

## *ONSF and Greenwich High School PTA Partner to Address Concussion*

On March 9, 2016, **ONSF** in partnership with Greenwich High School held a panel discussion entitled **Concussion – Get the Facts: Best Practice Medical Plan and Academic Strategies**.

Approximately 50 parents and educators attended the evening program held in the Greenwich High School Media Center.

Presenters focused on empowering parents and students with tools to navigate recovery from time of injury to return to play and school. Discussion emphasized the important role of parents in their child's recovery centered around best practice medical interventions, how the family system can change an outcome, best practice process for returning to learn, what academic support the family should expect and how returning to athletics, job, driving and after school activities should be managed.

Panel members included **ONSF** President and Sports Medicine Specialist Paul Sethi, MD, Pediatric Neuropsychologist and Brain Injury and Sports Concussion Management Specialist Tricia McDonough Ryan, PhD; Neurosurgeon, Scott Simon, MD, Greenwich High School Athletic Trainer Peter Falla, ATC/L; Greenwich High School

Nurse Mary Ann O'Connor, RN and Greenwich Public Schools Coordinator 6-12 Guidance Services, Judith Nedell.

An article written by Paul Schott covered the event and appeared on the front page of the March 10th issue of the Greenwich Time. Mr.



Tricia McDonough Ryan, PhD, presenting

Schott quoted Tricia McDonough Ryan, a pediatric neuropsychologist: "The anxiety that a parent comes to the table with at the time of a concussion is a huge factor. The more you 'awfulize' it ... that this is horrible, this is horrendous, the harder it's going to be for your kid to recover. You do have some control in your child's outcome. You can control how you respond to that concussion."

Schott noted: "Greenwich students sustained some 140 concussions last school year according to data obtained by Hearst Connecticut Media. Across Connecticut, more than 5,500 school children suffered concussions last year. Among the concussions suffered by Greenwich students, about 70 happened outside of school. Twelve occurred in physical education classes, 11 during school recesses and 10 during school athletic contests. Thirty-four did not have a known cause reported." The article in its entirety can be found on-line at <http://www.greenwichtime.com/local/article/Panelists-stress-proper-concussion-treatment-6880887.php>

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# Message from the President . . .

Dear Friends,

Welcome to our Spring Newsletter. **ONSF** is now 8 years old and running strong. The successes of 2015 have left us with big shoes to fill and let me assure you that we are up to it!

While the Spring is a time for growth, this year it presents a bittersweet time for **ONSF** and our post doc students. Chrissy Conroy arrived as a college sophomore, summer intern close to four years ago and spent the last two years with **ONSF** full time. She managed to co-author 6 peer reviewed publications and make herself an integral part of our group. She has been nothing short of sensational. Chrissy will start medical school at Georgetown University this coming August. Craig Macken has also opted to move on from his year at **ONSF** to attend medical school at the University of Connecticut. Craig already has authored two publications and has two more to complete before we let him leave. It has been a privilege to be part of these two exceptional students' lives, and I know that both will be exceptional physicians.

Over the next few weeks, the new Summer interns will arrive, and we again hope to influence their young minds to pursue medical careers. The way the time clock seems to be moving lately, it won't be long before they are physicians treating us!

Dr. Mark Vitale highlights the synergy between medical technology and use of 3 D printers in the operating room. It's amazing, we no longer say, "one day we will do this." Mark and Dr. David Wei are trailblazing with technology in the hand and wrist highlighted in their article.

Team **ONSF** had a great time with the Babe Ruth Baseball league. At our baseball seminar, you could hear a pin drop when Gary Scott was telling clubhouse stories about how to get in a pitchers head. Alicia Hirscht and the therapy team got all of the kids ready for their season and, at the request of the attendees, next year's program is being scheduled.

This letter gets harder and harder to write. We have so much quality content, it is truly amazing to even try and keep up with it, no less to figure out which sections to feature! Enjoy this update and thank you again for all your generous support!



Paul M. Sethi, MD

## Save the Date . . .

**4<sup>th</sup> Annual 5K RUN/WALK EXPO - Eastern Greenwich Civic Center, Sunday, Sept. 18, 2016**

**8<sup>th</sup> Annual Medical Education Conference - Greenwich Hospital, Saturday, Nov. 5, 2016**

# ONSF Holds Play Ball! Play Safe! Baseball Clinic for Greenwich Junior Babe Ruth League

On Tuesday, April 5, 2016, a shivering opening day at Yankee Stadium, it was a warm and fun evening for the Greenwich Junior Babe Ruth League (GJBRL) at the Eastern Greenwich Civic Center, where approximately 65 athletes, parents and coaches attended **Play Ball! Play Safe! Specialization with Success in Baseball – A Conditioning Clinic** sponsored by **ONSF**.

