

YALE ORTHOPAEDICS QUARTERLY



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Chair's Report

We have had a busy Winter at Yale Orthopaedics and Rehabilitation! The influx of talented new faculty continues and now reaches from the southwestern most part of the state to the southeast and Rhode Island. Dr. Lee Rubin joined Yale Orthopaedics in November and is already building a dynamic Adult Reconstruction service together with veterans Kris Keggi and Rich Pelker as well as Dr. Mary O'Connor. Kris Keggi has transitioned into a non-operative role after a truly remarkable career. His accomplishments are highlighted in this issue including his recent textbook published together with Lee Rubin on the Anterior Approach to the Hip.

Dr. Steve Gross rounds out the Adult Reconstructive Service with the addition of his practice (formerly Ninigret Orthopedics) in Westerly, Rhode Island. He joins Dr. Frank Difazio (Stamford) in providing comprehensive hip and knee surgery in locations distant to New Haven. As the Adult Reconstructive Service remakes itself, new initiatives such as the Hip Fracture Program at the Center for Musculoskeletal Care led by Mary O'Connor add value and further advance the quality of care for adult patients with fragility fractures and degenerative disease.

In addition to growth in the reconstructive surgery arm of our practice, it is also exciting to see the Physical Medicine and Rehabilitation Section grow in faculty and clinical productivity. Dr. Marc Rosen, Chief of the PMR Section, describes the scope of services provided through PMR as well as the faculty who comprise the Section. Two additional faculty members will be joining the section this summer to bring the faculty to five providers delivering comprehensive care in offices in New Haven, Stamford, Milford, Old Saybrook, and Westerly.

The administration of our Department led by Stacey Lombardi also continues to grow and flourish; one new initiative led by our group is the Getting Better Together initiative and the scope of this effort is described in this issue. As we move into Spring, we will all look to activities outside the office that are equally important to the health and well-being of our Department, faculty and staff. Kris Massey gives an informative summary of the benefits of gardening also in this issue.

Several members of our Department including our junior faculty members have received accolades this quarter. Among others, Dr. David Kovacevic received an NIH K08 Award which is a remarkable achievement for a clinical faculty member, while Dr. Ken Donohue gives an insightful summary of a recent paper that he published in JBJS on glenoid morphology and rotator cuff atrophy.

Resident and fellow interviews are complete and we anxiously await the results of the Match that will be available in March. The AAOS is also fast approaching and we will have a meeting of the YOA in San Diego on Thursday, March 16. Please visit our website at <https://medicine.yale.edu/ortho> for more information. Thank you again for your support and please send any information that you would like to share in future issues of the YOQ!

Yours at Yale,

Ted

Theodore A. Blaine, M.D.
Professor and Interim Chair
Department of Orthopaedics & Rehabilitation
Yale School of Medicine



A Tribute to Professor Kristaps J. Keggi, M.D., Dr Med (hc)

By Stephen Nelson, M.D. and Lee E. Rubin, M.D.



Kristaps J. Keggi, M.D. speaking at the book launch event held on May 27, 2016 in the Cushing Historical Library at Yale University School of Medicine

Master surgeon, innovator, leader, Army officer, athlete, ambassador, veteran, mentor, philanthropist, and Professor: Dr. Kristaps J. Keggi has worn many hats over the course of his 65-year connection with Yale University.

A native of Latvia, Dr. Keggi arrived as a refugee from World War II, in the United States to Brooklyn, New York with his family when he was 15 years old. Less than two years later, he was admitted with a full scholarship to Yale College. While at Yale, he was a member of the Saybrook College intramural football team and became the Captain of the Yale Fencing Team. After earning his undergraduate degree in 1955, he then graduated in 1959 from the Yale School of Medicine. He completed two years of general surgery at The Roosevelt Hospital in New York City before returning to Yale for an orthopaedics residency under the tutelage of the pioneering inaugural chairman, Dr. Wayne O. Southwick.

Dr. Keggi volunteered to serve in the Army Reserve and was commissioned as a 2nd Lieutenant. Upon the completion of his residency with Dr. Southwick, he served on active duty for two years (1964-1965). The first of those years was on the teaching staff of The William Beaumont General Hospital in El Paso, Texas, and the second was with the 3rd Surgical Hospital, Mobile, Army ("MASH") in Vietnam during the first year of full combat operations by American and Australian troops. Initially attached to the 173rd Airborne Brigade, he was also actively involved with the wounded of the 1st and 25th Infantry Divisions as they arrived in the war zone just north of Saigon.

During this deployment, he also served in the Central Highlands, near the Cambodian border, where he took care of both the Special Forces and the native Montagnard tribes. His work with their wounded and sick led to his initiation in the Rhade Tribe. Their sick were of special orthopaedic interest and he felt fortunate to deal with such unusual problems as leprosy and see its effects on the extremities. After these two years of active duty, he returned home to a teaching position at Yale as an Assistant Professor in 1966. His primary interest at that time was in spine surgery and trauma. Thus, his early publications and major academic presentations were focused on trauma and reconstruction of the cervical spine.

