

# Sports Medicine UPDATE

MARCH/APRIL 2012



## RUGBY INJURIES

**Celebrate Youth Sports  
Safety Month in April**

**Research Grant  
Deadlines Approaching**

**Get Ready to Attend  
2012 Annual  
Meeting**



AOSSM

[www.sportsmed.org](http://www.sportsmed.org)



## 2 Team Physician's Corner

### Rugby Injuries

- 1 From the President**
- 8 STOP Sports Injuries Campaign Update**
- 10 Research News**
- 11 Society News**
- 12 Names in the News**
- 13 Washington Update**

- 14 2012 Annual Meeting Preview**
- 15 Newest Traveling Fellows Headed for Europe**
- 16 Upcoming Meetings and Courses**

**SPORTS MEDICINE UPDATE** is a bimonthly publication of the American Orthopaedic Society for Sports Medicine (AOSSM). The American Orthopaedic Society for Sports Medicine—a world leader in sports medicine education, research, communication, and fellowship—is a national organization of orthopaedic sports medicine specialists, including national and international sports medicine leaders. AOSSM works closely with many other sports medicine specialists and clinicians, including family physicians, emergency physicians, pediatricians, athletic trainers, and physical therapists, to improve the identification, prevention, treatment, and rehabilitation of sports injuries.

This newsletter is also available on the Society's website at [www.sportsmed.org](http://www.sportsmed.org).

**TO CONTACT THE SOCIETY:** American Orthopaedic Society for Sports Medicine, 6300 North River Road, Suite 500, Rosemont, IL 60018, Phone: 847/292-4900, Fax: 847/292-4905.

#### CO-EDITORS

- EDITOR **Brett D. Owens MD**
- EDITOR **Daniel J. Solomon MD**
- MANAGING EDITOR **Lisa Weisenberger**

#### PUBLICATIONS COMMITTEE

- Daniel J. Solomon MD, Chair**
- Kevin W. Farmer, MD**
- Kenneth M. Fine MD**
- Robert A. Gallo MD**
- Robert S. Gray, ATC**
- Richard Y. Hinton MD**
- David M. Hunter MD**
- John D. Kelly IV MD**
- Brett D. Owens MD**
- Kevin G. Shea MD**
- Michael J. Smith, MD**

#### BOARD OF DIRECTORS

- PRESIDENT **Peter A. Indelicato MD**
- PRESIDENT-ELECT **Christopher R. Harner MD**
- VICE PRESIDENT **Jo A. Hannafin MD, PhD**
- SECRETARY **James P. Bradley MD**
- TREASURER **Annunziato Amendola MD**
- UNDER 45 MEMBER-AT-LARGE **David R. McAllister MD**
- UNDER 45 MEMBER-AT-LARGE **Matthew Provencher MD**
- OVER 45 MEMBER-AT-LARGE **Mark E. Steiner MD**
- PAST PRESIDENT **James R. Andrews MD**
- PAST PRESIDENT **Robert A. Stanton MD**
- EX OFFICIO COUNCIL OF DELEGATES **Marc R. Safran MD**

#### AOSSM STAFF

- EXECUTIVE DIRECTOR **Irv Bomberger**
- MANAGING DIRECTOR **Camille Petrick**
- EXECUTIVE ASSISTANT **Sue Serpico**
- ADMINISTRATIVE ASSISTANT **Mary Mucciante**
- FINANCE DIRECTOR **Richard Bennett**
- DIRECTOR OF CORPORATE RELATIONS **Debbie Cohen**
- DIRECTOR OF RESEARCH **Bart Mann**
- DIRECTOR OF COMMUNICATIONS **Lisa Weisenberger**
- COMMUNICATIONS ASSISTANT **Joe Siebelts**
- STOP SPORTS INJURIES CAMPAIGN DIRECTOR **Michael Konstant**
- DIRECTOR OF EDUCATION **Susan Brown Zahn**
- SENIOR ADVISOR FOR CME PROGRAMS **Jan Selan**
- EDUCATION & FELLOWSHIP COORDINATOR **Heather Heller**
- EDUCATION & MEETINGS COORDINATOR **Pat Kovach**
- MANAGER, MEMBER SERVICES & PROGRAMS **Debbie Czech**
- EXHIBITS & ADMIN COORDINATOR **Michelle Schaffer**

#### AOSSM MEDICAL PUBLISHING GROUP

- MPG EXEC EDITOR & AJSM EDITOR-IN-CHIEF **Bruce Reider MD**
- AJSM SENIOR EDITORIAL/PROD MANAGER **Donna Tilton**
- SPORTS HEALTH EDITORIAL/PROD MANAGER **Kristi Overgaard**





Peter A. Indelicato, MD

**AS SPRING APPROACHES**, the Society is reflecting signs of new growth and vibrance. Darren Johnson, MD, and the Program Committee put on a stellar Specialty Day program that kept the house full until the end of the day with the latest research being presented by some of the most innovative thinkers within our profession. Our collaboration with POSNA for the later part of the program was testament to the synergy of our organizations and the inter-relatedness of our professional interests. Congratulations to all.

