The Sideline Report
News in the World of Sports Medicine

OCTOBER 2019
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AMSSM NEWS

2019 Annual Meeting Recap
By Caitlyn Mooney, MD

The American Medical Society for Sports Medicine held its 28th Annual Meeting in Houston, Texas, this past April with an exciting program themed “Small Steps and Giant Leaps in Sports Medicine.” Attendees numbered 2,157 people including over 800 fellows, residents, and students. The Planning Committee led by Program Chair Jason Matuszak, MD, tied the theme to Houston’s aerospace history and the celebration of the 50th anniversary of the Apollo 11 moon landing. The meeting highlighted advancements in sports medicine knowledge and technology through the years while also acknowledging areas still needing development and research.

Many exciting firsts accompanied this meeting, including the first Exercise Physiology Pre-conference, cadaver ultrasound-guided procedure training and Regenerative Medicine Symposium. Another well-attended addition was the Youth Early Sport Specialization Summit. There was also the introduction of practical sessions on practice management and economics.

Unique programs related to the theme of technology and aerospace medicine included sessions on how continued on page 4

The State of Biologics in Treatment of MSK Injuries
By Rathna Nuti, MD

Orthobiologics are considered a novel treatment option for stimulating faster recovery of musculoskeletal (MSK) injuries. They are biological substances containing growth factors, matrix proteins or stem cells to initiate or stimulate the body’s repairing process. There is much excitement about potential applications in sports medicine and orthopedics especially with platelet-rich plasma (PRP) and mesenchymal stem cells (MSCs). As more research is conducted, the uses of PRP and MSCs in the treatment of MSK injuries are being discovered, and current evidence suggests promising outcomes.

PRP is an autologous product that has been used to stimulate biological factors and promote healing. It consists of the fractionated liquid component of autologous whole blood that contains increased concentrations of platelets and cytokines. However, there is great variability in the literature in the amount of blood drawn, use of anticoagulants, presence or absence of an activating agent, number of centrifuge spins, and overall platelet and white blood cell concentrations (leukocyte-rich [LR] or leukocyte-poor [LP]), making it difficult to evaluate and interpret current evidence regarding PRP therapy. Ultimately, this impacts the clinician’s decision to provide indications for use, dosing, continued on page 4
Photos from the 2019 AMSSM Annual Meeting
Photos from the 2019 AMSSM Annual Meeting
2019 ANNUAL MEETING RECAP
Continued from page 1

space technology can be utilized in sports medicine and how lessons learned in the care of astronauts can be utilized in the care of athletes. This session included a keynote address by Michael A. Berry, MD, MS, Federal Air Surgeon in the Office of Aerospace Medicine. Additional general sessions included hot topics addressing: cannabinoids, opiate use, mental health in athletes, youth specialization, the current state of football and the use of technology in sports medicine.

There were also sessions on the expanded spectrum of medical sports medicine which explored the unique intersection of sports medicine with other medical fields. There was a session on special populations including extreme athletes, pregnant athletes, aging athletes, and musicians. There was also a session on “The ‘e’ Generation” covering topics on exercise deficiency in the pediatric population and care for the increasingly popular e-sports athlete.

THE STATE OF BIOLOGICS IN TREATMENT OF MSK INJURIES
Continued from page 1

and timing of treatment as well as return-to-play timeframes. Thus far, PRP has proven to be a safe treatment option for several MSK conditions. Current guidelines from the American Academy of Orthopaedic Surgeons (AAOS) and National Institute for Health and Care Excellence (NICE) suggest the evidence is inconclusive with regard to the use of PRP for knee osteoarthritis (OA), but several meta-analyses suggest otherwise. Current high-quality level I evidence best supports LP-PRP as a treatment option for knee OA. Furthermore, several meta-analyses and abundant high-quality level I evidence support LR-PRP injection as a therapy option for lateral epicondylitis. On the other hand, little high-quality evidence exists on the use of PRP for medial epicondylitis. For patellar tendinopathy, plantar fasciitis and donor site pain in patellar tendon graft of bone-tendon-bone anterior cruciate ligament (ACL) reconstruction, moderate high-quality level I evidence supports the use of LR-PRP injection. There is insufficient evidence to routinely recommend PRP for rotator cuff tendinopathy, osteoarthritis of the hip or high ankle sprains. Current evidence demonstrates a lack of efficacy of PRP for Achilles tendinopathy, muscle injuries, acute fracture or nonunion, surgical augmentation in rotator cuff repair, Achilles tendon repair and ACL reconstruction.

In summary, PRP has variable success in ligament and tendon pathology, but it can be considered a viable option in chronic musculoskeletal disease that has failed other treatments. PRP leads to a reduction in pain, but evidence for clinically significant efficacy is limited. Available evidence supports the use of PRP in the management of lateral epicondylitis as well as knee osteoarthritis. Patient selection, duration of symptoms and combining with other modalities such as physical therapy should all be taken into consideration when using PRP.