Soon thereafter, total hip arthroplasty was introduced in the United States in 1969 and was primarily being performed through a lateral trans-trochanteric approach. Under Dr. Southwick's tutelage, Dr. Keggi was experienced with all conceivable hip reconstructions performed through a variety of approaches. After a short trial period, Dr. Keggi determined that the procedure could be done through an anterior approach without needing the complication-prone trochanteric osteotomy. By 1974, Dr. Keggi performed all of his total hips through a purely anterior approach, a revolution at the time. This approach decreased operative time, blood loss, and post-operative pain, while also providing an expedited functional recovery.

In 1977, Dr. Keggi presented his anterior technique as an exhibit at the Annual Meeting of the American Academy of Orthopaedic Surgeons, and later that year performed the first revision of a failed cemented femoral component through the same approach. He thus became the first surgeon in the United States both to adopt the Direct Anterior Approach (DAA) into his routine practice, and to perform hip revision surgery using the technique. During those early years of DAA, he helped to design nearly all of the modern instrumentation now considered standard for the technique. In the early 1980's he also started using a secondary incision or "stab wound" to facilitate the use of straight stem femoral components and decrease soft tissue releases required to insert them especially in overweight and muscular patients. The "K-spot" incision over the origin of the gluteus medius leading into the femoral canal thus used an internervous tissue plane. It had its official presentation in 1986 and has continued to be of practical use in complex primary and revision procedures since that time.

In 1987 he went to Moscow to see his daughter Mara row in the First Good Will Games and there, he became acquainted with a fellow Latvian, Professor Viktor Kalnberzs, the leading Academic Surgeon of the USSR. The following year he was invited to

lecture and to demonstrate total hip replacements in Riga, Latvia; this key experience led to the start of an academic exchange program and the establishment of the Keggi Orthopaedic Foundation. At the height of this program he visited the Soviet Union five to six times a year to lecture and operate. He was the first Western Surgeon to operate in the Kremlin Hospital and his visits ranged from Riga to Vladivostok. The Keggi Foundation, Yale Orthopaedics, and the Waterbury Hospital were together able to sponsor over 250 fellows from the Baltics, Russia, other former Soviet Republics, and Vietnam to visit in America and become familiar with our surgical techniques, clinical research, and teaching methods. Many of these talented young fellows have now grown to become leaders in their field, professors, academic writers and politicians, such as Valdis Zatlers, President of Latvia.

Dr. Keggi's innovations have led to dramatic changes in orthopaedic surgery. His surgical instruction has trained over 50 classes of orthopaedic residents and the more than 250 previously mentioned international fellows. In 2016, he worked with Drs. Sonny Bal and Lee Rubin to compose and publish the world's first comprehensive text on anterior approach hip surgery, entitled "The Direct Anterior Approach To Hip Reconstruction."

Dr. Keggi has been on the Yale University Faculty since 1966, became a Clinical Professor in 1989, returned to the full time faculty as a full Professor in 2008, and assumed the Endowed Elihu Professorship in 2010. His successors of this Chair will thus inherit the "Kristaps Juris Keggi Professor of Orthopaedics and Rehabilitation."



(Left to Right) Theodore A. Blaine, M.D., Lee E. Rubin, M.D., Kristaps J. Keggi, M.D., and Gary E. Friedlaender, M.D.

Dr. Keggi's awards and honors are too numerous to fully list but include: Seven Yale Orthopaedic Resident Teaching or Mentorship Awards, the Yale Orthopaedic Professorship in his name, four Honorary Doctorate Degrees, the Yale University Athletics 2005 George Herbert Walker Bush Lifetime of Leadership Award, Russian Academy of Science (Honorary Foreign Member), Latvian Academy of Science, Latvian Order of the Three Stars, V Class Order of the Estonian Red Cross, Silver Medal of Medical Dignity and Service to Russian Medicine, multiple awards from the Latvian Academy of Science and Medical Association, as well as multiple "Top" Physician, Surgeon or Orthopaedist awards in the USA.

Dr. Keggi's legacy will continue in perpetuity not only via the Kristaps J. Keggi, M.D. Endowed Professorship, but also through the newly established "Keggi Fund for International Orthopaedic Education." This has been conceived by Dr. Keggi to be an endowment that will foster ongoing international exchange programs at Yale Orthopaedics. As a Professor Emeritus in 2017 and beyond, Dr. Keggi will continue his inspirational career with Yale Orthopaedics as a colleague, author, and mentor, continuing to inspire the next generation of innovative and creative surgical minds emerging from Yale Orthopaedics.

To help honor Dr. Kristaps J. Keggi's Career and Legacy, please consider making a generous donation in support of the emerging "Keggi Fund for International Orthopaedic Education" at Yale University.

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Center for Musculoskeletal Care Fragility Hip Fracture Program

By Mary I. O'Connor, M.D.

