



# Letter From the Chairman

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I have always considered it a privilege to write a chairman's column for the UPOJ. Looking back over the last seven years, it is remarkable to reflect on our team's progress and, with pride, I will highlight our achievements this past academic year. Innovation in musculoskeletal care is part of our Penn orthopaedic culture. Our Penn Musculoskeletal Center, the MSKR service line, and the recently renewed NIH funded Penn Center for Musculoskeletal Disorders, underscores the importance we place on creating new standards of care delivery and scientific discovery that enhance our ability to treat patients.

Last July, significant media attention was given to Penn Orthopaedics from around the world when our team led the effort that performed the world's first pediatric bilateral hand transplantation. Zion Harvey, the 8 year old quadrimembral amputee, appeared on television, radio, newspapers and magazines both in the United States and abroad. This patient's clinical result has been as we all had hoped for. He now can feed and dress himself, attend to his personal hygiene, and is returning to school. Such success is a team effort, and teamwork is our watchword. Our partners in this effort included almost every aspect of medicine—surgeons, transplant physicians, neurologists, nephrologists, psychologists, social workers, to name a few. This vascularized composite allotransplantation program was built on our success in 2011 when we performed the region's first adult bilateral hand transplant. This story is really about our trajectory and momentum as a department of orthopaedic surgery. We build on our success, but carefully analyze our failures. As a leader, I applaud achievement, but always ask: "Where can we improve?" "How can we do better?" "Where are our weaknesses and can we develop action plans that help us improve in select areas?"

The answer to these questions lies in the hands of the people in our organization: our faculty, residents, fellows, physician assistants, nurse practitioners, and administrators. Over the last seven years almost all of these teams have grown, many exponentially. Almost every specialty has a fellowship program. We have over 25 PA's and NP's involved in patient care. In 2009 we had two. Growth must have purpose. Our goal to become the nation's #1 research program is within sight. Expanded NIH funding, corporate sponsored research, a growing clinical research program with dedicated research coordinators are examples of growth and diversity that make us stronger. In fact, we now have a 'council of research directors' that is meeting quarterly that includes representatives from

the Penn Center for Musculoskeletal Disorders (this year the PCMD received the top score in the country on the NIH P30 grant renewal), the McKay Orthopaedic Laboratory, the CHOP MSK lab (under the direction of Mauricio Pacifici), the VA MSK Translational Research Center, the Biedermann lab, the Human Motion Lab, and the Human Tissue Lab. These seven entities reach across departments and institutes, and connect our science teams with the university in the medical school, veterinary medicine school, school of engineering, and the dental school.

Often in academic medicine, the educational mission is an afterthought. The clinical engine drives revenue, which is used to pay faculty salaries, practice overhead, and dean's tax. The historical adage: "publish or perish" resulted in a revolving door of departmental faculty-signing on to an academic department only to be told after a few years: "you have not written enough papers or secured adequate grant funding" to continue practicing in the university system. The University of Pennsylvania School of Medicine has modernized its approach to clinical faculty recruitment and retention, allowing clinical faculty to seek pathways commensurate with their passions and strengths. Clinical work, educational efforts, and research are all rewarded and acknowledged in our department and across Penn Medicine. The tenure track, clinician educator track, and academic clinician category allow our faculty to define their role in all three of our missions. Our partnership with the health system provide a line of sight compensation system that is transparent and equitable, rewarding teaching and research as well as clinical efforts. As a result, our recruitment and retention has been outstanding, adding this year Kathryn O'Connor (Mt. Sinai orthopaedic residency, Washington University fellowship) to our Foot and Ankle Division, and Benjamin Gray (Washington University orthopaedic residency and University of Cincinnati hand fellowship) to the hand division. Dr. Gray is pursuing a master's degree in clinical science at Penn, a high mark for us and a tribute to his dedication to the clinical research mission. Our growth from a faculty of less than 20 surgeons in 2009 to a complement of 43 physicians and surgeons in 2016 has been calculated and strategic. We have tremendous depth on the bench in all sections which greatly enhances our ability to educate the next generation of orthopaedic surgeons.

