

6th Annual Medical Education Conference — Joan Lunden Keynote Speaker

On Saturday, November 8, 2014, ONSF held its annual Medical Education Conference at Noble Auditorium, Greenwich Hospital. The all-day Conference, *Treating Musculoskeletal Issues in Females*, began with breakfast followed by a CME accredited education course featuring lectures, Q & A and lunch. ONS orthopedic surgeons, neurosurgeons, sports medicine specialists, physiatrists and a Greenwich Hospital radiologist lectured the gathering of over one hundred thirty physicians, nurses, physician assistants, physical and occupational therapists, and athletic trainers. All participants received appropriate CME credits free of charge. The Conference was made possible through the generosity of an anonymous donor who supports ONSF education programs.



Joan Lunden



Gloria Cohen, MD and Mark Vitale, MD
Conference Co-Chairs

Conference Co-Chairs, Dr. Gloria Cohen and Dr. Mark Vitale, introduced the program and explained that, "...patients with musculoskeletal issues have operative and nonoperative treatment options...understanding the anatomy, physiology and procedures can assist medical providers in helping the patient regain pain free function." The presentations were uniformly excellent. Lectures reviewed female endocrinology and pathophysiology as they relate to musculoskeletal injury, appropriate non-operative and operative management, and available treatment techniques that assist in the recovery process.

Dr. Vitale, complimenting his colleagues, said, "The talks from specialists in multiple areas of orthopedics, neurosurgery, radiology and physical therapy provided expert insight into issues unique to the active female. I learned a lot myself from these talks."

Joan Lunden, award winning journalist and best-selling author, was the 2014 Conference Keynote Speaker. A health and wellness advocate, Joan has created a brand dedicated to helping women and their families live easier, happier and healthier lives. She selected *Best Practices for the Doctor-Patient Relationship* as her topic for discussion and enthusiastically addressed the gathered medical professionals sharing stories and sound advice about the relationship of an individual and her medical provider.



Alicia Hirscht, DPT, presenting to a packed house

After reviewing comments written in the Conference Survey, Dr. Cohen proudly announced that, "...we are pleased with the positive feedback from the attendees at this educational activity."

FEATURED ARTICLES -

3 *H.A.R.T.
Machine*

4 – 5 *ONSF Recognized
for Research*

7 *Treatment of Achilles
Tendon Rupture*

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Message from the President . . .

Dear Friends,

This past summer, Yankee pitcher, Masahiro Tanaka, hurt his elbow. His injury status was unclear, and when pressed, the Yankees released that no orthopedists were available to see him.

At the time, the Yankee's doctor and a plethora of second opinion leading sports medicine surgeons were all in Seattle at the annual sports medicine meeting to learn about the latest developments in the field. So Tanaka flew to Seattle to have his injury evaluated. It was at this high caliber meeting that ONSF was awarded one of the best research projects of the year. Amazing ... ONSF recognized by the world's leading authorities alongside such top research institutions as Harvard, Mayo Clinic and Stanford.

Two months later, at an equivalent meeting of hand surgeons, ONSF won another best research award. It is rare for any single organization to win two consecutive top research awards. That ONSF, our non-university organization, achieved this dream is extraordinary, and I am still pinching myself!

Winning a research award doesn't bring fame or wealth. It's more like a high-five from the coach you most admire. It is the reward for the many hours spent in the lab (instead of golfing) and long nights on the computer. Most significantly, it is the highest acknowledgement that what we are doing matters and will contribute to the future of musculoskeletal care. It is this acknowledgement that fuels the spirit and determination for the next research projects.

We were all reminded of spirit and determination when Joan Lunden spoke at our sold-out medical education conference in early November. With energy and enthusiasm, Joan reminded the medical providers in attendance to be patient advocates for themselves and to remain optimistic health care providers for their patients. Joan delivered her inspiring address while fighting breast cancer, undergoing chemotherapy treatment and battling a cold that day. I don't think that the Navy Seals could have stopped her from being with us! Joan is one of the strongest, bravest and most optimistic people I have ever met and I will look to her for inspiration when I need to dig my heels in.

Each year I feel as if we are hitting our stride. This year, we sprinted!

In this newsletter, you will read about exciting ONSF events, outreach programs and research. I am proud of and inspired by each event and so thankful to the dedicated individuals who helped to execute these. I thank all of you for your continued support and belief in ONSF.

Happy Holidays to you and your families!




Paul M. Sethi, MD

Save the Dates. . .