Fragility hip fractures continue to pose significant morbidity and mortality risk to our aging population. In 2015, approximately 450 patients with hip fractures were treated at Yale New Haven Hospital, with patients equally divided between the York Street and St. Raphael campuses. Recognizing the opportunity to centralize our care at one campus, prioritize the surgical care of these patients and drive integrated clinical protocols, our multidisciplinary Integrated Fragility Hip Fracture Program began in February 2016. The fundamentals of the programs include:

- * **Focused hospital:** St. Raphael Hospital: EMS brings suspected fragility fracture patients to the SRC campus; patients presenting at YSC are transferred to SRC
- * **Co-management of patients by orthopaedic surgeons and hospitalist:** Prompt medical clearance and optimization for surgery
- * **Regional anesthetics to limit systemic narcotics:** Single shot femoral nerve blocks upon admission
- * **Surgery within 24 hours of admission:** Designated OR Block time for the hip fracture surgeon
- * **Use of tranexamic acid to decrease blood transfusion rates**
- * **Shared call responsibilities:** Our Yale University faculty and community surgeons equally share call responsibilities
- * **Support by our local Primary Care Physicians (PCP):** Our local PCPs have been very supportive, understanding the need to prioritize surgical care to the on-call surgeon
- * **Fragility Hip Fracture Liaison Nurse:** Communicates with the patient's PCP on recommendations regarding medical management of bone health
- * **Creation of a Fragility Fracture Registry**

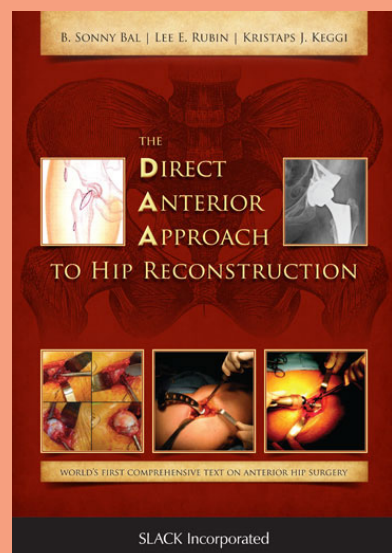
Our progress has been significant. Nearly 90% of eligible patients receive surgical care within 24 hours and our length of stay has decreased from 5.1 days to 4.5. We have seen improvement in nearly every quality variance indicator. Delirium and problems related to systemic narcotics have decreased. There is no doubt that this effort has been incredibly rewarding and our team continues to identify processes to further improving outcomes for this unique population in our community.



Fragility Hip Fracture Program Team. Photo credit to Kelly Jensen Sembos, Yale New Haven Health System

Direct Anterior Approach to Hip Reconstruction

By Lee E. Rubin, M.D.



Cover for *The Direct Anterior Approach to Hip Reconstruction*

Total hip replacement has steadily evolved to improve patient outcomes and safety. One innovation over the years has been to incorporate less invasive surgical methods, such as the direct anterior surgical approach.

The Direct Anterior Approach to Hip Reconstruction is a comprehensive reference text that addresses contemporary surgeon interest in innovation and less invasive surgery. This resource will help with introductory learning, intermediate technical development, and advanced revision total hip skills using the direct anterior technique. The book provides a stepwise learning process for surgeons interested in mastering total hip arthroplasty using the direct anterior approach, with detailed chapters and video instruction, contributed by a group of international experts in the field.

The chapters focus on using the direct anterior approach to address a variety of hip problems well beyond performing total hip arthroplasty for osteoarthritis. The unique applications of the direct anterior approach within the orthopedic sub-specialties are addressed in chapters covering the fields of pediatrics, sports medicine, trauma, and tumor surgery. Other chapters address subjects like femoro-acetabular impingement, hip preservation surgery, and postoperative rehabilitation protocols designed to improve patient outcomes.

The final section of the text reviews the evidence-based outcomes related to direct anterior total hip arthroplasty, addressing evolving implant design concepts specific to this approach, and outlining directions for educating the next generation of surgeons who will continue to develop and refine these techniques. Complementing the written text is a website with educational videos to further enhance the learning experience.

Yale Orthopaedic Surgeons Lee E. Rubin and Kristaps J. Keggi worked with University of Missouri Professor B. Sonny Bal to combine their unique perspectives, along with those of a renowned group of North American and European experts in the anterior hip reconstruction surgery to create this reference.

"As a mentor to residents and surgeons learning how to perform total hip replacement, I realized there was a clear need to have a comprehensive reference on how best to perform these techniques using the minimally invasive, muscle-sparing direct anterior approach," said Dr. Rubin. "With the publication of this new book, surgeons across the country and around the world will now have an expert guide for all aspects of learning and performing anterior approach hip surgery, from simple replacement procedures to even the most complex revision operations."