The meeting also provided the first formal preview of the exciting meeting that Darren and the Program Committee have lined up for Baltimore. A PDF preview of the meeting is now available at [www.sportsmed.org/AnnualMeeting2012](http://www.sportsmed.org/AnnualMeeting2012). Registration will open in early March. This meeting includes a number of exciting components that add value to this perennially significant program. On Thursday afternoon, July 12, the Society is sponsoring a series of live surgical demonstrations on the knee featuring some of the most gifted surgeons in the field. On Friday afternoon, attendees will have a choice of nine industry symposia to attend. On Saturday, the Research Committee is holding an ancillary meeting on the maturing athlete. In addition, we have a host of new instructional courses for attendees to choose from, including how to use social media in your practice to case-based discussions on young adult hip injury treatment and management.

Baltimore promises to be a superb backdrop for our family oriented meeting. The opening reception will be on Eutaw Street, the iconic entranceway to Camden Yards. The next two nights the Orioles will be in town, with the stadium conveniently located across the street. Family night will be at the B&O Railway museum and will feature an unbelievable variety of trains to explore for “kids” of all ages. Not to be overlooked, the Inner Harbor, Fort McHenry, Fells Point, the Babe Ruth Birthplace and Sports Legends Museum, Baltimore Aquarium, and many other attractions are just steps from our meeting. Mark your calendars. Reserve your spot.

San Francisco also provided an important opportunity for the AOSSM leadership to get together with our counterparts from throughout the world. Of particular note, AOSSM’s presidential line met with Francoise Kelberine, MD, European Federation of Orthopaedic Sports Traumatology (EFOST) President, and the Federation’s Board to discuss a variety of mutual interests. EFOST is offering *Sports Health: A Multidisciplinary Approach* to its members at a special price. Their support is significant given that they recently launched their own open access journal titled the *Muscle, Ligaments and Tendons Journal* ([www.mltj.org](http://www.mltj.org)).

We explored other options for mutual interaction and look forward to regular meetings with the EFOST leadership.

As the Society expands its ever growing array of programs and activities, the leadership is carefully examining and strengthening its operational framework. The Board is developing new policies for managing the outside interests of leaders at the committee and board level. The Society is fortunate to have a broad range of thought leaders who are active in the Society and help ensure that the profession and AOSSM continue to develop to their fullest potential. Transparency and objectivity is critical to AOSSM’s success, and the Board is enhancing its leadership disclosure process to preserve the Society’s strong sense of stewardship.

The Board is also finalizing revisions to the bylaws for circulation and approval by the membership. AOSSM has grown considerably throughout the past 40 years, and its bylaws were due for a thorough review to ensure they remain current with state and federal requirements, as well as reflect the best practices of similar professional societies. The framework, structure, and operation of the Society remains intact, but the language and certain provisions are being modified to reflect our current environment. Keep your eyes open for the proposed draft bylaws which will be sent out in May. Please review them and let us know if you have questions.

It is through the participation of our members that AOSSM remains at the forefront of our profession. Our Specialty Day program affirmed both the quality of our education and the level of our collaboration here in the U.S. and beyond. The upcoming Annual Meeting will reinforce our commitment to cutting edge research, innovative programming, and a continued commitment to family. AOSSM’s proactive leadership is allowing for effective management of outside interests that may pose a conflict, as well as an update to our bylaws so that we can ensure that the Society remains a relevant, effective guardian of orthopaedic sports medicine.



## RUGBY INJURIES

### GRANT JONES, MD

Ohio State University  
Columbus, Ohio

Rugby developed from the game of soccer in 1823 in England when a young boy at the Rugby School in England disrupted a soccer game by picking up the ball and running it across the goal line.<sup>1,2</sup> The first actual rugby match played in the U.S. was in 1874, between Harvard and McGill in Boston.<sup>1,2</sup> Subsequently, modern American football evolved through progressive modifications in the rugby style of play.<sup>2</sup>

*Continued on page 3*



Modern rugby union football remains close to the early style of rugby. It differs from modern American football in several ways.<sup>2</sup> First, there are fifteen men per team on the field. Second, a match is divided into two forty-minute halves, with no timeouts allowed. Third, protective equipment developed in American football is specifically prohibited in rugby. Play is continuous, except for stoppages for rules infractions, and the ball is advanced primarily through running. However, the ball carrier can kick it forward at any time. The ball can only be passed laterally or backwards, and any player is eligible to receive a pass or kick if he is on-sides. Finally, scoring is accomplished by running the ball across the goal line and touching it down or by kicking it through the uprights as a conversion after a touchdown or by penalty kick.