Dr. Paul Sethi, Orthopedic Surgeon, Sports Medicine Specialist and President of **ONSF**, addressed best pitching practices and presented a review of the latest research on what works best to treat common arm injuries.



Gary Scott, former Chicago Cubs 3rd Baseman, shared his thoughts about being a pro and his hitting expertise. His demonstrations of proper throwing and batting had parents, athletes, and coaches in awe!

Athletes then divided into four groups and were assigned to work stations manned by Alicia Hirscht

DPT, Tatyana Kalyuzhny PT, Nick Mucovic PT and Chris Kish PTA. Interactive demonstrations on safe conditioning and strengthening, many using resistance bands the athletes received at the event, rounded out the program.

When asked about the evening's activities, parent Mike Norris said, *"Gary Scott's presentation was kept simple and resonated to 13 year old boys."* Athlete Jake said *"Now I know the risks of overuse and how it can hurt your arm. I always thought that could never happen to me."*

Tom Pastore, President, GJBRL, received many positive comments following the event. For example:

*Hello Tom, WOW what a great event the other night with **ONSF**. My son and I both learn so much and were so happy we were able to attend. Thank you for*

*caring for the boys to put on such an event. Thanks Again. P.S. He keeps on using the band that **ONSF** handed out and Chris the PT taught him how to use. Hi Tom, just wanted to drop you a quick note and say thank you for putting on such a great night (**ONSF**) for all the boys. I even learned a thing or two. Thanks again, Jacob*



# Meet ONSF New Members of the Board of Directors



*Adam P. Ercoli*

In September, 2015, **ONSF** welcomed Greenwich resident, Adam Ercoli, to the Board of Directors. After serving as Sponsorship Chair of the **ONSF** 3<sup>rd</sup> Annual 5K Run/Walk Expo, Adam was thrilled to join the Board. As an avid athlete and former college

All American, he understands our mission and is prepared to actively get involved in all aspects of our programs including sports related injury prevention and non-sport musculoskeletal issues.

Currently he is a Commercial Banker, Patriot Bank. Adam devoted his entire career working in the financial services industry developing business and providing assistance and guidance to folks who are buying their first home, buying into or starting a new business, selling their business, and other various stages of life and business financial planning.

Prior to settling in Greenwich, Adam spent seven years living, working and continuing his education in the Tampa/Sarasota, Florida area. Throughout this time, he had exposure to various organizations as large as United Way and as small as a locally owned comprehensive pediatric therapy practice. His experience in volunteering with these organizations was centered on community engagement, financial management, event planning and fund raising. Adam currently volunteers as a coach with the Greenwich Youth Football League.

Adam is a graduate of Marist College in Poughkeepsie, NY where he was a four year varsity letterman with All American honors. He received his MBA with honors from the University of Tampa.



*Norman G. Roth*

Norman Roth, President of Greenwich Hospital and executive vice president of Yale New Haven Health System (YNHHS) joined the **ONSF** Board in May, 2015. Norman was appointed president and CEO of Greenwich Hospital Jan. 1, 2015 after serving as the

hospital's interim chief operating officer (COO) since August 2014. Prior to that, he served as the COO at Bridgeport Hospital from 2011 to 2014. Norman has been a part of YNHHS for more than 35 years, joining Yale-New Haven Hospital in 1979 as administrative director for Emergency Services.

Before being appointed COO at Bridgeport Hospital, he served as a senior vice president at Yale-New Haven Hospital and YNHHS. In that role Norman led the planning, design and completion of the 500,000-square-foot Smilow Cancer Hospital, that formally opened in New Haven in 2010, all while maintaining responsibility for overseeing Engineering, Environmental Services, Facilities Services, Laboratory Services, Pathology, Perioperative Services, Radiology and Security, among other services.

Prior to joining Yale-New Haven Hospital, he held positions at Blue Cross/ Blue Shield of Connecticut and the Veterans Administration Hospital in West Haven.

Norman earned a bachelor's degree in political science from the American University in Washington, DC, and a master's degree in health care and hospital administration from George Washington University, also in Washington, DC. He is a fellow of the American College of Healthcare Executives. Norman and his wife Carolyn have two children and three grandchildren.

## ONSF Board Member and Former High School Coach Honored

Congratulations to Board Member, Angela Tammaro for being named to the Fairfield County Hall of Fame!

Tammy, one of the most successful high school coaches in the nation for five decades, unveiled her plaque at UCONN-Stamford on Wednesday, March 30th. Greenwich Time covered the story that appeared in the

March 31st issue. The article can be found on-line at [www.greenwichtime.com/local/article/Fairfield-County-Hall-of-Fame-unveils-honoree-7218754.php](http://www.greenwichtime.com/local/article/Fairfield-County-Hall-of-Fame-unveils-honoree-7218754.php).