7th Annual Golf Outing - The Stanwich Club, Monday, June 8, 2015

3rd Annual 5K RUN/WALK EXPO - Eastern Greenwich Civic Center, Sunday, Sept. 20, 2015

7th Annual Medical Education Conference - Greenwich Hospital, Saturday, Nov. 7, 2015

ONSF Summer Mentoring

At ONSF, the mentor-mentee model is a vital component of medical education. Whether we are teaching surgical skills to local or international orthopedic surgeons, welcoming interns into the research program, allowing pre-med and college students to serve as summer interns or conducting Mini-Med school for high school STEM program students, we succeed as mentors.

Each summer, college sophomores and juniors join us in short term research positions. This is a pivotal experience for those students who are considering a career in medicine and would like to observe firsthand, and for those others who would like to enhance their applications to medical school. Brad Schnabel described his experience as more than he originally imagined when he wrote, "I really enjoyed spending time with so many doctors who had such different backgrounds and were specialists in different fields."

Before completing a research project, each student is assigned a mentor, participates in laboratory dissections and attends a bi-weekly conference. Intern Samantha Hill wrote, "The real-life medical experiences... reaffirmed my desire to pursue a medical degree (and ... provided me with an invaluable insight into possible career options as an orthopedic surgeon..." And from intern Lara Cohen, "The internship did an impeccable job of not just allowing me to observe medicine, but also learn from it and take away extremely important lessons."

Another summer program at ONSF is Mini-Med School. This year, sixteen students representing Greenwich High School, Brunswick School, Greenwich Academy and Stamford High School enrolled. Each student exhibited an interest in a career in medicine or was enrolled in a STEM program.

ONS physicians welcomed the students to the ONSF Arthroscopy, Surgical Skills and Biomechanical Research Lab and for one week provided the ultimate hands-on experience. Students attended and participated in various workshops such as casting, suturing, fluoroscopy and operating room procedures. At week's end, each student completed a survey and clearly the most popular lectures involved MRI and X-ray.

Mini-Med School at the ONSF Lab creates an amazing mentor/student event that has the potential to change a young person's life.

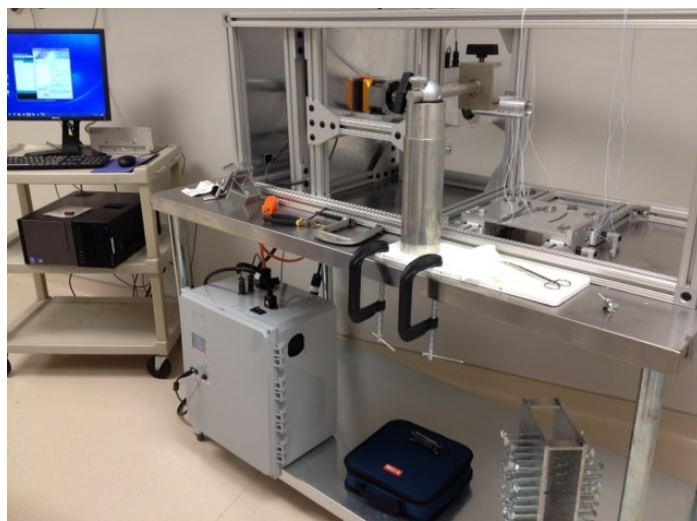


Dr. Vitale (top photo) and Dr. Sethi instructing Mini-Med School students

H.A.R.T. Machine

It is with great pride and enthusiasm that we announce the installation and current operation of the Hughston Auburn Rotational Testing (H.A.R.T.) device now in place at the ONSF Arthroscopy, Surgical Skills, and Biomechanical Research Laboratory. Only two such research apparatus exist in the country. This extraordinary research equipment represents a major gift from the Leon Lowenstein Foundation, Inc. and Ms. Joanna Schulman.

The H.A.R.T. machine will increase ONSF's ability to test and analyze different fracture repairing methods. Currently, a study examining the effects different surgical needles have on tissue is underway. Another project will study the strength of different fracture repairs, and this is just the beginning. As a result of this wonderful gift, we anticipate our research being published in numerous medical journals.