Rugby union is the traditional form of rugby played with fifteen players. Rugby league is a form of rugby with similar rules and movement patterns to rugby union, but it is played with thirteen players per team.<sup>3,4,5</sup> Rugby league is the form of rugby most similar to American football, with a limited tackle possession rule before the ball is turned over to the opposition (six tackles is similar to four downs in American football).<sup>4</sup> Unlike American football, there are no special teams or special units (offense and defense) within a team, as each player plays both attack and defense. Each team has four replacements, and a team is allowed to make a maximum of six substitutions per game.

Professional Australian Rules Football is a variant of rugby league played mainly in the southeastern and southwestern parts of Australia.<sup>5,6</sup> It is played with eighteen players per team and uses a bigger field. There is more running, kicking, and jumping, and it is much less a collision sport than the other forms of rugby.<sup>5,6</sup>

Another form of rugby is rugby sevens in which there are only seven players per team playing on the same size field as rugby union. This game is very fast paced with two seven minute halves. Rugby sevens is going to be an Olympic sport in 2016.

## Player Positions and Specific Game Situations

In rugby union, there are eight forwards and seven backs. Forwards are typically heavier and are responsible for contesting possessions of the ball.<sup>7</sup> Backs, on the other hand, are typically quicker than forwards and are mainly responsible for gaining field position and scoring points.<sup>7</sup>

The scrum is similar to a hockey face-off and is awarded when play stops

Of those that occurred during the scrum, 64 percent occurred during engagement and the remainder when the scrum collapsed. During a scrum, both packs may generate forces up to 1.5 tons with the front row generating an average forward force of 1,400 pounds during engagement and the hooker alone producing 700 pounds of this force. The force decreases to approximately 1,000 pounds once the scrum is formed and sustained with

**Studies have shown that one of the largest risk factors for cervical spine injury is **inexperience** in the front-row players in the scrum.**



because the ball is tied up by the two teams or when there is a minor infraction.<sup>8,9</sup> The eight forwards for each team (the pack) bind together in a pyramid formation and then come together with the pack from the other team (engagement). The ball is then put into play by the scrum half.

Another rugby situation is a ruck (with the ball on the turf) or maul (with the ball in the hands of a player).<sup>9</sup> A ruck or maul forms when a player is tackled, and its goal is to keep the ball in play by feeding it to the scrum half. The offense forms a platform to protect the ball while the defense attempts to crash through the platform and either gain possession or tie the ball up so a scrum is awarded. Line-outs occur when the ball goes out of bounds.<sup>9,10</sup>

## Common Injuries

### Cervical Spine Injuries

A majority of cervical spine injuries occurred during the scrum in one study on United States rugby players (58 percent).<sup>8</sup>

the hooker encountering 50 percent of this force. The forces generated during the scrum exceed the force necessary to cause compression of the vertebral body or ligamentous injury to the cervical spine. The front-row players have their necks in slightly flexed position which removes the normal lordosis of the cervical spine, placing them at risk for axial compression loads. The hooker is particularly vulnerable to injury because he wraps both of his arms around the shoulders of the props and relies on the props to support him while engaging and forming the scrum. Hookers are unable to adjust their upper bodies to react to improper engagement and cannot control or dissipate the combined forces of engagement because their arms are around the props.

Several studies have shown that one of the single largest risk factors for cervical spine injury is inexperience in the front-row players in the scrum (the props and hookers).<sup>8,9,11</sup> The front-row positions are

*Continued on page 4*



skilled positions and require a lot of practice to master the skills of scrummaging.<sup>8</sup> Inexperience often results in loss of coordination of the eight-man scrum, leading to collapse of the scrum and subsequent injury.<sup>8,11</sup> The cervical spine is at particular risk because players lead with their heads, and their cervical spines are exposed to significant hyperflexion and rotational loads.<sup>11</sup>



To help decrease the risk of spinal injuries during the scrum due to inexperience, the French Rugby Union introduced changes in French rugby at the beginning of the 2000–2001 season.<sup>11</sup> First, the medical committee of the French Rugby Union developed a special form, called the “rugby passport,” which specifies the capacity of a player to play in the front row. After a medical examination and skill assessment, players without the skill and the morphological capacity to compete in the scrum are eliminated from the front row. They also based their laws for the scrum on the level of the rugby league. For nonprofessional players, instead of immediately driving their opponents, they link to them, make a pause, and then push to compete for the ball, with limits to the distance the two teams are allowed to push. In this way, the initial position of the front rows is under direct control of the referee, and dangerous contacts and violent impacts are avoided. In some instances, uncontested scrums are utilized, where the teams do not compete for the ball, and the team putting the ball in must win. Finally, before the beginning of each

match, the referee evaluates the front-row players to see if they are capable of playing the position. In terms of the effectiveness of the rules, Bohu et al<sup>11</sup> reported that the cervical injury rates decreased significantly in French Rugby Union after their implementation in the 2000–2001 season.