*Angela E. Tammaro*

# Norwalk Community College Course for PT Students Provided by ONSF



As part of our Education initiative **ONSF** provided for the third consecutive year, lab sessions and instruction for 13 Norwalk Community College physical therapy students.

The labs, which took place March 31<sup>st</sup>, April 1<sup>st</sup>, April 21<sup>st</sup> and April 22<sup>nd</sup>, were conducted at **ONSF**'s Arthroscopy, Surgical Skills, and Biomechanical Research Laboratory. The title of the program was "Observation of Upper and Lower Extremity Dissection with Clinical Instruction." Students engaged in hands on anatomical dissection and demonstrations of surgical procedures of the upper and lower body preceded daily by a lecture on human anatomy.

Dr. Paul Sethi, Orthopedic Surgeon and President of **ONSF** and other surgeons mentored the students.

Education is a vital component of the **ONSF** mission and plays an integral role in our efforts to improve the care and treatment of musculoskeletal disorders. This course presented a valuable learning experience to the students at no cost.



## ONSF to Sponsor Greenwich Junior Babe Ruth League

Our on-going Community Outreach initiative provides information that encourages healthy, active living for all ages. The program disseminates information about injury prevention, fitness and the latest and best treatment options for musculoskeletal issues.

Partnering with local youth athletic programs enables us to further impact the community and realize our mission. Therefore, **ONSF** is honored to be a sponsor of the Greenwich Junior Babe Ruth League (GJBRL).

The League provides children the opportunity to participate in healthy competition, build teamwork skills and actively engage physical exercise!

GJBRL relies on the valuable time and effort of dozens of volunteers to make their league work and we are pleased to participate in the effort.



# 8th Annual Golf Outing "Tee-off" Cocktail Party

**ONSF**, in conjunction with Greenwich Hospital, held a pre Golf Outing "Tee-Off" cocktail party for golfers, donors and sponsors on Thursday evening, April 28th.

The spectacular Miller Motorcars Ferrari and Maserati showroom was the perfect venue for the 90 guests who socialized while admiring the automobiles. Horseneck Wines provided two wine tastings and other beverage selections.

Golf Outing Co-Chairs, Dr. Michael Clain, Adam Ercoli,



Rich Granoff and Vicki Leeds Tananbaum were joined by Cyndi and Richard Koppelman, **ONSF** President Dr. Paul Sethi and his wife, Amy, Beverley and Dan

Floersheimer, Norman Roth, President and CEO of Greenwich Hospital, Glen Sutton, President of NEBCO, Dr. Seth Miller and Amanda Miller, Angela Tamaro and many other Foundation friends.

The 8th Annual Golf Outing will be held on Monday, June 6th at The Stanwich Club.

## Racquet Sport Tips



Spring and summer are popular times of the year for Racquet Sport enthusiasts. Popular games in the category include Tennis, Squash, Racquetball and

Badminton. Proper conditioning and strength training are essential to avoid injuries while playing these sports. The shoulder, elbow and lower extremities are frequently injured due to over-use. While we are all anxious to get into the sport as quickly as possible, it is extremely important to first practice a general fitness regiment in addition to one designed specifically for the sport of interest.

**ONSF** has Sports Injury Prevention Training Programs available on our website. Please visit [www.onsf.org/prevention/sports-injury-prevention-exercises](http://www.onsf.org/prevention/sports-injury-prevention-exercises) for information and details outlining specific conditioning exercises for Racquet Sports as well as for Golf, Soccer, Baseball, Swimming, Running, Crew, Lacrosse and Skiing/Snowboarding.

## Research Clarification

The **ONSF** Arthroscopy, Surgical Skills and Biomechanical Research Laboratory exemplifies the Alliance with Greenwich Hospital. Research developed in the **ONSF** Lab is reviewed and approved by the Institutional Review Board at the Hospital. Results from this cooperative effort have been recognized nationally and set a standard for their quality and ultimate outcomes. Two papers published in the Journal of Shoulder and Elbow Surgery indicate the value of the Alliance.