Dr. Keggi was among the first to recognize the benefits of the direct anterior approach in hip reconstruction; this text is based on his 50-plus years of experience as a clinician and pioneer surgeon. Keggi commented that "to have been a surgeon since my graduation from the Yale School of Medicine in 1959, as student, practitioner, and teacher, has been a joy. As the benefactor of Wayne Southwick's gifted training, inspired in him at Johns Hopkins by such historical Yale graduates as William Halsted, I was encouraged to think of new ways to improve old problems. The Direct Anterior Approach to Hip Replacements, which we started in the early 1970s, is in line with their thoughts and encouragement."

Keggi added, "It has been rewarding to pass this knowledge to five decades of residents and fellows, among them such outstanding Yale Surgeons and Orthopaedic Leaders as Lee Rubin who is prepared to carry it into the future and improve the lives of generations to come."

To date, no other reference has addressed the need for comprehensive education for the orthopedic resident, fellow, or surgeon seeking to learn about the direct anterior approach for hip reconstruction. This resource should be invaluable to orthopedic surgeons worldwide and will contribute to improving patient safety, reducing complications, and better surgical outcomes. Indeed, this landmark publication is truly the world's first comprehensive text on anterior hip surgery.

Yale Orthopaedics and Rehabilitation welcomes Lee E. Rubin, M.D., Associate Professor and Section Co-Chief of the Adult Reconstruction Division



Lee Rubin, M.D.

Dr. Rubin is a board-certified, fellowship-trained Orthopaedic Surgeon. His surgical practice is entirely focused on the care of Hip and Knee Disorders, including joint preservation techniques, partial and total joint replacements, revisions, peri-prosthetic fractures, failures, and infections. In 2016, Dr. Rubin successfully authored, edited, and published the world's first comprehensive text on anterior hip surgery, entitled "The Direct Anterior Approach To Hip Reconstruction," which is now the definitive reference for surgeons around the world who are learning and performing hip surgery using the minimally invasive direct anterior approach technique. Dr. Rubin is a Fellow of the American Academy of Orthopaedic Surgery (AAOS), a Fellow of the American Association of Hip and Knee Surgeons (AAHKS) an active member of the Orthopaedic Research Society (ORS), and is a Five-Time Faculty Member of the International Congress for Joint Reconstruction (ICJR).

In late 2016, Dr. Rubin joined the Clinical Faculty of Yale University's Department of Orthopaedics & Rehabilitation, where he will serve as both the Co-Chief of the Adult Reconstruction Division and the Chief of the Yale-New Haven Hospital (YNHH) Center for Musculoskeletal Care (CMC) Total Joint Replacement Program. In these roles, he will work to educate medical students, residents, and fellows, help to coordinate

the clinical care program for patients undergoing total joint surgery at YNHH, provide quality improvement and outcomes assessment, and actively streamline the rehabilitation process for patients and their families.

Originally from New Jersey, Dr. Rubin matriculated as an undergraduate Presidential Scholar at Brandeis University in Waltham, Massachusetts and graduated Cum Laude in 2000. He then graduated in 2004 with Alpha Omega Alpha distinction from the Tufts University School of Medicine in Boston. Dr. Rubin completed his Orthopaedic training at Yale University in 2009, followed by an Adult Reconstruction (Total Joint Replacement) Fellowship in 2010, focused on the Direct Anterior Approach with Dr. Kristaps J. Keggi and the Keggi Orthopaedic Foundation at the Waterbury Hospital in Connecticut.

Following his early practice and partnership with Dr. Keggi, Dr. Rubin then spent over five years in practice with University Orthopedics, Inc. and Lifespan, while serving as an Assistant Professor of Orthopaedic Surgery on the faculty of the Warren Alpert Medical School of Brown University in Providence, Rhode Island. In this role from 2011 to 2016, he became the first surgeon in the history of The Miriam Hospital to perform Direct Anterior Hip Replacement, Revision, and Joint Preservation procedures. He was actively engaged in numerous clinical research projects through The Miriam Hospital's Total Joint Center, publishing numerous scientific posters, papers, and book chapters.

At Age 35 In 2013, Dr. Rubin was selected and awarded as one of the "Forty Under 40" by the Providence Business News, becoming the first Orthopaedic Surgeon to win this honor in Rhode Island. In 2013, he was elected to serve on the Executive Committee of the Rhode Island Orthopaedic Society (RIOS), and was invited to serve on the Board of the Yale Orthopaedic Association in 2016. He serves as an editorial board member and reviewer for a number of prestigious orthopaedic journals, is actively involved with the Arthritis Foundation, and was the Rhode Island Arthritis Foundation Chapter's "Medical Honoree" at the Providence Walk to Cure Arthritis event in 2015.

He is accompanied to New Haven with his wife, Jamie, and their two children, Abigail (7) and Matthew (5).



Dr. Rubin assessing acetabular component position during a total hip replacement utilizing the direct anterior approach.