Another strategy to decrease the rate of cervical injuries is to “depower the scrum.”<sup>8,9</sup> Two methods to accomplish this include: 1) the use of the slow engagement with a pause to provide a cadence to allow for a better coordinated engagement, and 2) the uncontested scrum. A third method to control engagement is termed “sequential engagement.” With this strategy, the front rows engage separately from the pack, and the rest of the pack joins the front rows once they are engaged and a stable scrum is established.

### Head Injuries

There is a high incidence of head injuries in rugby players with a majority of these being mild traumatic brain injuries (mTBIs).<sup>12</sup> Players younger than 21 years of age have been shown to be at particularly high risk, partly because many of these players have recently entered a high level of competition and encountered an increase in player size, skill level, and speed of play.<sup>12</sup> One study showed a U-shape relationship between a player’s rugby experience and the incidence of mTBI.<sup>12</sup> Players who were either inexperienced (0–3 years of playing rugby) or very experienced (greater than eight years of playing) had a higher incidence of mTBIs than those of intermediate experience (4 to 8 years). The increased incidence of mTBI in the inexperienced players is consistent with the increased injury rate to other body parts in rugby due to inferior technique. The increased injury rate in the more experienced player may be related to the increase in competition level. As the competition level increases, the size of the players, the intensity and aggressiveness of the players, and the speed of the game also increase, resulting in greater impact forces during collisions.<sup>12</sup>

Players with two or more mTBIs have been shown to be two times more likely to sustain a subsequent mTBI than players without a recent history of mTBI.<sup>12</sup>

This finding may be an indicator that there has not been full recovery from the prior injury. It has been postulated that an increase in lactate production after injury to the brain leads to secondary ischemic injury, which may predispose the brain to repeat injury.<sup>12</sup> Therefore, it is necessary to have appropriate evaluation by medical personnel to recognize a mTBI and prevent premature return to play.

The use of headgear is becoming more common to prevent and decrease the severity of contusions and lacerations, but its effectiveness in preventing mTBI is still not clear. While some studies have shown no benefit from headgear, one recent Australian study<sup>12</sup> found a significantly reduced risk of sustaining a mTBI in players wearing headgear. The authors stated that this decreased injury rate may not entirely be a function of the mechanical protection provided by the headgear, but could be related to the fact that fewer “risk takers” wore headgear. On the other hand, others believe that wearing headgear may encourage a more reckless style of playing leading to injury.

### Hamstring Injuries

The incidence of hamstring injuries is high in sports such as rugby which involve stretch shortening cycle activities such as sprinting, high-intensity running, stopping, starting, quick changes of direction, and kicking.<sup>13</sup> One study on professional rugby union players found that running activities accounted for 68 percent of hamstring injuries, but hamstring injuries from kicking resulted in the most severe injuries in terms of the number of days missed.<sup>13</sup> Backs perform a greater number of maximal sprints and cover a greater distance, so they had a higher incidence of match hamstring injuries compared to forwards.

Passive and active warm-up and muscle stretching before training and competition

*Continued on page 5*



have been advocated to reduce the incidence of hamstring injury. Also, hamstring strengthening has been utilized as a prevention strategy, and a specific eccentric strengthening exercise called the Nordic hamstring exercise has been developed for this purpose.<sup>13</sup> This program generates high forces and changes from eccentric to concentric muscle actions similar to those experienced in sprinting. Finally, high-intensity interval anaerobic training has been discussed as a method to reduce hamstring injuries. Brooks et al<sup>13</sup> looked at the effectiveness of some of these programs in preventing hamstring injuries in professional rugby union players. The authors found that athletes who regularly performed static hamstring stretching and strengthening exercises did not have a reduced rate of hamstring injury compared to those players who only performed strengthening exercises. Furthermore, players who incorporated a Nordic hamstring program into their stretching and strengthening training program

did not have lower injury rates than those athletes who did not incorporate the program into their stretching and strengthening program. However, players who regularly performed the Nordic hamstring program with their stretching and strengthening had reduced hamstring injury rates compared to those participants who just performed strengthening alone.

#### **Knee Injuries**

Injuries to the knee account for the highest number of days lost due to injury and are characteristically the most severe injuries with a high number of days missed per injury.<sup>15</sup> Anterior cruciate ligament (ACL) injuries, not surprisingly, cause the greatest number of days lost per knee injury, followed by medial collateral ligament injuries (MCL). MCL injuries are overall the most common knee injuries. The tackle is responsible for the largest proportion of match knee injuries, particularly ACL injuries; and, the ball carrier is at higher risk than the tackler, probably due to the

unpredictability of the impact when being tackled. As a result, backs sustained the highest number of knee injuries.