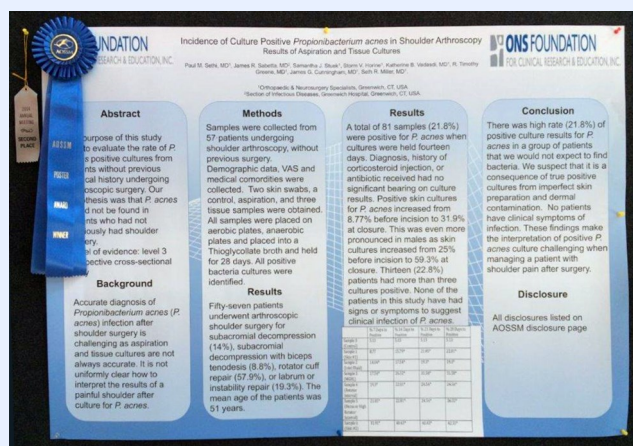
Hughston Auburn Rotational Testing (H.A.R.T.) Machine

ONSF Recognized for Outstanding Research

At some point in all surgeons' careers, an idea emerges on how to improve or make a surgical procedure better than the current standard. The real challenge is to articulate and execute these ideas. Because this is an important part of ONSF's work, we have created the think tank in which weakness and limitations in current surgical care can be identified. These ideas are openly discussed and solutions developed. The exciting part that follows the conception is the execution. Once we decide what area to study, we present the proposal to the GH IRB (Institutional Review Board at Greenwich Hospital) for review. Then the actual research project begins. Some research labs wait years to have their research recognized and published. In 2014, however, ONSF was among a select few who received not one, but two awards for outstanding research.

AOSSM Poster Award

This July, ONSF was awarded 2nd place at the meeting of the American Orthopedic Society for Sports Medicine (AOSSM) Conference, Seattle, WA.



The American Orthopedic Society for Sports Medicine (AOSSM) was founded primarily as a forum for research and the education of orthopedic surgeons, physicians and health care professionals in the field of sports medicine. Each year the AOSSM holds a conference to highlight areas of recent research, surgical techniques and to debate and share clinical insights about current topics in the field of sports medicine. Physicians are recognized and awarded for their efforts in research and presentations about sports medicine conditions.

At the annual AOSSM meeting held July 10th-13th, ONS orthopedic surgeons Timothy Greene, MD, Katie Vadasdi, MD, Director of the ONS Women's Sports Medicine Center, Paul Sethi, MD, orthopedic surgeon and President of ONSF and James Sabetta, MD, infectious disease specialist at Greenwich Hospital, were awarded 2nd place for research titled *Incidence of Culture Positive Propionibacterium Acnes in Shoulder Arthroscopy*.

Understanding and Preventing Surgical Site Infection was a joint study with the Greenwich Hospital Departments of Microbiology and Infectious Disease and examined the diagnosis of certain shoulder bacteria. These results were not only presented and awarded but also accepted for publication in *The Journal of Shoulder and Elbow Surgery*.

The research is best described by Dr. Paul Sethi: "As the field of shoulder surgery and, particularly, shoulder replacement grows, the risk of developing shoulder infection increases. When treated imperfectly, infection may cause devastating complications. Our goal is to help develop a universal measure to absolutely minimize post-surgical infection. Reducing complications adds value to patient experience and avoids the costly road of infection eradication. The bacterium (*Propionibacter Acnes*) most commonly attributed to shoulder infection is a very unusual organism. Until recently, it was not properly recognized because it was so difficult to identify. Now that one of the greatest bacterial offenders (in the shoulder) has been more clearly identified, we are looking for ways to prevent it from infecting patients. In our last study, we took over three hundred cultures and studied them. After careful analysis, we were able to identify when (during surgery) patients are most susceptible to this bacterial infection and were able to determine just how frequently this bacteria is present. Now that we know when this bacterium may gain its access to patients, we are developing ways to attack it at the patient's point of vulnerability."

Posters are judged by the AOSSM Education Program Committee. With just three posters receiving awards, **ONSF** is proud of this accomplishment and congratulates the physicians on their research and 2nd place award.

ASSH Honors ONSF Research

The American Society for Surgery of the Hand (ASSH) has named Mark Vitale, MD, MPH, as the 2014 Ronald Linscheid-James Dobyns Excellence in Wrist Surgery honoree. The goal of this award is to honor the legacy of Drs. Linscheid and Dobyns, two pioneers of wrist surgery, by annually recognizing the best wrist research paper presented at the ASSH Annual Meeting.

As the primary author of the winning manuscript, Dr. Vitale was invited to present the Linscheid-Dobyns Excellence in Wrist Research Instructional Course at the 70th ASSH Annual Meeting in Boston, MA from September 10-12, 2015.