In addition to PRP, MSCs are of particular interest because they secrete growth factors and cytokines with trophic, chemotactic and immunosuppressive properties. MSCs are also multipotent and can differentiate into bones, muscles, cartilage and tendons. They are readily isolated from many sources, including bone marrow, adipose tissue, synovial tissue, peripheral blood, skeletal muscles, umbilical cord blood and placental tissue. At this time, literature supports the safety of viscosupplementation, platelet-rich plasma, autologous conditioned serum, bone marrow aspirate concentrate and adipose derived stromal cell therapy in the treatment of OA. The clinical efficacy of these continued on page 5
THE STATE OF BIOLOGICS IN TREATMENT OF MSK INJURIES

Continued from page 4

TREATMENT OF MSK INJURIES

THE STATE OF BIOLOGICS IN TREATMENT OF MSK INJURIES

Continued from page 4

treatments continues to be investigated in comparative studies and meta-
analyses, and further work is required to fully understand their clinical role in OA treatment.

Although early evidence of MSC therapy is promising, high-level evidence is insufficient despite its increased use among athletes. The most commonly used MSCs are amniotic and adipose. Thus far, no data are available regarding the outcomes of the use of amniotic products for the treatment of injuries among athletes. Research suggests that the cells do not possess any known tumorigenicity. Thus far, amniotic tissue has had similar success in tendon repair studies in vivo. There is limited evidence available regarding the safety of intramuscular use of MSCs, and a theoretical concern exists pertaining to the formation of heterotopic bone.

Most of the human studies using amnion pertain to foot and ankle surgery and its use as a treatment for diabetic foot ulcers and recalcitrant plantar fasciitis. Another important factor to consider in utilizing amniotic therapy is regulatory concern over the preparation of these products.

At this time, there is a scarcity of literature regarding the use of adipose MSCs in skeletal muscle injuries. Adipose MSCs transplantation is a good alternative for the treatment of tendinopathies and tendon ruptures, but further clinical trials and case reports are needed. Intra-articular injection of adipose MSCs is the most commonly reported protocol for delivery into the damaged cartilage. A review of the literature suggests that adipose MSCs possess an intrinsic therapeutic potential that may contribute to cartilage regeneration, thus possibly healing isolated chondral defects, meniscal tears and OA lesions. Literature on the utility of adipose MSCs with respect to muscle and tendon disorders is scarce. Although the successful application of autologous adipose MSCs may represent a promising therapeutic alternative, there are many issues requiring further clarification before clinicians use these treatments on a wider scale, including long-term safety, duration of effect, the necessary volume to achieve proper outcomes, and the absence of a universal isolation procedure.

Regardless of the type of orthobiologic therapy implemented for MSK treatment, there is great need for ongoing high-level research to establish clinical efficacy and safety data.

References

AMSSM Hires Director of Policy and Advocacy

In June, AMSSM hired Brian Williams, the Director of Policy and Advocacy. Brian is based out of Washington, D.C., and currently heads his own consulting firm there. He has extensive experience in healthcare-related advocacy work.

AMSSM’s Board of Directors and Executive Committee voted in May to increase funding for advocacy to allow us to move closer to a full-time position. In brief, Brian has experience in Washington as a legislative assistant to several U.S. Congressmen. He was the Government Relations Manager for the American Heart Association from 1999-2004. While at the AHA, he promoted their physical activity and nutrition policy, resulting in the inclusion of AHA nutrition guidelines in the Department of Health and Human Service’s 2000 Dietary Guidelines, and the AHA’s physical activity guidelines in the Healthy People 2010 planning document. On the basis of this, he was invited to serve a one-year term as President of the National Coalition to Promote Physical Activity, but declined in order to take on the position of Director of Government Relations for the American Public Health Association, where he helped obtain CDC funding for various public health initiatives. In the course of his work in Washington, he led a campaign to raise 1.3 million signatures and deliver them to Congress, which resulted in a widely-seen press conference with Congressional leaders on the same day as a joint session where the President spoke about health care reform. Brian is well-networked in Washington, has experience supervising state-based grassroots advocacy efforts, preparing clients for Congressional testimony, and helping incorporate client research and policy objectives into legislation, and even the healthcare policy platform of a major presidential campaign. In partnering with AMSSM, he is committed to:

- Empowering AMSSM members with legislative information and advocacy training
- Promoting the AMSSM brand
- Establishing an AMSSM presence in Washington, including dissemination of AMSSM research and materials to state and federal policymakers, and helping organize sports medicine policy briefings to influential audiences
- Opening doors for new fundraising opportunities
- Growing the AMSSM’s grassroots advocacy program
- Helping arrange one-on-one meetings with CMS and other regulators, as well as insurance carriers, to get ahead of threats or problems

In making this hire, AMSSM adds additional capabilities to help promote the brand, protect your ability to practice, and grow our influence in constructive ways. Please join me in welcoming Brian Williams as the newest addition to AMSSM.