As in other sports which involve pivoting such as basketball and soccer, women rugby players have a high risk of ACL injury. In fact, one study of USA female collegiate rugby players found a 0.36 incidence per 1,000 exposures which is slightly higher than that reported for women's soccer (0.31) and basketball (0.29).<sup>14</sup> The high incidence of ACL injury in rugby may be explained by the fact that there are frequent opportunities for pivoting and decelerating movements during a game similar in length to that of soccer. In soccer, though, attempts have been made to limit side tackles while rugby relies on multiple collisions, up to as many as 150 per game. The added effect of the perturbation from contact during a pivoting movement further increases the risk of injury to the ACL. As in other sports, the utilization of ACL prevention programs may play a role

*Continued on page 6*



in decreasing the incidence of injuries, but no studies have specifically looked at women rugby players.

### **Ankle Injuries**

Lateral ligament injuries were the most common ankle injuries in one study on English professional rugby union players.<sup>10</sup> A significant portion of these injuries were sustained in non-contact activities or had no known cause, and a high proportion of these injuries occurred in the later stages of each half. Therefore, many of these injuries may have been related to fatigue and subsequent loss of the protective neuromuscular function of the muscles around the ankle joint. As a result, proprioceptive and endurance training programs for the ankle joint musculature, particularly the peroneal muscle groups, may help prevent these injuries. Another potential prevention mechanism is ankle bracing or taping. Ankle braces with rigid material, though, are not permitted in rugby union. The general use of ankle tape was not recorded in the above study, but the authors stated that only a small portion of players with ankle injuries (8 percent) were wearing tape at the time of injury.

Achilles tendon injuries accounted for a significant proportion of absence due to ankle injuries with Achilles tendon ruptures being the most severe of all ankle injuries.<sup>10</sup> Forwards, particularly front-row forwards, were more prone to Achilles tendon injuries which may be due to the explosive and eccentric loading patterns related to scrummaging. There is good evidence that an eccentric calf strengthening program is helpful for treating painful mid-portion Achilles tendinopathy; so, perhaps, forwards who are more prone to these injuries should be placed on such a program. There is, however, no good evidence for any program that prevents Achilles tendon rupture.

The incidence of overall ankle injuries in training and the overall severity of ankle injuries were greater in forwards than backs.<sup>10</sup> In matches, the rate of ankle injuries was highest in second-row forwards

compared to all other playing positions which, in a large part, was related to the line-out where second-line forwards are commonly lifted in the air to compete for the ball. In fact, the line out was responsible for a greater proportion of ankle injuries to second-row forwards (21 percent) than all other forwards (3 percent–6 percent).

### **Shoulder Injuries**

In a study of shoulder injuries in English professional rugby union players, shoulder injuries caused more missed days than any injuries to any other body part except the knee.<sup>6</sup> The majority of shoulder injuries occurred during matches and during contact activities (97 percent). Front-row forwards and midfield backs sustained the highest number of shoulder injuries. Front-row forwards experience high impact forces during scrum engagements which may predispose them to shoulder injuries. Backs tend to incur tackles in the open field while traveling at high velocities which may lead to their susceptibility to injury. In the English rugby union study,<sup>6</sup> the incidence of tackling injuries was, indeed, highest for outside and midfield backs. Tackling was found to cause the highest proportion of match shoulder injuries (43 percent) and the majority of the dislocation/instability events (62 percent).

The most common match injury was acromioclavicular (AC) joint injury (32 percent), and the most severe injury was shoulder dislocation and instability, which caused the greatest proportion of absence (42 percent) and the highest rate of recurrence (62 percent). In terms of helping prevent AC joint injuries, shoulder padding could potentially provide some protection, but the laws of the game set limitations on the thickness of the padding (no more than 1 cm thick when uncompressed). Also, no studies have clearly demonstrated the effectiveness of shoulder padding in rugby. In terms of preventing shoulder instability injuries, a shoulder functional stability program could potentially be useful. In the English

rugby union study, the majority of injuries occurred during the final quarter of the game and later in training sessions, which may be a function of fatigue of the shoulder musculature. So, perhaps, shoulder programs working on endurance of the rotator cuff and peri-scapular musculature may be of benefit.

### **Prevention Strategies for Tackling Injuries**

Tackling is the most dangerous facet of play of rugby, causing up to 58 percent of all game related injuries.<sup>7</sup> In a paper viewing tackling injuries in New Zealand Professional Rugby Union, injuries were most frequently the result of high or middle tackles from the front or side, but the rate of injury per tackle was higher for tackles from behind than from the front or side.<sup>7</sup> Ball carriers were at highest risk from tackles to the head-neck region, whereas tacklers were most at risk when making low tackles. The impact of the tackle was the most common cause of injury, and the head the most common site.