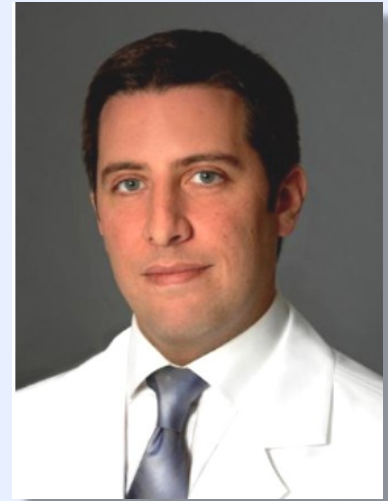
Dr. Vitale's paper *Intra-articular Fractures of the Sigmoid Notch of the Distal Radius* was presented during the 2014 ASSH Annual Meeting. It examined one of the overlooked joints in the wrist which allows the forearm to rotate – the Distal Radioulnar Joint (DRUJ).



Dr. Vitale presenting at the 2014 ASSH Annual Meeting

The study sought to determine how fractures of the wrist involving the cartilage surface of the DRUJ may create risk for later arthritis of this joint and disability in the upper extremity. He examined thirty-three patients with wrist fractures, and at an average of more than six years after wrist fracture surgery, patients with fractures into the DRUJ had equivalent outcomes to those without fractures extending into this wrist joint. There was a very low incidence of DRUJ arthritis in all patients. The

exception was patients with fractures that had a step-off of the cartilage surface of the joint by more than 1 millimeter in the coronal plane based on precise CT scan measurements, and this subset of patients had significantly worse upper extremity disability scores more than six years after sustaining their injuries.



Mark Vitale, MD

As winner of this award and Chair of this Instructional Course, Dr. Vitale will receive a \$5,000 honorarium. Dr. Vitale plans on donating the honorarium to ONSF with the goal of furthering this research in future study.

Dr. Vitale elaborates: “As hand and wrist specialists, we can treat arthritis of the wrist when it develops years after an injury, but ideally we want to identify the optimal conditions that we can influence during our initial treatment of traumatic injuries of the joint surfaces to prevent arthritis from ever developing down the road. The results of our study are promising in that they show that the DRUJ rarely becomes arthritic after wrist fractures, but given that we had a relatively small sample size and few patients with severe injuries of the DRUJ, the results must be interpreted with caution.

Further work is necessary to better identify the effect of DRUJ incongruity on patient outcomes and the development of post-traumatic arthritis. We hope to continue future multicenter collaboration with some other centers for wrist surgery in the country. The honorarium will go a long way to help get future research up and running at the ONS Foundation.”

ONSF 6th Annual Golf Outing

ONSF in conjunction with Greenwich Hospital held its 6th Annual Golf Outing on Monday, June 9th at The Stanwich Club. Following the tournament, the 95 golfers were joined by an additional 75 non-golfing friends and other supporters at a cocktail reception, auction and dinner.

ONSF President Dr. Paul Sethi honored Frank Corvino, retiring Greenwich Hospital President and CEO, for his dedication to the care and treatment of patients in the community and far beyond. "Mr. Corvino has been the guiding force behind building a state of the art hospital campus with the world's best equipment in our operating rooms. As a result, we attract surgeons from the highest caliber training programs in the world allowing us to deliver unmatched patient care." In addition, his commitment to ONSF as a member of the Board of Directors was recognized.

The event was co-chaired by Michael Clain, MD, Rich Granoff and Vicki Leeds Tananbaum. Silent and live auctions were co-chaired by Janet Delos, Rebecca Karson, Lauren Mazzullo and Amy Sethi.



Paul Sethi, MD, ONSF President, Vicki Leeds Tananbaum, ONSF Vice President and Frank Corvino retiring Greenwich Hospital President and CEO

Neurosurgeon, Dr. Paul Apostolides, served as "charity" auctioneer and encouraged lively bidding on live auction lots.

Over \$250,000 was raised and proceeds will expand ONSF's ability to utilize its Arthroscopy, Surgical Skills and Biomechanical Research Laboratory to enhance future research projects. The ultimate goal is to further outfit the Lab for studies in motion analysis.

ONSF 2nd Annual 5K Run/Walk Expo



The sun was shining on Sunday, September 21st at the start of the ONSF second annual 5K Run/Walk Expo. Over 250 attendees representing elite runners, corporate teams, joggers, student athletes, power walkers and future athletes gathered at the Eastern Civic Center in Old Greenwich to support our education programs.

This annual event included a USATF sanctioned 5K run that started at the Eastern Greenwich Civic Center, passed the Innis Arden Club and continued through the town of Old Greenwich. Following this was a run for young athletes around a course set up on the field adjacent to the Civic Center.