He can be reached at bwilliams@amssm.org or at 202-747-4819.
AMSSM NEWS

AMSSM Collaborative Research Network Update

AMSSM and its Collaborative Research Network hosted the CRN Research Summit on the topic of Youth Early Sport Specialization on April 12, 2019. The Summit was a great success and resulted in numerous opportunities to speak about the knowledge gleaned from that day with organizations such as CASEM, AOSSM and USCCE. The NIH, NBA and MLS served as sponsors. YESSS leadership is working to publish three reviews containing information presented at the Summit. These will be published in 2020. We are also working on an outcomes paper to address gaps in knowledge and research needs in the area of youth sport specialization. Lastly, the group is looking to establish advocacy initiatives - in conjunction with research opportunities - on the topic of youth sport participation. More information will be announced as it becomes available.

Stay tuned for CRN plans to host another Research Summit in 2021!

AMSSM CRN visits the CDC

The CRN Leadership Committee visited Atlanta, GA on Sept. 19 for its Fall in-person meeting and engage in meetings with leaders at the Centers for Disease Control. The goals of the meetings were to introduce AMSSM to the CDC, learn more about operations and initiatives at the CDC, and identify potential collaborative opportunities in the future. The group first met with Janet Fulton, PhD and her team in the Division of Nutrition, Physical Activity and Obesity. Dr. Fulton serves as the Chief of the Physical Activity and Health Branch and was a Co-Executive Secretary for the updated 2018 Physical Activity Guidelines for Americans. The leadership committee then met with Charles “Chad” Helmick, MD and Erica Odom, DrPH who lead the scientific and programmatic initiatives, respectively, of the Arthritis Program in the Division of Population Health. The CRN Leadership Committee learned a lot about the operations and initiatives of these two groups within the CDC and look forward to potential future collaborations between AMSSM and the CDC.

NEWS FROM THE AMSSM SMRC (SPORTS MEDICINE RESIDENT COUNCIL)

A Resident Interest Group Led by AMSSM Resident Members

President’s Message

The SMRC has been hard at work expanding our social media presence and engaging more resident members. Each week, our Facebook Page has been filled with important updates about fellowship applications and introduction videos from our Officers. There is also information on pre-participation physical examinations, as well as information on how to find mentors and/or get involved with event coverage.

I encourage each of you to take a moment to “Like” and follow our Facebook Page and share it with your other colleagues to keep up-to-date on the latest happenings of the AMSSM SMRC. We are open to new ideas and welcome extra help, so please reach out if you would like to become more involved!

Call for 2020 Officer Nominations — Deadline Oct. 31

Resident members, please consider nominating yourself as a candidate, or members can also nominate Resident members. Elections will be held in November with a joint conference call in December to transition leadership roles.

SMRC Officers serve a one-year term (Jan. - Dec.):
* President (Beginning PGY3 in 2020)
* Communications Representative
* EM Resident Representative
* FM Resident Representative
* IM Resident Representative
* Peds Resident Representative
* PM&R Resident Representative

Nicolas Hatamiya, DO PGY-3 Family Medicine Resident Stanford Health Care – O’Connor Hospital

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OCTOBER 2019
Update from the AMSSM MSIG
A Medical Student Interest Group led by AMSSM Student members

President’s Message
Luke Roberts, BS
West Virginia University School of Medicine
MS-4

This fall, the MSIG is gearing up for an exciting stretch of informative webinars. Below are the topics we have coming your way over the next several months presented by AMSSM members that are experts on these topics.

Be sure to keep an eye out for emails and updates on the Student page of the AMSSM website and MSIG Facebook page regarding registration and specific dates for these webinars! Keep following along with our Facebook Page where we will continue posting interesting journal articles, case reports and physical exam skills that will help you stand out on your clinical rotations.

Upcoming MSIG Webinars
Thursday, Nov. 7: ECG Interpretation in the Athlete
Presented by Jonathan Drezner, MD

January 2020: Early Sport Specialization
Presented by Neeru Jayanthi, MD

January 2020: Being the Best Sideline Physician/ Forming an Emergency Action Plan
Presented by Michael Petrizzi, MD; Christopher Hogrefe, MD; and Steven Cole, MS, ATC

Call for 2020 Officer Nominations — Deadline Oct. 31
Student members, please consider nominating yourself as a candidate, or members can also nominate Student members. Elections will be held in November with a joint conference call in December to transition leadership roles.

MSIG Officers serve a one-year term (Jan. - Dec.):
* President (3rd Year, Class of 2021)
* Vice President (3rd Year, Class of 2021)
* Secretary (3rd Year, Class of 2021)
* 2 At-Large Members (2nd Year, Class of 2022)
* 2 At-Large Members (1st Year, Class of 2023)
* Immediate Past President

Is Your Sports Medicine Interest Group Connected with the AMSSM MSIG If Not, Connect as a Charter Medical School
49 Charter Medical Schools are currently connected with the AMSSM MSIG and are listed on the Student page of the AMSSM website. If your medical school sports medicine interest group is not listed, become a Charter Medical School.