One potential strategy for preventing tackle injuries in rugby is moving the height of the tackle line from the top of the shoulders to the axilla which could reduce the risk of tackles that start at the level of the chest connecting with the head of the ball carrier, thus reducing the risk of head-to-head contact. It remains to be seen whether this will decrease these types of injuries. The only problem with this rule change is that this may result in tacklers making a greater portion of low tackles which predispose the tacklers to injury.

In the New Zealand Professional Rugby Union study, it was also noted that a number of severe injuries to the lower extremities resulted from loading of a player's body with the weight of an opponent.<sup>7</sup> When the tackler jumped on the ball carrier from the side or behind and the ball carrier continued to try to run, the ball carrier was at risk for severe knee, lower leg, and ankle injuries. Tacklers were also at risk via such tackles, especially

*Continued on page 7*

when their legs became entangled with those of the ball carrier. A prevention strategy for these types of injuries is to encourage ball carriers to go to the ground immediately when they feel the weight of the tackler, with the trade-off for coaches and players being gaining a meter or two of field position versus having the player missing extensive time due to injury.<sup>7</sup>

Finally, backs had a higher rate of injury than forwards, presumably because backs made a greater portion of their tackles while running or sprinting, so there is greater velocity at impact.<sup>7</sup> The New Zealand investigation demonstrated the higher movement speeds resulted in higher injury rates.<sup>7</sup> Rugby union needs to look more closely at current proposals to change the laws of the game, including increasing the distance between the two backlines in an attempt to allow players greater time and space before reaching the tackle zone. This rule change could increase the risk of injury by increasing the energy transfer between tackler and ball carrier.

## Conclusions

Due to the nature of the sport, there is a relatively high injury rate in rugby. Although many injuries are not preventable, this article has outlined several methods to potentially decrease their incidence and severity. Experience is a common theme in many studies in preventing injuries. Inexperienced players tend to sustain more injuries due to poor technique, whether it be during the scrum, during a tackle, or during a line-out. Extensive education and training of athletes on appropriate techniques before participation could result in decreased injury rates. Also, there should be more strict rules and limitations for inexperienced players, such as not allowing inexperienced players to participate in the front line of a scrum or having a more controlled engagement during the scrum in more inexperienced, lower level leagues. Many studies have shown that implementation of these measures can make rugby a much safer sport.



## References

1. Chapman PJ. Players' attitudes to mouthguards and prevalence of orofacial injuries in the 1987 U.S. Rugby Football Team. *Am J Sports Med.* 1989. 17:690-691.
2. Micheli LJ, Riseborough EM. The incidence of injuries in rugby football. *Am J Sports Med.* 1974. 2:93-98.
3. Gabbett TJ, Domrow N. Risk Factors in injury in subelite rugby league players. *Am J Sports Med.* 2005. 33:428-434.
4. Gissane C, De Jennings, Kerr K, White J. Injury rates in rugby league football: impact of change in playing season. *Am J Sports Med.* 2003. 31:954-958.
5. Gibbs N. Injuries in professional rugby league: a three-year prospective study of the South Sydney Professional Rugby League Football Club. *Am J Sports Med.* 1993. 21:696-700.
6. Heady J, Brooks JHM, Kemp SPT. The epidemiology of shoulder injuries in English Professional Rugby Union. *Am J Sports Med.* 2007. 35:1537-1543.
7. Quarrie KL, Hopkins WG. Tackle injuries in professional rugby union. *Am J Sports Med.* 2008. 36:1705-1716.
8. Wetzler MJ, Akpata T, Laughlin W, Levy AS. Occurrence of cervical spine injuries during the rugby scrum. *Am J Sports Med.* 1998. 26:177-180.
9. Wetzler MJ, Akpata T, Albert T, Foster TE, Levy AS. A retrospective study of cervical spine injuries in American rugby, 1970 to 1994. *Am J Sports Med.* 1996. 24:454-458.
10. Sankey RA, Brooks JHM, Kemp SPT, Haddad FS. The epidemiology of ankle injuries in professional rugby union players. *Am J Sports Med.* 2008. 36:2415-2424.
11. Bohu Y, Julia M, Bagate C, Peyrin JC, Colonna JP, Thoreux P, Pascal-Moussellard H. Declining incidence of catastrophic cervical spine injuries in French Rugby: 1996-2006. *Am J Sports Med.* 2009. 37:319-323.
12. Hollis SJ, Stevenson MR, McIntosh S, Shores EA, Collins MW, Taylor CB. Incidence, risk, and protective factors of mild traumatic brain injury in a cohort of Australian nonprofessional male rugby players. *Am J Sports Med.* 2009. 37:2328-2333.
13. Brooks JHM, Fuller CW, Kemp SPT, Reddin DB. Incidence, risk, and prevention of hamstring muscle injuries in professional rugby union. *Am J Sports Med.* 2006. 34:1297-1306.
14. Levy AS, Wetzler MJ, Lewars M, Laughlin W. Knee injuries in women collegiate rugby players. *Am J Sports Med.* 1997. 25:360-362.
15. Dallalana RJ, Brooks JHM, Kemp SPT, Williams AM. The epidemiology of knee injuries in English Professional Rugby Union. *Am J Sports Med.* 2007. 35:818-830.