Throughout the day, the Expo attracted participants who interacted with the sponsors, physical therapists and physicians and learned proper training techniques. Some took advantage of foot and body massages. Through interactive programs, young children were engaged with computer tablets and learned about nutrition and health. "The race was designed to promote healthy living and what better way to do so by starting the day with a healthy activity," said event co-chair, Dr. Katie Vadasdi.

The first person to cross the finish line had a time of 00:17:53 (00:5:45/mile). Corporate Team Elite Health Services placed first in their division. All participants received a medal for completing the course and the top three finishers in each age category received an award. Fifty future stars participated in the field run. Some of these runners encouraged a parent to coach them through their paces.

Greenwich Hospital, Fairway Markets, Shore & Country Properties, Chase Bank, Jeep Chrysler Dodge CITY, Fairfield County Look, Granoff Architects, Greenwich Running Company and Elite Health Services were among the sponsors. The Old Greenwich Fire Department had a hook and ladder at the Civic Center, and the children were thrilled. An enthusiastic group of students from the Junior United Way, the Boys and Girls Club of Greenwich and Greenwich Country Day School served as volunteers. What an enthusiastic group of kids!



An Update on the Treatment of Achilles Tendon Ruptures

Sean Peden, MD

The treatment of Achilles tendon ruptures has changed significantly over the past ten years.

MYTHS

1. Achilles tendon ruptures are treated with surgery in almost every case. Nonsurgical treatment is saved for very low demand patients with comorbidities.
2. The (rare) nonsurgical patient is treated in a long cast. This should last six to eight weeks with no weight bearing and no motion.
3. After surgery, patients are immobilized in a non-weight bearing cast for four to six weeks, with a very slow return to activity.

All three myths are incorrect . . .

#1 Research from several different sources suggests outcomes for nonsurgical care of Achilles ruptures are equal to surgery. A 2012 meta analysis in the *Journal of Bone and Joint Surgery* concluded that nonsurgical treatment, “should be considered” where caregivers are familiar with “functional rehabilitation” because it results in equal outcomes and avoids surgical costs and risks.

The traditional argument for surgery was better strength and a lower risk of rerupture. After surgery, rerupture is very rare (5% or less). Nonsurgical rerupture rates quoted from older literature are as high as 10-12%, but those numbers do not reflect, “functional rehabilitation.” The 2012 published analysis showed equal calf circumference, strength, functional outcome, and rerupture rates with or without surgery.

#2 Functional rehabilitation for Achilles ruptures was first described in the 1980’s. Based on clear evidence its use is widespread, altering the standard of care for nonsurgical treatment of Achilles tendon ruptures. Long term leg casting is a thing of the past.

What exactly is functional rehabilitation? Functional rehabilitation describes weight bearing and motion after injury; there is no standardized protocol. It typically involves a short period of immobilization (1-2 weeks), followed by early motion and weight bearing in a boot.

#3 Operatively treated patients should be treated with early motion and weight bearing. A Chinese paper demonstrated superior outcomes from an early motion and weight bearing protocol compared to prolonged casting post surgically. Beyond this evidence, patients prefer early motion and weight bearing. It allows them to get back to their normal lives quicker.

My Recommendations:

The above data and recommendations apply to the typical Achilles rupture patient, a 30-60 year old male. Nonsurgical treatment should be considered. An open discussion of risks and benefits of each treatment is necessary. Early motion and weight bearing, regardless of surgery or not, has benefits.



Dr. Sean Peden
Orthopedic Surgeon, Foot and Ankle Specialist

High level athletes are different. None of the above studies involves top level athletes (i.e. basketball players) who depend on explosiveness in the Achilles and can notice minor differences in the power of the body’s largest tendon. Therefore, elite athletes continue to be treated surgically in all cases to preserve maximal strength.

In some cases, I still recommend surgery because it is more predictable. Patients with preexisting tendonitis who sustain an acute rupture heal better with surgery. In cases where the tendon is chronically injured, I will use a special technique to transfer the nearby toe flexor muscle in order to strengthen the repair. Certain other types of Achilles ruptures (musculotendinous) are better treated nonoperatively. Whether a patient is treated surgically or nonsurgically I will begin weight bearing at about two weeks and physical therapy at three weeks based on the mounting evidence that it results in a better recovery.

The Bottom Line:

- the treatment of Achilles tendon ruptures is changing significantly
- evidence supports treating some healthy adults non-surgically
- nonsurgical patients should NOT be casted for long periods
- surgically treated patients should be allowed to walk and move their ankles early
- treatment should be individualized to the specific patient’s injury, expectations, and preferences
- high level athletes should be treated with traditional operative repair for maximal strength



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