Announcing Our New Charter Medical Schools
• SUNY Downstate Medical School
• University of Virginia School of Medicine
• Wake Forest School of Medicine

Please contact the AMSSM MSIG Officers if you would like your medical school’s interest group (must be a Charter Medical School) featured in an upcoming edition of The Sideline Report at AMSSM_MSIG@amssm.org.
Announcing New Distinction for AMSSM Members — Fellow of AMSSM

The American Medical Society for Sports Medicine announced the designation of Fellow of AMSSM (FAMSSM) during the 2019 AMSSM Annual Meeting in Houston, TX.

The goal of this fellow designation is to identify sports medicine physicians who have demonstrated an ongoing commitment to lifelong learning, the advancement of the profession, service to AMSSM and leadership in their communities.

“This designation has been developed to highlight the efforts of our most active and involved members while providing a pathway to encourage advanced engagement with AMSSM,” said AMSSM President Chad Carlson, MD. “We are pleased to unveil this distinction and encourage all AMSSM members to pursue it.”

The first class of AMSSM Fellows were recognized during the 2019 Annual Meeting and included all AMSSM Past Presidents and living AMSSM Founders. This initial group includes:

- Chad Asplund, MD, MPH, FAMSSM
- Cindy Chang, MD, FAMSSM
- Katherine Dec, MD, FAMSSM
- John DiFiori, MD, FAMSSM
- Robert Dimeff, MD, FAMSSM
- Jon Divine, MD, FAMSSM
- Jonathan Drezner, MD, FAMSSM
- Randy Eichner, MD, FAMSSM
- Karl B. Fields, MD, FAMSSM
- Matt Gammons, MD, FAMSSM
- Brian Halpern, MD, FAMSSM
- Kimberly Harmon, MD, FAMSSM
- Jack Harvey, MD, FAMSSM
- John Henderson, MD, FAMSSM
- Stan Herring, MD, FAMSSM
- Rob Johnson, MD, FAMSSM
- Greg Landry, MD, FAMSSM
- John Lombardo, MD, FAMSSM
- Chris Madden, MD, FAMSSM
- Doug McKeag, MD, FAMSSM
- James Moriarity, MD, FAMSSM
- Francis O’Connor, MD, MPH, FAMSSM
- James Puffer, MD, FAMSSM
- Margot Putukian, MD, FAMSSM
- E. Lee Rice, DO, FAMSSM
- Doug Shaw, MD, FAMSSM
- Deborah Squire, MD, FAMSSM
- Mitchel Storey, DO, FAMSSM
- Paul Stricker, MD, FAMSSM
- Jeff Tanji, MD, FAMSSM
- Craig Young, MD, FAMSSM

Sports Medicine Fellow Council Update

Fellowship Class Representative to the Fellowship Committee
Aditya Raghunandan, MD
Hospital for Special Surgery Physiatry Sports/Spine Fellowship

The AMSSM Board of Directors recently approved the creation of the AMSSM Sports Medicine Fellow Council (SMFC) Facebook page! This is a closed group designed to engage current AMSSM Fellowship members and promote the field at the Fellow level. Our Council will periodically post opportunities for Fellow involvement in AMSSM, new sports related articles/education videos pertaining to fellows, interviews with faculty for career development/planning, research advice, fellow highlights and much more.

Our goal is to have 100% participation of the AMSSM Fellow members joining this Facebook group, as this will be a vital source of communication that will be used to relay important information to you and receive important feedback/messages back from you that we will communicate to the AMSSM Fellowship Committee and to the Fellows Matters Sub-Committee.

Please click on the link below to join the Facebook group:
AMSSM Sports Medicine Fellow Council Facebook Page
Proximal humeral epiphyseolysis, more commonly referred to as Little League Shoulder, is a well-recognized overuse injury to the proximal humeral physis in adolescent throwing athletes. It most commonly occurs in young baseball players but has also been recognized in other overhead sports such as tennis, volleyball, swimming and cricket.

**Population/Pathogenesis**

Little League Shoulder most commonly affects males ages 11-16 with peak incidence between 13-14 years old. Injury prevalence has increased over the past few decades with growing numbers of youth participants in throwing sports, single-sport specialization, and increased pitching velocity in youth baseball players. Poor compliance with current pitch count guidelines may be a contributing factor; one study estimates only 56% of youth baseball coaches keep accurate pitch counts (Knapik et al 2018).

**Etiology**

The proximal humeral physis typically closes between the ages of 19-22. During repetitive, high intensity overhead throwing, the rotational force on the proximal humeral physis at the end of the cocking phase causes physeal microtrauma resulting in injury to the immature cartilage. This can lead to local inflammation and/or possible fracture of the physis, pain and weakness.

**Signs/Symptoms**

Classic symptoms of Little League Shoulder include progressive lateral and proximal shoulder pain associated with throwing and may include weakness or reduced pitch velocity. Lateral shoulder pain is typically found in greater than 70% of cases and will be associated with elbow pain in about 13% of cases. In a study of 92 patients diagnosed with Little League Shoulder, 34% had reduced range of shoulder motion, and 30% were also diagnosed with glenohumeral internal rotation deficiency (GIRD) (Heyworth et al 2016).