## A New Advocate for Youth Sports Safety

CNN Health Correspondent Dr. Sanjay Gupta's recent documentary "Big Hits, Broken Dreams" invited audiences to see youth sports injuries, specifically concussions, through the eyes of young football players. The hour-long special examined the injury risks of sport for youths. It acknowledged the great need for awareness and education in our communities to best prepare young athletes for safe participation in sports. A preview of the documentary can be found at: <http://www.cnn.com/video/#/video/sports/2011/11/11/gupta-big-hits-broken-dreams-trailer.cnn>.

We see the stories regularly, of young athletes pushed to the brink. A concerned mother on our Facebook page wonders why her son's gymnastic coach insists he trains year-round or otherwise quit the team. A former athletic trainer cringes at the lack of athletic trainers in his community's youth hockey leagues. A high school senior's football season—and likely career—ends with a knee injury.

These stories serve as reminders of the importance in continually reaching out to help parents, coaches, and young athletes better understand the balance between athletic commitment and safety on the field. As we continue our efforts to help prevent trauma and overuse injuries in young athletes, we call for your support and involvement.

### Some easy ways you can get involved include:

- Signing up your sports medicine practice or institution as an official collaborator and receive recognition on the STOP Sports Injuries website. Click the Join Our Team button at [www.stopssportsinjuries.org](http://www.stopssportsinjuries.org)
- Hosting an event. Our event toolkit provides all the details and steps you need to develop a sports safety program in your community
- Writing a blog post with tips for staying in the game—or with a personal perspective on injuries in youth sports
- Encouraging young athletes you encounter to take the campaign pledge and advocate sports safety
- Making a donation. Even a small gift can go a long way to help us create new programs.



If you have questions or need additional information, contact Mike Konstant, Campaign Director at [Michael@stopssportsinjuries.org](mailto:Michael@stopssportsinjuries.org).

# Kick-Start April's Youth Sports Safety Month

We look forward to an exciting series of events this April aimed at promoting Youth Sports Safety Month. Headlining our efforts will be a webcast to present injury prevention strategies and offer the general public an opportunity to interact with sports medicine professionals through a question and answer session. Keep an eye out in the coming weeks for additional information. We will also be hosting our first ever TweetChat on Twitter sometime during the month, so stay tuned. The campaign is also preparing a letter to the editor for supporters to send to their own local newspapers.

We also will be officially launching our new print and radio public service announcement (PSA) in conjunction with the American Academy of Orthopaedic Surgeons. These pieces—coming to a community near you—bring attention to the dangers of young athletes specializing in one sport. The print and radio version of these PSAs are available for download at [www.stopsportsinjuries.org](http://www.stopsportsinjuries.org) under Resources. We also encourage you to display the poster or distribute the postcard in your offices. Contact Lisa Weisenberger at [lisa@aossm.org](mailto:lisa@aossm.org) to receive free copies of these materials.

April is also a perfect time to host a community event to help promote youth sports safety with STOP Sports Injuries



New PSA campaign highlights overuse issue.

educational materials. As a reminder, register your event online and receive a free STOP Sports Injuries campaign starter kit (\$110 value). The kit includes 50 copies of each of our printed tip sheets, folders, stickers, tattoos, and lapel pins. To register visit [www.stopsportsinjuries.org/events](http://www.stopsportsinjuries.org/events) or contact Joe Siebelts at [joe@aossm.org](mailto:joe@aossm.org) for additional information.

## STOP Sports Injuries Outreach Continues

### 2012 AOSSM Specialty Day

The STOP Sports Injuries campaign was on display this February at Specialty Day in San Francisco. Folders containing tip sheets, posters, and other promotional materials were distributed to attendees interested in learning more and helping with the campaign.

### Safe Kids USA Events

After a successful slate of nearly 90 youth sports safety clinics in 2011, Safe Kids USA, a founding supporter of the STOP Sports Injuries campaign, will once again distribute educational materials to young athletes, parents, and coaches around the country. Keep tabs on these events with our event calendar at [www.stopsportsinjuries.org](http://www.stopsportsinjuries.org).