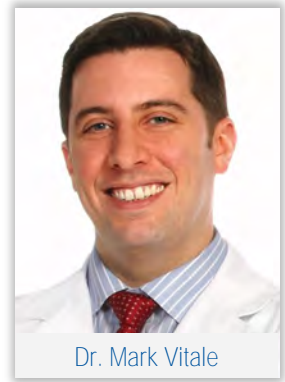
### **BASIC SCIENCE**

*Presence of Propionibacterium acnes in primary shoulder arthroscopy: results of aspiration and tissue cultures*  
Paul M. Sethi, MD, James R. Sabetta, MD, Samantha J. Stueck, BA, Storm V. Horine, BA, Katherine B. Vadasdi, MD, R. Timothy Greene, MD, James G. Cunningham, MD, Seth R. Miller, MD, Orthopaedic & Neurosurgery Specialists, ONS Foundation for Clinical Research and Education, Greenwich, CT, USA; Section of Infectious Diseases, Greenwich Hospital, Greenwich, CT, USA

### **SHOULDER**

*Efficacy of topical benzoyl peroxide on the reduction of Propionibacterium acnes during shoulder surgery*  
James R. Sabetta, MD, Vishal P. Rana, BS, Katherine B. Vadasdi, MD, R. Timothy Greene, MD, James G. Cunningham, MD, Seth R. Miller, MD, Paul M. Sethi, MD. Section of Infectious Diseases, Greenwich Hospital, Greenwich, CT, USA, Orthopaedic & Neurosurgery Specialists, Greenwich, CT, USA, ONS Foundation for Clinical Research and Education, Greenwich, CT, USA

# Technology Update: The Promise of 3D Printing in Orthopaedic Surgery - Mark Vitale, M.D.



Dr. Mark Vitale

Three-dimensional (3D) printing is emerging as an extremely promising technology for rapid prototyping of surgically implantable products in various fields of medicine. In the field of orthopaedic surgery specifically, 3D printing is being used to allow surgeons to perform reconstructive surgeries with a much greater degree of precision than ever before and allows patient-specific implants and guides to be created to specifically treat that individual patient's condition. ONS surgeons are currently using this technology for shoulder and knee reconstruction and joint replacement and fracture malunion surgery as well as other applications.

## What is 3D Printing?

For more than three decades, 3D printers have been used to build custom-made objects by using computer software to build physical items from data. During the past decade, technological developments have expanded 3D printing into various applications in medicine, including patient education, surgical planning, implant design and research. To begin the process, a raw image portraying the object to be printed must be collected, typically with a high resolution computed tomography (CT) image. Special software allows these high-resolution images to be recognized by a 3D printer, and the printer can then "additively manufacture" or construct objects layer by layer. Industrial-grade printers use lasers to precisely sinter granular particles (e.g. metals or plastic powders) into a cross-sectional layer of the desired object as thin as 0.1 millimeter thick. After each layer of the structure is completed, the printer adds a new layer of unfused particles on top of the previous one, and the subsequent round of sintering builds the next cross-section fused to the previous one. In this manner, the printer builds the structure from the bottom up to create a complete 3D model.

## 3D Printing in Orthopaedic Surgery

3D printing allows for anatomic model creation so surgeons can examine patient anatomy in a more concrete way compared with traditional 2-dimensional radiological images. This can aid various aspects of surgical planning, such as screw measurement and plate placement for

orthopaedic implants. Additionally, intraoperative guidance with 3D-printed templates is possible with models printed with thermoplastics that can be sterilized, allowing surgeons to identify the exact anatomical position and angles at which to perform cuts or contours into bone for fracture-reconstruction or joint replacement.

Custom-made 3D printed implants and guides are now being used to repair or replace a range of bone and joint structures, including hip, knee and shoulder joint replacement, bone tumor reconstruction, fracture surgery, bone graft modeling, and trauma reconstruction.

## Case Example

An active, 64-year old patient sustained a fracture of her left wrist over a year prior to seeking treatment. While the wrist bones healed, unfortunately the wrist healed in a crooked, misaligned position that caused pain, inhibited motion, and prevented the patient from doing various activities, including

yoga, pushups and other manual tasks. Xrays showed that one of the bones in the injured wrist called the distal radius had healed in a shortened position, and was angulated more than 40 degrees backwards. A special CT scan protocol was used to determine exactly how the injured wrist compared to the patient's normal right wrist. Once it was determined that the patient was a candidate for surgical reconstruction, the images were sent to an independent company that models the injured side off the normal wrist and allows

for detailed preoperative planning of cutting the misaligned bone and realigning it to exactly match the patient's normal anatomy. A 3D printer was then used to create numerous patient-specific templates to accurately guide bone cuts, implant placement and screw placement to the level of precision of less than a millimeter. The patient's injured wrist was successfully restored to its normal position, and once the bone healed, the patient returned to activities including yoga that she wasn't able to do previously without pain.



Dr. Mark Vitale with patient-specific, 3D printed templates to guide surgical implant placement to realign a previously fractured wrist which healed in a misaligned position.

# ONSF

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