We have named this past year "the year of the student". Our visiting medical student rotations were revised to provide a better and broader experience for students over their 4 week stay. Our residency 'school', held for four hours every Thursday, allows every resident in the program to attend our teaching curriculum that includes grand rounds, cadaver lab, visiting professors and didactic lectures. No resident is left behind (as in stuck in the operating room, wards, or emergency room)

during critical educational time. This builds camaraderie and demonstrates the commitment of our faculty to resident education. Our enhanced education efforts have extended to our PGY-1 residents. A one month classroom experience provides an orthopaedic primer to our 'interns', teaching skills essential for success over the course of the residency. Clearly, we will strive to always improve the educational experience, but our efforts are paying off. The balance of service and education in postgraduate training must be tipped towards education if we are to attract the best and brightest medical students to our teaching program.

We believe in a robust visiting professor program with several named lectureships. Our guests this past year have included James Chang (Stanford), John Callaghan (Iowa), Chip Routt (UT Houston), and Alison Toth (Duke) to name a few. This provides our residents and faculty a chance to interface with national leaders and showcases our department's clinical and research capabilities.

### **A brief review of advances in our divisions will provide insight into our progress.**

In 2015, CHOP Orthopaedics hired a sports medicine specialist, a non-operative orthopaedist, as well as three surgeons; moved into three new facilities; renovated the Nicholson visiting professorship; appointed a new director of orthopaedic engineering; hired a director of clinical research; awarded Chair's research grants to six winners totaling \$87,000; renovated the fellowship recruitment and interviewing process; launched multiple development initiatives with a new board of visitors for orthopaedics; and partnered with CHOP office of clinical quality improvement on two major projects (sports and spine) to improve the efficiency, safety and value of orthopaedic surgery.

The division of hand surgery, under the leadership of David Bozentka, added a second full time hand and microsurgical fellow approved by the accreditation council for graduate medical education (ACGME). Dr. Bozentka was awarded the prestigious 'master clinician' award by the school of medicine this spring. The Penn Hand Surgery Section is currently leading a national trial and enrolling patients in the Axogen Company's sponsored study: a multicenter, prospective, randomized, subject and evaluator blinded comparative study of nerve cuffs and advanced nerve graft, evaluating recovery outcomes for the repair of nerve discontinuities. Dr. Stephanie Thibaudeau, along with principle investigator David Steinberg, was awarded a grant from the Bach Fund for a blinded randomized control trial to compare Tylenol 3 versus ibuprofen/acetaminophen for pain control and patient satisfaction after ambulatory hand surgery. Our hand fellows this year have been outstanding. Stephanie Thibaudeau is completing the second of a two year fellowship with the second year sponsored and supported by ASSH. We were only one of a handful of hand fellowships in the country to be awarded this support. She will be returning to McGill's Division of Plastic Surgery as an attending physician. Nickolas Kazmers will join the full time orthopaedic faculty at the University of Utah this fall.

The past year saw several changes for the Orthopaedic Trauma Service including settling into a new home at Penn-Presbyterian Medical Center and the retirement of John Esterhai, Jr - an esteemed part of not only the trauma service but also of Penn Orthopaedics. The service continues to grow in terms of volume and breadth of practice. The faculty continue to work in all three missions with recent accomplishments including grant funding from PCORI and OREF. In addition, the faculty within the division are well represented at the national and international level as president of the state society, on the board for FOT and AONA, and chairing several different courses and meetings.

The Foot and Ankle Service expanded to Radnor. Daniel Farber serves on the AAOS board and is involved in the AAOS fellowship accreditation task force. Keith Wapner represented the department globally with international presentations in Brazil, Japan, Qatar, and South Africa and nationally at AOFAS and AAOS.