**Diagnosis**

Diagnosis is generally made by physical exam findings and appropriate clinical context. Radiographs are useful to confirm the diagnosis. Anteroposterior (AP) x-rays with internal and external views in addition to contralateral imaging are recommend, classically revealing widening of the proximal humeral physis. Other findings may include demineralization, sclerosis, and metaphyseal fragmentation at the proximal humeral metaphysis. MRI is not usually indicated unless radiographs are negative and clinical suspicion remains high after conservative management.

**Treatment**

Treatment includes rest and discontinuation of overhead throwing activity for 2 to 3 months. Physical therapy is recommended for 3-4 months and should include rotator cuff strengthening, progressive return to throwing, improving shoulder range of motion and changing throwing mechanics.

**Prognosis**

Most patients will return to full activity within an average of 4.2 months; one study showed recurrence of 7.4% at 8 months following symptom resolution. Patients with GIRD had an increased rate of recurrence of 14.3%. Another study of 83 patients showed significantly delayed time to full recovery with persistent pain at 2 months. Adequate shoulder flexibility decreases symptom recurrence and increases rates of full return to play.

**Recent Developments:**

Early diagnosis and appropriate physical therapy can improve return to play rates and reduce risk of recurrence. Continued education for coaches, parents, and players to follow recommended guidelines for pitch counts, proper mechanics and flexibility may help prevent future injuries. Ultrasound continues to gain popularity as a diagnostic tool and may be considered as an alternative, noninvasive modality for early diagnosis of Little League Shoulder in adolescent overhead athletes.

**References**
Note from the Editor

In the Broadway musical Camelot, Queen Guenevere sings a vibrant tune called “The Lusty Month of May.” The song extols the virtues of the spring season as a time of frivolity, gaiety, mischief, and promise, “that gorgeous holiday...when all the world is brimming with fun.” That is exactly how I feel about fall. The air sharpens. The leaves tinge gold and red. Student athletes return to school, lockers slam, footballs (American and otherwise) fly, and a brand new athletic year begins. Sublime hope and dogged preparation culminate in a cosmos of “put up or shut up,” and a continuous parade of those-who-would-be-champions marches past, week after week, showcasing skill, desire, and grit in pursuit of the mountaintop. What a thrilling time! Who knows what heights will be attained or records shattered? It gets my blood pumping just writing about it.

Because so much is riding on the dreams of our patients, our preparation must exceed theirs. Now is the time to update our protocols, restock the medical bag, and review the emergency action plan. With this in mind, I am proud to present the latest edition of “The Sideline Report,” designed to equip you for the season to come.

Before starting any endeavor, we must first remember where we have been and what we have learned. Caitlin Mooney fills this prerequisite with a recap of our recent Annual Meeting in Houston. An appraisal of the latest advancements in biologics for treating musculoskeletal maladies follows by Rathna Nuti. I am excited to introduce a new section entitled “Executive Summaries,” where we are treated to concise and cogent information on conditions pertinent to practice. Drs. Blair Rhodehouse and Shane Larson launch this first segment with a review of Little League Shoulder, and more Summaries will follow in subsequent newsletters.

I hope you enjoy this edition and find it helpful in preparing you to serve your patients. As always, if you have any suggestions for improving future content, please feel free to contact me. Now zip up your coverage bag, throw on your team polo, and get going—the game is starting soon!

Jacob Miller, MD
Role of Nonsteroidal Anti-inflammatory Drugs in the Association Between Osteoarthritis and Cardiovascular Diseases: A Longitudinal Study

By Jesse Charnoff, MD

Recently, Aslam H. Anis, PhD, and his team from the School of Population and Public Health at the University of British Columbia Vancouver released exciting results examining the possible role of nonsteroidal anti-inflammatory drugs (NSAIDs) in the elevated risk for cardiovascular disease (CVD) of patients with osteoarthritis (OA). In this longitudinal study, 7,743 OA patients and 23,229 age and sex-matched non-OA controls were selected from a population-based cohort of 720,055 British Columbians. Results suggest that NSAIDs might account for 41% of the association between OA and CVD. Senior author Dr. Anis stated “Use of NSAIDs plays a substantial role in developing cardiovascular diseases among people with OA. Patients need counseling so that they know the risk and use NSAIDs cautiously.” This is the first study examining the possible role of NSAIDs in the elevated risk for CVD in patients with OA. These findings were reported online August 6 in *Arthritis and Rheumatology.*

Original article | Further reading

A Common Neural Signature of Brain Injury in Concussion and Subconcussion

By Myriam LaCerte, MD

A recent study from the journal Science Advances, using a prospective longitudinal design, demonstrated reductions in midbrain white matter integrity after only a single season of collegiate football.

Participants were 42 male football players on the University of Rochester football team (NCAA Division III) enrolled throughout three seasons (2011-2013). All participants received a MRI two weeks before the start of the season and within one week after the end of the season. The inertial loading sustained by the players’ brains during the season was recorded with a helmet-mounted accelerometer that measured linear and rotational acceleration throughout all practices and games.

This study shows that changes in midbrain white matter integrity were related to the amount of rotational but not linear acceleration that players’ brains sustained. Such scientific findings are important as using the temporal and spatial fingerprint of head impacts may inform return to play decisions.