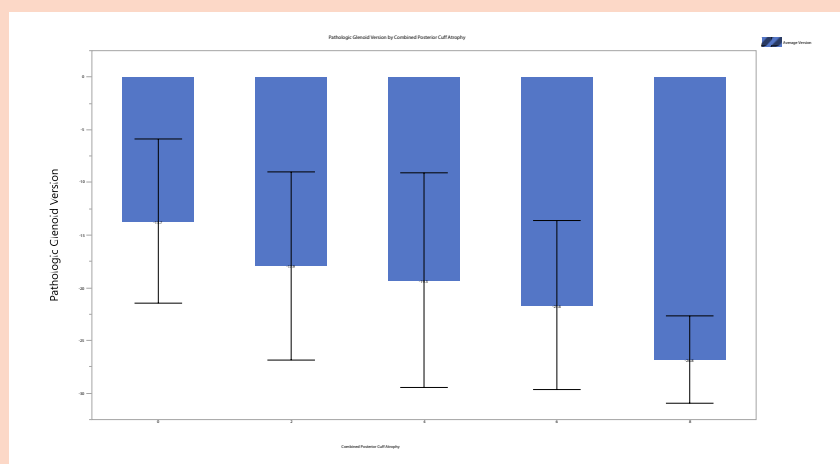
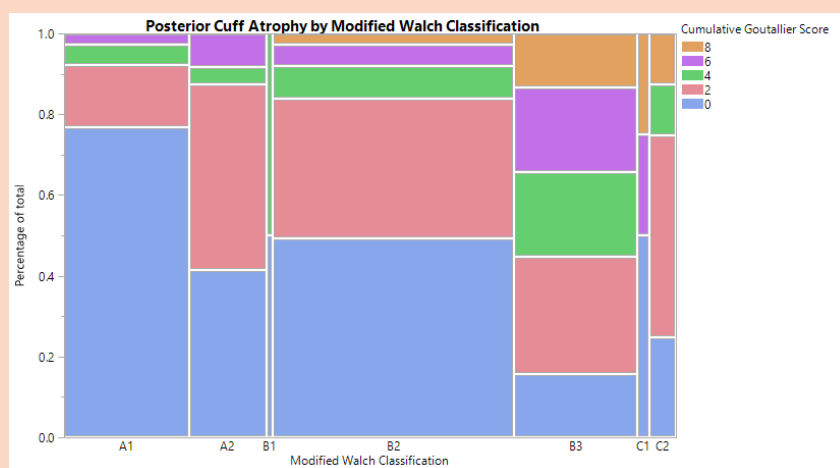
The Association Between Rotator Cuff Muscle Atrophy and Glenoid Morphology in Shoulder Arthritis

By Kenneth W. Donohue, M.D.

Glenoid morphology and rotator cuff muscle quality are important considerations in shoulder replacement that can impact implant longevity, particularly of the glenoid component. A recent retrospective case series of patients who underwent for shoulder replacement were evaluated to determine whether severe muscle atrophy correlated with increased pathologic bone loss in type B glenoids.

The investigators found a statistically significant difference in fatty degeneration score for all muscles of the rotator cuff between glenoid subtypes. High-grade posterior-cuff atrophy was present in 55% of B3 glenoids versus 8% of A1 glenoids. [Figure 1] Increasing joint-line medialization correlated with increasing atrophy of all muscles of the rotator cuff. Increasing pathologic retroversion correlated with increasing atrophy of the infraspinatus, teres minor and the combined posterior cuff muscles. [Figure 2] After controlling for joint line medialization and retroversion, B3 glenoids were more likely to have atrophy of the supraspinatus, infraspinatus and teres minor than B2 glenoids. Subscapularis atrophy is rare and not significantly different between Walch subtypes after controlling for joint-line medialization.

The location and severity of rotator cuff muscle atrophy differs significantly between Walch subtypes. High-grade rotator cuff muscle atrophy is associated with B3 glenoids, increased pathologic retroversion, and increased joint line medialization. These findings have potential implications for shoulder replacement. Persistent rotator cuff muscle atrophy may be a risk factor for progressive humeral head migration superiorly and/or posteriorly after anatomic shoulder arthroplasty. Additional studies are needed to determine whether preoperative rotator cuff muscle atrophy improves postoperatively with correction of pathologic version and restoration of the native joint line.



Division of Physiatry Flying High in Yale Orthopaedics and Rehabilitation

As the Chief of the Section of Physical Medicine and Rehabilitation (PM&R) in the Department of Orthopaedics and Rehabilitation at Yale, I have the distinct pleasure to share with you a brief outline of the practice of Physiatry and provide biographical information about the three members of the Section of PM&R. The practice of PM&R, which is also known as Physiatry or Rehabilitation Medicine, aims to enhance and restore functional ability and quality of life to patients with physical impairments or disabilities affecting the brain, spinal cord, nerves, bones, joints, ligaments, muscles, and tendons. Physicians who have completed residency training in PM&R are called Physiatrists.