The Shoulder and elbow division continues to work in close collaboration with researchers from the McKay Research Laboratory help to form one of the largest, shoulder research laboratories in the world. The Shoulder and Elbow service has 6 active research grants in 2015, including NIH, Veterans Affairs, health system and the industry grants. The Penn shoulder and elbow faculty presented 8 abstracts at national meetings, giving 15 talks at international, national, regional and local meetings in 2015.

The sports medicine division has continued to grow with the addition of Dr. Ellen Casey to the faculty. Dr. Casey is an established researcher in the area of the female athlete and will combine efforts with Dr. Kate Temme and Dr. Brian Sennett to develop the preeminent centers for the female athlete. The educational mission has continued with multiple national and international presentations in addition to the annual Penn Cartilage Symposium, directed by Drs. James Carey and Robert Mauck, and the Penn Throwing Symposium under the direction of Dr. John Kelly. The OREF awarded a prestigious New Investigator Grant to principal investigator Miltiadis Zgonis, MD. This grant provides funding to pilot several studies investigating novel strain transfer mechanisms within the meniscus and will add to our knowledge of how the native meniscus works within the body and better inform tissue engineered scaffold designs for meniscus repair or replacement. With respect to fellowship education, the Penn Sports Medicine Division has been extremely successful in attracting the best applicants to their fellowship and hosting national and international travelling fellows in this past year. Locally, the Penn Sports Medicine Division has also served as the leader in providing care to the running athlete under the direction of Drs. Rahul Kapur and John Vasudeven. Each year, they serve as the medical directors for the Tri-rock Philly Triathlon the Philadelphia Love Run Half-Marathon.

The spine division began a spine fellowship in combination with the Shriners Hospital of Philadelphia and they subsequently matched 2 fellows. Dr. Vincent Arlet was awarded the humanitarian award from the Duncan Tree Foundation for his outreach work in the West Indies.

The Pennsylvania Hospital Orthopedic Spine Center has become the region's premier referral center for complex spine reconstruction, emphasizing adult spine deformity. Pennsylvania Hospital is the first adult hospital in the region to use the EOS advanced imaging technology in order to tailor spine reconstruction to the needs of each individual patient. Dr. Arlet served on this year's scoliosis research society teaching faculty in Minneapolis and Dr. Harvey Smith received the award from ISMRM for the T2 mapping paper (published 2001) as one of the top 20 papers in the journal. Dr. Smith was also appointed to an FDA panel on orthopaedic devices. The division was responsible for continued clinical growth at PPMC, and fostered tissue-engineered disc replacement research (in collaboration with Rob Mauck). This work was recognized as one of the top basic science submissions at IMAST in May of 2015.

The Penn Adult Reconstruction Division and Penn Human Tissue Lab held the 3rd annual revision hip and knee CME course as well as the 3rd annual Orthopaedic Resident Training Initiative in collaboration with the International Congress for Joint Replacement. The 4th annual course will be held May, 2016. Atul Kamath was awarded the prestigious Hip Society Rothman Ranawat Traveling fellowship for travel March and April, 2016. The division published dozens of peer review publications and delivered several scientific presentations in the past year. Dr. Gwo Chin Lee was awarded the James Rand Award for clinical research at the November, 2014 meeting of the American Society of Hip and Knee Surgeons.

Under the direction of Dr. Kristy Weber, the Division of Orthopaedic Oncology hired two scientists that are focused specifically on sarcoma. Dr. Weber also developed a sarcoma advocacy group that runs annual events to raise money for sarcoma research. The footprint of the division expanded to CHOP in order to provide orthopaedic oncologic care to children with bone and soft tissue tumors (January, 2015). Dr. Alex Arkader was added to the CHOP faculty in September 2015, in order to assist Dr. Weber in orthopaedic oncology and provide expertise in pediatric limb deformity.

