadelphia Museum of Art, one of the largest art museums in the United States; the Pennsylvania Academy of Fine Arts; the Rodin Museum, which boasts the largest collection of works by Auguste Rodin outside of France; and the Philadelphia Sketch Club.
- Annual events include film festivals and parades, the most well-known being the New Year’s Day Mummers Parade.
- The city is also known for its food – from hoagies to cheesesteaks, scrapple to soft pretzels, water ice to Tastykakes.
The City of Philadelphia

Sports

- Philadelphia is also one of 13 cities in the nation to have all four major sports teams: the Philadelphia Eagles of the National Football League, the Philadelphia Flyers of the National Hockey League, the Philadelphia Phillies of Major League Baseball, and the 76ers of the National Basketball Association.
- Sporting events such as the Penn Relays, the Philadelphia Marathon, the Broad Street Run, and the Aberdeen Dad Vail® Regatta attract professional, semi-professional, and elite amateur teams and individuals from all over the country to the city as well.
Current Ben Fox Fellows

Afam Nduaguba grew up in Nigeria. His father brought his family to the U.S. when Nduaguba was 18. Nduaguba got a job in a corner drug store, which led to a job in a local software company. He used the money from these jobs to put himself through community college, then UMass Boston, where he graduated with a 3.98 in Biochemistry. After a year of cancer research at the University of Rochester Medical Center in upstate New York, Nduaguba was accepted to Harvard Medical School, where he has excelled. In the summer of 2011, Nduaguba traveled to Rwanda, Africa, to study the prevalence of breast cancer. In Boston, Nduaguba co-founded and co-directs a student run health clinic, and volunteers at a community clinic to conduct rapid HIV tests and provide health counseling. He is also a dance enthusiast who enjoys running, tennis and soccer.

Chrissy Goodbody grew up on Long Island in New York. Her mother emigrated from Panama and her father was a NYPD police officer. She graduated magna cum laude from Princeton University in New Jersey, with an AB in Chemistry, and certificates in Material Sciences/Engineering and Spanish Language/Culture. Goodbody attends the Perelman School of Medicine at the University of Pennsylvania and recently completed her third year of medical school. She is simultaneously pursuing a Master of Bioethics and arrives at CHOP with both excellent grades and glowing recommendations. Goodbody has conducted basic science research on superconductors and clinical cancer research. She speaks Spanish fluently and enjoys running, spinning and playing sports.


Prior Ben Fox Fellows

Selected Publications and Presentations


Matthew R. Garner, MD
2008-2009
University of Pennsylvania School of Medicine, Phila., PA

Current position:
Orthopedic Surgery Resident, Hospital for Special Surgery, New York, NY
Flynn J, **Miller RA**, Cody S, Lonner B, Marks M, Bastrom T. What is different after surgery for AIS patients who enjoy a minimal clinically important difference? Presented at AAP Fall Conference 2010, San Francisco, CA.

O’Toole P, **Miller RA**, Flynn J. Interactive gaming and traditional gaming injuries: Is the bystander the real victim? Presented at AAP Fall Conference 2010, San Francisco, CA.


Prior Ben Fox Fellows
Selected Publications and Presentations


Ganley TJ, Patel NM, Cody SR, Lawrence JTR. All-epiphyseal ACL reconstruction in skeletally immature patients. Video accepted and presented at AAOS 2011, San Diego, CA.


Nicholas A. Beck, MD
2010-2011
University of Pennsylvania School of Medicine, Phila., PA

Current position: Orthopedic Surgery Resident, University of Minnesota Medical Center, Minneapolis, MN

Prior Ben Fox Fellows
Selected Publications and Presentations


Gay AN, Baldwin KD, Namdari S, **Beck NA**, Mehta S. IVC filter placement in orthopedic trauma patients: clinical judgment or clinical guidelines? Podium presentation at AAOS, San Diego, CA.


**Beck NA**, Flynn JM. Pediatric elbow fractures – supracondylar fractures, lateral condyle fractures, transphyseal fractures. Orthopedic Trauma Call for the Attending Surgeon.


Prior Ben Fox Fellows
Selected Publications and Presentations


Prior Ben Fox Fellows
Selected Publications and Presentations


De Mattos CB, **Ramski DE**, Horn BD. Displaced supracondylar humerus fractures in toddlers: are they different? Poster AAOS 2013 Chicago, IL. In preparation.


Prior Ben Fox Fellows
Selected Publications and Presentations


2010-2011 Ben Fox Fellows with Dr. Flynn and Dr. Ganley at the end of the year Fellows Dinner

Nicholas Beck and Dr. Ganley at a Philadelphia Eagles game.

2010-2011 Ben Fox Fellows with Sharon Farrell, MSN, CRNP, a super star nurse practitioner who works with Dr. Flynn and Dr. Sankar

2011-2012 Ben Fox Fellows with Dr. Flynn, Dr. Ganley and Sharon Farrell, MSN, CRNP, at the end of the year Fellows Dinner at Citizens Bank Park
Ben Fox Outings

2012-2013 Ben Fox Fellows and International Research Fellows in Orlando, Florida for 2012 IPOS Meeting.

2011-2012 Ben Fox Fellows with the Clinical Research Coordinators at the end of the year Fellows Dinner at Citizens Bank Park.

2012-2013 Ben Fox Fellows with Dr. Flynn at the end of the year Fellows Dinner.

Eric Sarkissian with Dr. Sankar at the 2013 end of the year Fellows Dinner.