We are celebrating our 70th year as a recognized medical specialty. On February 27, 1947, the American Board of Physical Medicine was incorporated and officially recognized by the American Board of Medical Specialties (ABMS). Physiatrists collaborate with physicians from multiple medical and surgical specialties as well as professionals from the rehabilitation care team to maximize a patient's functional independence and to improve quality of life. Within the broader care team, a Physiatrist will serve as a leader and will design comprehensive, patient-centered treatment plans.

We utilize both cutting-edge and time-tested treatments to maximize function and improve quality of life for our patients. For example, for patients with joint pain, we may use diagnostic ultrasound to improve the localization of a corticosteroid joint injection. For patients with spasticity from stroke, we may use Botox injections to reduce the spasticity as well as splinting and therapeutic exercise.

Physiatrists care for patients of all ages, from infants to centenarians, in a variety of clinical practice settings, including acute inpatient hospitals, inpatient rehabilitation units, skilled nursing facilities, and outpatient centers. Additionally, we care for patients with a broad range of medical conditions including conditions involving the musculoskeletal, neurological, rheumatological, and cardiovascular systems. Some of the diagnoses Physiatrists care for include spinal cord injury, acquired brain injury, stroke, amputations, Parkinson's Disease, multiple sclerosis, polio, burns, cardiopulmonary conditions, musculoskeletal injuries, and pediatric conditions. Indeed, the practice of Physiatry in the United States is historically associated with one once common condition – sequelae of Poliomyelitis – and perhaps even more integrally with treatment of combat-injured veterans in the wars of the 20th and 21st centuries.

Inpatient Physiatrists lead the interdisciplinary rehabilitation team. This team might include professionals such as social workers, care coordinators, rehabilitation nurses, neuropsychologists, clinical psychologists, allied health therapists (physical, occupational, speech, and recreational therapists), orthotists, prosthetists, and specialized medical equipment vendors. Physiatrists working in the outpatient setting manage the conditions listed previously as well as a multitude of other non-surgical conditions. Physiatrists in the outpatient setting often care for patients with acute and chronic pain, non-surgical orthopaedic injuries, spinal conditions, back and neck pain, occupational injuries, overuse syndromes, neurogenic bowel and bladder disorders, pressure sores, and spasticity.

Having briefly discussed the practice of Physiatry, I would like to introduce my colleagues in the Section of PM&R. We serve as attending Attending Physicians at the Yale New Haven Hospital (YNHH), and we are on faculty at the Yale School of Medicine.

Dr. Vivian Shih, M.D. received her Bachelor of Science with honors from the University of Miami. She received her Doctor of Medicine Degree from the University of Miami in 1998. In 2002, she completed her postgraduate medical training in PM&R at the Feinberg School of Medicine at Northwestern University and the Rehabilitation Institute of Chicago. She is board certified in PM&R and specializes in non-surgical management of musculoskeletal disorders, osteoporosis, post hip fracture rehabilitation, arthritis, gait and balance disorders. She also performs electrodiagnostic testing including electromyography (EMG), nerve conduction studies, and ultrasound guided joint injections. Dr. Shih has been a practicing PM&R physician in the New Haven area since 2005. Previously to joining Yale in 2016, she had been practicing at Northwestern University Medical Center and the Rehabilitation Institute of Chicago. She has published in the Arthritis and Rheumatism journal, American Academy of Physical Medicine & Rehabilitation (AAPM&R) online review, Archives of Physical Medicine and Rehabilitation journal, and Koopman's Arthritis and Allied Health textbook. She is a member of the AAPM&R and the American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM). At AAPM&R, Dr. Shih is the principal author for maintenance of certification online review for joint and connective tissue disorders.

Dr. David Woznica, M.D. received his Bachelor of Science in Biology with minors in Exercise Science and Chemistry from Southern Connecticut State University, followed by a Master of Science in Cellular and Molecular Biology at the University of Connecticut. He obtained his Doctor of Medicine Degree in 2010 at Drexel University College of Medicine/Hahnemann University Hospital. He received his postgraduate training in PM&R at the New York-Presbyterian Hospital of Columbia and Cornell. Following the completion of his PM&R residency, he undertook a Sports and Interventional Spine Fellowship at the

Rehabilitation Institute of Chicago and Northwestern University. Dr. Woznica is board certified in PM&R as well as in Sports Medicine. He specializes in non-surgical Physiatric spine care and non-surgical sports medicine and musculoskeletal care. He is proficient in the use of musculoskeletal ultrasound both as a diagnostic tool as well as for optimizing interventional treatments. Prior to his medical training, Dr. Woznica worked extensively in the fitness and wellness field as a personal trainer. He has been an editor for several publications of the American College of Sports Medicine. He presented at conferences for both the American College of Sports Medicine as well as the American Medical Society for Sports Medicine. He has authored chapters on manipulation of cells in laboratory settings as well as on the physical exam of the lumbar spine and sacroiliac joint.