Original Article: Science Advances, 2019; 5 (8): eaau3460 DOI: 10.1126/sciadv.aau3460

Association of Concussion Symptoms with Testosterone Levels and Erectile Dysfunction in Former Professional US-Style Football Players

By Gregory Walker, MD

A recent study published in JAMA Neurology explored the associations between concussion symptom history and participant-reported indicators of low testosterone levels and erectile dysfunction (ED). This cross-sectional study analyzed returned questionnaires from 3506 (25.6% of the 13,720 mailed questionnaires) former NFL players who played professional football after 1960. The study, conducted in Boston, Massachusetts, asked former players to recall whether they had concussion symptoms including headaches, nausea, dizziness, loss of consciousness, memory problems, disorientation, confusion, seizure, visual problems, or feeling unsteady on their feet after a blow to head, neck or upper body. Participants were then asked whether a medical provider ever recommended or prescribed medicine for low testosterone or ED. Concussion symptoms were grouped into quartiles with separate models adjusting for demographic, athletic, and health factors. All models showed a significant linear trend of increasing association of self-reported concussion symptoms at the time of football injury with self-reported low testosterone levels and ED indicators.

Primary limitations of this study include retrospective data collection, use of indirect measures of low testosterone and ED, and unvalidated concussion symptom scale. Despite limitations, this study analyzed a sizeable number of former NFL players with robust modeling to conclude that concussion symptoms during playing years may place former NFL players at risk for low testosterone levels and ED. As many treatments for low testosterone and ED are considered safe and effective, these findings may have implications for low testosterone and ED screening in patients who have experienced head injury.

Disclaimer: The information provided in this section does not necessarily represent the official view of AMSSM but is nonetheless available for consumption and consideration of the membership.
It is a pleasure to be serving as the AMSSM President, and it’s a surreal experience to be representing people in an organization that I’ve grown to love over the years.

I’ve been known as the policy guy, but maybe what you don’t know is that most of my identity is built around my practice. It’s sort of like a restaurant. It owns you. I’ve been doing this since 2006, trying to maneuver the pathway. I get all the privileges and challenges that come along with that practice.

But it really provides the lens and the filter that I see the world through. We all wear different hats, and that’s what makes us diverse. My filter is this practice and the life that comes with it. Hopefully, that filter will lend itself to my year as President and help this organization.

Small private practices, they’re kind of a canary in the coal mine. We don’t have the resources to withstand the market forces when they turn really quickly. So it can be a challenge, but none of us escape the laws of economics. Anything that affects my private practice, if it goes on for a long enough period of time and has enough of a magnitude, eventually it’s going to affect all sports medicine physicians.

Ultimately, we need to learn to plan together for the future and use the practice experience of our members to inform our choices. And in the era of the consumer, AMSSM members hold some unique advantages and some strong pillars to build around.

First of all, the work that’s being done in the area of research and new initiatives that are happening are going to drive us to places we wouldn’t have had the opportunity to go five years ago. You saw a great example of that with the Youth Early Sport Specialization Summit at the 2019 Annual Meeting and all the networking that took place there.

Another pillar is patient-centeredness, and a third is comprehensive care. During the early stages of our marketing and branding campaign, those two factors were two of the biggest strengths and opportunities for our organization.

We also provide comprehensive care across disciplines, and that’s something no one else can say. You can take pride in that. We have the ability to look at a patient from 30,000 feet up and see the whole person. So we need to use that understanding to drive results that the patient values and drive that message home.

Another one of our pillars is value, which can mean different things. The question is: do we represent a commodity that patients want? Because they are the ones who determine value. Will they choose to spend their first-dollar expenses on us? Because no matter how our services are packaged, we need to find ways to help patients avoid surgery and thrive. We should be able to offer patients alternatives to care that save them money, and help them achieve for less money what they could elsewhere. If we can do that, we will thrive.

When thinking of examples about value, one is ultrasound, and continued on page 13
another is the ability to guide exercise, specifically therapeutic exercise. If we were able to drive first use to ultrasound for shoulders and ankles, we would save the healthcare system about $100 million per year.

To the patient whose deductible is too high, that matters, and providing that service makes us first in their mind, provides them an answer in the office and saves them money.

The ability to prescribe and direct in-home rehabilitation saves patients an average of $1,500 over the course of physical therapy, and most of the basic situations in the office can be driven with exercise. So we should be able to screen out good rehab candidates with exercise first and provide them with something they can do on their own. That’s patient-centered. That’s cost-conscious.

But eventually, we’re going to have to prove our approach with payers. Our Strategic Plan calls for incentivizing research in patient care, advocacy, reimbursement and sustainability of members. This is going to take a lot of time and funding, and it emphasizes the importance of Foundation support to all of us.

Our strategic partnerships are yet another pillar for us to build around, looking for areas to collaborate in areas of perceived competition to decrease infringement and create more job opportunities for our members. I believe we should look for synergistic partners to work with us, re-exert control in the marketplace and grow new jobs.