One of the important responsibilities of a chairman is to provide support for residents and faculty. As American healthcare changes and the challenges of constrained reimbursement continues, there are less dollars for the critical missions of education and research. Our development efforts have paid off over the last several years and are continuing. The generosity of the Biedermann family, the Hans Jorg Wyss foundation, Leonard and Madlyn Abramson Family Foundation, as well as the Cali and Weldon families have all been previously acknowledged and we are forever grateful. This year, thanks to the vision and generosity of Dr. Ed Ralston and his family, we were able to secure an endowed chair for Robert Mauck PhD, who was recently promoted to the professorial rank. I hope many of you will return to campus on September 22, 2016 to celebrate this professorship with Dean Larry Jameson and other leaders from the health system and school of medicine.

The greatest tribute a department can bestow on an individual is to name a lecture or endowment in honor of that person. At the 2016 AAOS alumni reception we welcomed

many of you to a very memorable evening. We announced the creation of the Barbara Weinraub educational endowment. Barbara, her husband Michael, and her children attended this event. Barb spoke at this function, and reflected on her 38 years with the department of orthopaedic surgery. She was responsible for guiding and supporting over 200 residents through their Penn orthopaedic residency journey. I hope that as each of you read this-you will reflect on what Barbara did for you and your classmates, and acknowledge her generosity of heart and spirit with a pledge to honor her legacy. Although Barb has finally 'retired' she will maintain a vibrant presence in the department through the Barbara Weinraub educational fund.

We are all at different stages of our careers, and many of us have held different practice positions in different places at different times, depending on many factors. This year marks the retirement of two giants in history of Penn Orthopaedics. Bruce Heppenstal has retired after a terminal sabbatical, and John Esterhai is retiring this April. Both of these men have given their life to Penn Orthopaedics. Both have embraced education, the research mission and clinical excellence. They have both been leaders locally and internationally, and their work in trauma ("Hepp") and infection ("St. John" as he is affectionately and genuinely referred to) have made a difference in modern orthopaedic surgery. John's role at the VA hospital cannot not be overstated, and Bruce's dedication to residents and the HUP service was monumental. We wish both icons well and look forward to their continued participation in department functions and educational programs.

In addition to the changes we continue to make in the profile of Penn Orthopaedics in Philadelphia, our health system is growing at an exponential rate. Our purchase of Lancaster General Hospital and Chester County Hospital has allowed us to broaden our reach within Pennsylvania, and we recently recruited our first faculty member to Cape Regional Hospital in New Jersey. Kevin McHale is joining our sports medicine faculty after completing Penn orthopaedic surgery residency and a sports fellowship at the Massachusetts General Hospital. We intend to extend our Penn service line to other health care entities in our system, and will be meeting with our colleagues from LGH this April to discuss orthopaedic quality and safety initiatives across our system. This spring I traveled with Dean Larry Jameson to Monaco where we were hosted by Prince Albert. Penn Orthopaedics is "going global" to provide consultancy and guidance for international patients. A Penn Orthopaedic directed conference will be held in Abu Dhabi next February at the request of the emirates. This is exciting for our team and further expands our horizons. We continue to engage in humanitarian outreach. Dr. Jaimo Ahn traveled to Africa this spring and is exploring service and educational opportunities for our residents in underserved areas of the world. In addition, Dr. Neil Sheth has been actively engaged in developing orthopaedic outreach in Tanzania, and in concert with the Leonard Davis Institute is developing plans to build a dedicated orthopaedic hospital. Penn Orthopaedics gives back locally and globally. A great source of pride for all of us.

Our future has never been brighter. This spring I was

privileged to deliver the AOA address to the medical students. The title of my lecture was: Your Next 35 Years: observations and lessons learned. I discussed the impact of Osler, Halsted, and my mentors in surgery and how this affected my career pathway. We are truly blessed for the opportunity to provide care, discover new knowledge, and to teach the next generation the skills and principles of orthopaedic surgery.

We are planning a celebration of our Penn orthopaedic legacy this September 16-18, 2016. I urge all of you to return to Philadelphia to come see what we are doing and to share with us what you are doing in practice and beyond. I welcome your comments to this narrative and as always, appreciate your continued support and enthusiasm for our department.