I received my undergraduate degree from the Department of Chemistry at Brown University in 1983 and my Doctor of Medicine degree from the Albert Einstein College of Medicine (AECOM) in 1987. I was first exposed to the field of PM&R during a medical student clinical rotation at AECOM. I completed my internship in the Department of Internal Medicine from the Montefiore Medical Center, Bronx, NY, in 1988. I completed my residency training in PM&R at the Columbia University College of Physicians and Surgeons at the Columbia Presbyterian Medical Center in New York, NY in 1991. I am board certified in PM&R. I am a Fellow of the American Academy of PM&R (FAAPM&R). Since completing my residency, I have lived and worked in Connecticut, having practiced primarily in the inpatient setting. I joined the Department of Orthopaedics and Rehabilitation at Yale in August 2015. My current practice at Yale focuses on caring for inpatients in YNHH and in the acute Inpatient Rehabilitation Unit (IRU) in the YNHH Rehabilitation and Wellness Center located within Milford Hospital. I am involved in the recruitment of new Physiatrists for our growing Section of PM&R. One of my goals at Yale is to develop a medical student elective rotation in PM&R, as such a rotation does not yet exist in Connecticut. I am available to serve as a mentor and resource for medical students interested in exploring the dynamic, interdisciplinary field of PM&R. Presently, there are no PM&R residency programs in Connecticut. As such, one of my long-term goals is to develop a residency training program in PM&R at Yale.

Article written by Marc L. Rosen, M.D., FAAPM&R, Chief of the Section of Physical Medicine and Rehabilitation, Department of Orthopaedics and Rehabilitation, Yale University School of Medicine.

Getting Better Together

In November 2016, Yale School of Medicine (YSM) announced a pilot program, "Getting Better Together", in hopes of making a positive impact on the culture at the School of Medicine. This culture change would be achieved through partnership with central finance/administration and Medical School departments. Each departmental business office had the opportunity to apply to become members of the Getting Better Together (GBT) team. Through a competitive application process, the Department of Orthopaedics & Rehabilitation was selected as participants on this important effort. Along with members from YSM Finance, Yale Medicine Administration, Pathology, Microbial Pathogenesis, our department representatives include Stacey Lombardi (Finance & Administration Director), Shannon Labozzo (Financial Analyst), Shannon McGrath (Business Analyst), Heather Ong (Operations Manager), Janet Penketh (Executive Assistant to Chair), Maddy Vega (Financial Assistant), Betsy Voza (Assistant Administrator), Maja Gill and Cliff Brown (HR Generalists).

Initially the team was challenged to establish more formalized values and principles for how we work together and to help shape the organization to focus more on improving processes and minimizing redundancy. By doing so, we intend that the benefits of partnering will be far-reaching, with positive impacts for faculty, staff, and students alike.

Our main focus has been defining and improving the faculty recruitment and onboarding process. This is tremendously important as recruitment is the gateway to the faculty experience. We have made great progress on defining and improving the workflow. Decreasing the administrative burden on the faculty member is of the utmost importance along with presenting the recruit with a clear and concise timeline to be on boarded. At the end of this project, roles and expectations will be more clearly defined for all involved. This will result in our ability to deliver superior results when recruiting and onboarding faculty and making them feel engaged, part of the team, and respected.

Ultimately, we want to set the stage for lasting improvement in the climate and culture of the Medical School. The GBT proposal will be presented to the Dean's office at the end of February but we have already begun making changes in our department's recruitment and onboarding strategy. Our department is committed to continuing improvement and we are honored to be part of the GBT team.

Article written by Stacey Lombardi, Director of Finance & Administration for the Department of Orthopaedics & Rehabilitation

Bones, Bits & Pieces

Spring Ahead!

Spring is gently knocking at our doors. Social media feeds fill up daily with posts such as protests to fire the groundhog, countdowns to the first lake getaway, and MLB spring training. The unexpected post is a growing calendar. Or maybe the calendar always comes up but skipped over. Who thinks of little seedlings when inches or feet of snow still cover the frozen ground? This useful chart lists plants, when to start growing indoors and when to transplant the sprouts outdoors. A good inspiration for those of us who do not know when to start or how to plant.

Janice Vasil flexed her two green thumbs for a living prior to her administrative assistant duties in Orthopaedics. Her family business – **The Flower Farm**, established in 1989 -- is now operated by her son Ray. Check out the farm's website: theflowerfarmllc.com. Jan's green thumbs rescued many of our office plants from near-death experiences. She is the master to turn to for sage advice about gardening.

Consulting with Jan, the growing calendar is a rote task among other farming chores year-round. "Ray is always investigating ways to become 'greener.'" Aside from getting the variety of plants and flowers ready for business, he tinkers with getting more for less. For instance, combining less fuel usage with manipulating the green house covering over plant cuttings. Thus, the whole greenhouse does not need to be heated by fuel until necessary. Other experiments involve water conservation like recycling water and finding the right nozzle for the water system. All efforts save resources and some 'greenbacks' too.