One area that I think is a natural fit is physical therapy. I’ve reached out to leadership at the APTA to look at ways we can jointly increase business opportunities for both of our members. This includes potentially providing the ability to form joint business partnerships.

Another pillar for AMSSM is exercise. In an era where traditional primary care utilization is decreasing, we wanted to know if we could be the specialist of choice for people who are interested in starting and maintaining exercise habits. Is this a possible pathway to a market identity?

In terms of 2017 per-person healthcare spending, a healthy aging population is the only thing that’s going to bend the healthcare curve downward. If we can streamline care, that’s going to win us the patient, but if we can get patients active, it’s going to save the healthcare system.

That begs the question: are there profitable ways to incorporate exercise counseling into a practice? I think it’s vital that people you’re asking to build that into their practices are being compensated for their work. So one of the things I want to accomplish during my tenure is to work with leadership within AMSSM to find innovative, market-based solutions that economically incentivize exercise promotion. We’ll invite ACSM into the discussion, with the goal of producing a document that would spark conversation around this issue.

Education has always been a building block for AMSSM. First Vice President Tracy Ray, MD is leading a task force that wants to determine if the way we’re educating our Fellows coincides with our future needs. The goals of this task force are to identify what skills we’ll need in five years versus what we have now, evaluating our current educational model and to consider whether or not we should be providing broader training in key areas.

The underlying point is that AMSSM has a lot going for us in this healthcare landscape. The forest is already planted, and the trees that are already planted will shore us up someday. All we need to do is be wise about how we tend them.
I wanted to take this opportunity to give a brief update about the AMSSM Foundation and the many different ways your contributions make an impact in the growing field of sports medicine.

First of all, it’s a great honor to serve as AMSSM Foundation President, and I am thrilled to follow in the footsteps of other AMSSM leaders that have such a passion for education, research and service to this organization. All of those traits were on full display during this year’s Annual Meeting in Houston, TX, where more than 2,100 attendees gathered during a memorable week.

One of the biggest highlights in Houston was the Foundation Contributors’ Party at Space Center Houston. Those who made it had the chance to tour the entire facility and listen to a fascinating talk from Dr. Rick Scheuring and Dr. Drew Morgan, who is currently aboard the International Space Station. Dozens of volunteers also made the AMSSM Foundation Humanitarian Service Project a success by refurbishing an elementary school park and playground.

In addition, the Foundation’s resources continue to increase thanks to a variety of funding outlets, from corporate sponsorship to AMSSM member donations. Here’s a snapshot of where funding came from during the past year:

2019 Corporate Support
Our corporate partners provided $459,100 for our education and research initiatives. This represents a significant increase over their support from 2018.

2018-2019 Member Support
Thanks to the continuing supports from AMSSM member, the Foundation received $124,936 in individual contributions.

2019 Foundation Auction
The Silent Auction during the AMSSM Annual Meeting continues to contribute to the Foundation coffers with a total of $23,000 raised in 2019.

The Foundation’s support for last year:

Education including support of the Annual Meeting, the Fellows Research and Leadership Conference, AMSSM Traveling Fellowship program, Fellows Starter Kits, and Sports Ultrasound training.

Research to support the launch of the AMSSM Collaborative Research Network, the work of the AMSSM Research Director and the Foundation Research Grant program – including the Young Investigator Grants, AMSSM/ACSM Clinical Research Grant Award, the AMSSM Research Grant Awards and the first CRN Multi-Site Research Grant Award as well as the support of the first CRN Research Summit in 2019.

Humanitarian in support of the Annual Meeting service project and ongoing humanitarian/sports medicine projects in our local communities.
Chad Carlson Receives Prestigious Founders’ Award

President Chad Carlson, MD received the Founders’ Award at the 28th American Medical Society for Sports Medicine (AMSSM) Annual Meeting in Houston, TX. The award is bestowed when AMSSM leadership determines that a member exemplifies the best that a sports medicine physician can be and do.

Among his many contributions to AMSSM, Dr. Carlson was instrumental in the development and passage of the Sports Medicine Licensure Clarity Act. He helped write the bill that was originally introduced to Congress in December 2013. After seven years of work gaining support for it, the Sports Medicine Licensure Clarity Act was signed into law Oct. 5, 2018 by President Donald Trump.

A years-long effort, the bill represents a bipartisan solution that protects team physicians, athletic trainers and other sports medicine professionals when they travel across state lines with their teams to treat the athletes under their care.

“Chad Carlson has been instrumental in developing, nurturing and driving forward the political agenda of AMSSM,” said AMSSM Past President Kimberly Harmon, MD, FAMSSM. “His knowledge of the functioning of government has been critical.

“Chad’s drive, dedication and service to AMSSM is unsurpassed.”

Dr. Carlson works at Stadia Sports Medicine in West Des Moines, Iowa and has assisted AMSSM in various capacities since joining in 1997. Over the past 20 years, he has presented at various meetings, have served on the Public Relations, Economics, Program and Ultrasound Committees, Quality Measure Subcommittee, has coordinated multiple pre-conferences, assisted with ICLs and served on various task forces.

He has served on the Executive Committee the past two years and has played a vital role in developing AMSSM’s new branding and marketing campaign, along with a multitude of projects that will shape the organization well into the future. He also possesses a commitment to Christian outreach and mission work, as evidenced by his travels to Iten, Kenya to help initiate the development of a sports medicine program for disadvantaged athletes.

“He is humble and serves internationally in underserved areas of care. He is not about himself,” said AMSSM Past President Katherine Dec, MD, FAMSSM. “He is about what is better for the organization, the career of sports medicine and the growth of our physician role in the world of health and wellness. He mentors others and gives his time, expertise and heart to the work of AMSSM.

“This truly demonstrates the AMSSM Founders’ vision for growth and adapting but always staying true to the value of health, safety and care in the active person.”

2019 Award Winners Announced at 28th AMSSM Annual Meeting

The American Medical Society for Sports Medicine presented the following awards during its 28th Annual Meeting in Houston, TX.

Best Overall Research Award – Nicola Hyde, MD – Electrocardiogram Interpretation in NCAA Athletes: Comparison of the ‘Seattle’ and ‘International’ Criteria

Harry Galanty Young Investigator Award – Lauren Nadkarni, MD – High School Ice Hockey Concussion Rates Reduced with Implementation of New Checking/Boarding Rules

The Harry L. Galanty, MD Young Investigator’s Award is presented at the Annual Meeting for the most outstanding research presentation by a member who is a sports medicine fellow or who has recently completed fellowship training. The award was established in 2003 to honor Harry Galanty, MD, a charter member of the AMSSM, who passed away in 1999 at the age 36. Dr. Galanty’s contributions to sports medicine combined service and a commitment to teaching and research.

NCAA Research Award – Kimberly Harmon, MD – Cardiovascular Screening in the Pac-12: Comparing History and Physical with and without ECG

The NCAA Award for best research presentation addresses the health and safety issues of college athletes.

Best Overall Case Presentations

- Matthew Santa Barbara, MD for his case titled, Hip Pain in a Weightlifter.
- Joseph Andrie, MD for his case titled, Horse-ing Around with Hormones.

Resident Scholarship Award Winners

- Alexis Coslick, DO, MS
- Nicolas Hatamiya, MD
- Paul Henson, MD
- Amanda Honsvall Hoefer, MD
- Nate Milburn, MD, MBA
- Naima Stennett, MD, MS

Community Outreach Award

Jonathan Drezner, MD, FAMSSM

Jason Davenport Memorial Scholarship Award

Meredith Turner, MD

Galen Society Medical Student Scholarship

Andrew Kuhn
AMSSM partnered with Volunteer Houston on its Humanitarian Service Project to revitalize Looscan Elementary School playground and SPARK Park prior to the Annual Meeting in Houston, TX.

The SPARK School Park Program develops neighborhood parks on public school grounds. SPARK has built more than 200 community parks in 12 different school districts throughout the Houston area and are designed based on ideas and needs of the school and surrounding neighborhoods.

Dozens of volunteers participated in the playground and park clean up. AMSSM members and their families restored and refurbished playground facilities, planted trees and installed equipment that will allow Houston families to enjoy the park and pursue active lifestyles. This marks the 6th year of the Humanitarian Service Project, which is supported by the AMSSM Foundation.

“AMSSM members encourage everyone, from youth athletes to weekend warriors and everyone in-between, to stay active throughout their lives,” said Dr. Robert Johnson, AMSSM Foundation Immediate Past President. “We are pleased to partner with Volunteer Houston to help revitalize an outdoor space that will allow all community members to get outdoors and keep moving.”

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**AMSSM MEMBER DONOR LIST 2018-2019** & **FOUNDERS’ CIRCLE RECOGNITION**

*Only donations received after the 2018 Foundation Reception up to the 2019 Foundation Reception were counted.*

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<td>Jon Divine, MD, MS, FAMSSM</td>
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<td>Michael Eisen, MD, MS, ATC</td>
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<td>Willa Fornetti, DO, MS</td>
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Upcoming Conferences/Events

Now through 11/5/2019 (11 a.m. CT)
AMSSM Research Grant Awards ($50,000) Deadline

Now through 11/12/2019 (11 a.m. CT)
Call for Case Abstracts
Submissions are now being accepted for the
2020 AMSSM 29th Annual Meeting.

11/14/2019 through 11/17/2019
AMSSM/OHSU Intro Sports US and/or Diagnostic and Interventional Sports US
(Focus on Hip/Pelvis/Thigh) with Two Cadaver Lab Days
Portland, OR

Now through 12/03/2019 (11 a.m. CT)
Call for Research Abstracts
Submissions are now being accepted for the
2020 AMSSM 28th Annual Meeting.

12/12/2019 through 12/14/2019
2019 Advanced Team Physician Conference
Las Vegas, NV

1/10/2020 through 1/12/2020
2020 AMSSM/South Bend Sports US Including Injections –
Beginning Level Course
South Bend, IN

4/24/2020 through 4/29/2020
2020 AMSSM Annual Meeting
Atlanta, GA

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