Prosperous gardens begin with good soil and proper fertilizer. Dig a little deeper and check out [The Old Farmer's Almanac](#). Not only does this source provide growing calendars but also provide companion planting guides. Why do plants need to be paired up? Green thumbs plan their garden the way teachers arrange their classroom cheating chart. The right individuals are placed together to thrive and enhance one another. Match the wrong individuals and all sorts of misbehavior happens. Stunted growth, altered flavors and competition for water and nutrients are negative effects of incompatible plants.

The companion planting guide lists plant friends and foes. Some classic combinations that appear on menus grow great together: carrots and peas, peppers and onions, tomato and basil. Peppers and basil are another good couple. Per Janice, "Basil enhances the flavor of peppers. But do not plant string beans next to peppers. Peppers can change the flavor of beans and not in a good way." Lettuce is crowned the most popular growing companion with only one foe – broccoli. Funny some people may share the same dislike as lettuce. Other non-compatible pairs are corn and tomatoes; cabbage and cauliflower; beans and sunflowers. These pairs should be separated and planted away from one another much like a teacher separates troublemakers in the classroom. Opposite ends of the garden bed or a four feet space is sufficient. For added protection from other invaders, plant some marigolds and nasturtiums in or near the garden. These flowers deter insects and beetles away from the crop.

The cold air, snow and frozen ground will be around for a few more weeks. It will be some time before swapping the mittens for garden gloves and ski poles for the spade and hand trowel. As the snow falls, think spring and map out your seating chart of vegetables, herbs, and flowers. Maybe your pale green thumb will become a darker shade by the end of summer.

Article written by Kristine Massey, who is a Boston Red Sox fanatic!

Yale Orthopedic Association Reception

**The YOA has arranged the annual reception
at the
AAOS meeting**

**Thursday, March 16,
6:00pm - 8:00pm**

**at the Manchester Grand Hyatt
in San Diego**

We hope to see you there!

YOA Board

Announcements



On Saturday December 10 2016, the Darien H.S. Football team beat Ridgefield for the 2016 Class LL Championship. The final score was 28 to 7 with a great defensive showing by Darien. They have now won back-to-back Connecticut State Championships, and Yale Orthopaedics is proud to provide their care.



Our residents enjoying themselves at the Graduate Club for our annual Holiday Party.

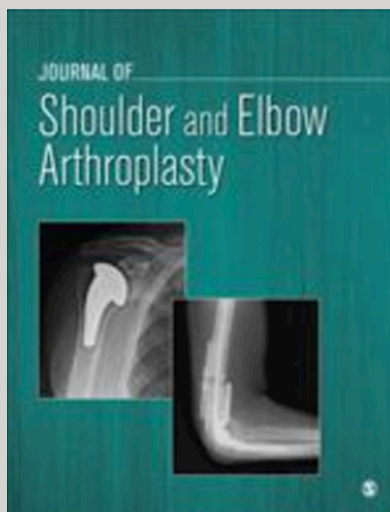


After more than two decades of service to our patients in Yale Orthopaedics, Johanna Mahon has decided to start a new chapter in her life. We will miss her dearly, and we wish her and her family much success in her future endeavors!

New Journal February 2017

New Journal of Shoulder and Elbow Arthroplasty launches February 2017!

<https://us.sagepub.com/en-us/nam/journal-of-shoulder-and-elbow-arthroplasty/journal202582>.



Editorial from Co-Editors in Chief Dr. Theodore A. Blaine and J. Michael Wiater:

We are thrilled to introduce the first issue of this new *Journal of Shoulder and Elbow Arthroplasty (JSEA)*, an exciting new publication focused on arthroplasty and reconstructive surgery in the field of shoulder and elbow surgery. Shoulder and elbow is the fastest growing segment of the arthroplasty market worldwide, with rapidly evolving new technologies. Some of these new technologies in the shoulder include reverse shoulder arthroplasty, massive segmental tumor reconstruction, stemless and short-stem arthroplasty, ingrowth metals, augmented glenoids, alternative materials, and new-bearing surfaces such as pyrocarbons and ceramics. In the elbow, new technologies include capitellocondylar replacement, radial head replacement, total elbow arthroplasty, and distal humeral replacement.

This *JSEA* has an all-star group of international surgeons and scientists on its editorial board and is intended to provide immediate and comprehensive information to the worldwide orthopedic community. With the changes in healthcare and the move towards value-based medicine, there is also a need for more outcome studies focused on upper extremity arthroplasty, and these studies will be required to ensure reimbursement for arthroplasty procedures and care. The new *JSEA* will provide a new international forum for discussion and reporting in the field of shoulder and elbow replacement and joint reconstruction.

In an effort to provide immediate access to important information in our field, *JSEA* will accept a variety of different paper types, including editorials, original scientific research, review articles, case reports, transactions from recent meetings, new technology updates, and surgical techniques. *JSEA* is also open to considering other submissions that may be valuable to the shoulder and elbow community of surgeons and providers. We also welcome feedback on how we may improve our journal moving forward. We are looking forward to all of your valuable insight and contributions to the *JSEA*. Thanks for joining us!

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