### Times Square PSA Spot

From the end of February through April 15, the campaign's new PSA can be seen in Times Square in New York City. If you are in the City, please be sure to check it out!

### 2012 NCAA Youth Sports Safety Clinics

The campaign is excited to once again partner with the National Collegiate Athletic Association (NCAA) on their 2012 Youth Clinics. These clinics connect young athletes and parents with information from college athletes and coaches as well as sports medicine physicians. STOP Sports Injuries materials will be distributed at these events, which are tied in with activities surrounding NCAA Championships in Men's Division I Basketball, Women's Division I Basketball, Women's Division I Softball World Series, and Men's Division I Baseball World Series. Last year's basketball clinics hosted nearly 1,000 young athletes and parents, while the baseball and softball clinics saw some 300 attendees.



**If you have hosted an event or have been performing outreach in your community, be sure to forward pictures and a brief description to Joe Siebelts at [joe@aossm.org](mailto:joe@aossm.org).**

## THANKS TO OUR SPONSORS

The support of our corporate sponsors is crucial to sustaining and expanding the reach of the STOP Sports Injuries campaign. We offer a special thanks to our Champion Level Supporters for their generous annual donations.



## AOSSM to Provide \$300,000 Grant for Meniscal Allograft Transplantation Research

As announced previously, AOSSM, in partnership with the Musculoskeletal Foundation (MTF), is offering a one-time grant of \$300,000 to support a research project that focuses on meniscal allograft transplantation. The purpose of this grant is to foster research for clinically relevant biomechanical studies, basic science studies, preclinical or clinical studies related to meniscal transplantation. Projects related solely to meniscus repair or preservation, meniscus regeneration, collagen implants, and other such topics will not be considered for this grant. At least one investigator on each application must be a full AOSSM member. Collaborative, multi-center studies will be strongly encouraged and will be given special consideration in the review process. Application instructions and materials can be found on the AOSSM website at [www.sportsmed.org/researchgrants](http://www.sportsmed.org/researchgrants). The application deadline is April 1, 2012. Award notices will be made on or after July 1 with a start date of September 1, 2012. Inquiries can be directed to Bart Mann, AOSSM Director of Research at [bart@aossm.org](mailto:bart@aossm.org).



AOSSM thanks MTF for their generous support of the Meniscal Allograft Transplantation grant.

## AOSSM and Smith & Nephew Innovative Outcomes Assessment Grant

AOSSM is once again providing a grant sponsored by Smith & Nephew to support development of innovative approaches to measuring the effects of surgical procedures in orthopaedic sports medicine. This \$25,000 grant is meant to advance the evaluation of clinical outcomes related to surgery by encouraging novel approaches, techniques, and/or methodology that will facilitate and enhance clinical research. Examples include new web-based instruments to allow inter-institutional collaborative efforts, tools to quantify joint laxity, or innovative methods to measure the results of arthroscopic procedures about the hip. The intent of this award is to provide start-up funding for the development of tools and/or technology that can be leveraged and used for future, larger-scale clinical research studies. Applications will be judged on three criteria:

- Innovation
- Feasibility
- Clinical Significance

The proposal should define the limitations with currently available assessments, clearly describe the proposed innovative approach, state how the new assessment will be tested, and discuss the clinical significance of this novel method to the field if successful. Because this grant is intended to foster new ideas and creativity, prior data related to the innovation is not required but can be presented to establish feasibility. The principal investigator or a co-investigator must be an AOSSM member in good standing. Application instructions and materials can be found on the AOSSM website, [www.sportsmed.org/researchgrants](http://www.sportsmed.org/researchgrants). The deadline for applications is April 17, 2012. Inquiries can be directed to Bart Mann, AOSSM Director of Research, [bart@aossm.org](mailto:bart@aossm.org).

### RESEARCH GRANT DEADLINES

**AOSSM/MTF Meniscal Allograft Transplantation Grant**  
Deadline April 1, 2012

**AOSSM/Smith & Nephew Innovative Outcomes Assessment Grant**  
Deadline April 17, 2012



AOSSM thanks Smith & Nephew for their generous support of the Innovative Outcomes Assessment Grant.

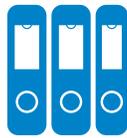
## Research Funding Workshop Deadline Approaching

The ORS, OREF, and AAOS will be offering a *Research Funding Workshop, Strategies for Success: Tools for Investigators in Challenging Times*. This two-day workshop is an expansion of the well-regarded ORS/AAOS/OREF grant writing workshop. Francis Y. Lee, MD, and Tamara Alliston, PhD, are the program co-chairs. Faculty will include current or recent NIH study section members, investigators with active NIH grants, and representatives from private funding organizations.

Participants will be paired with an experienced investigator to further develop a draft research plan, learn strategies to develop successful research collaborations, and discuss funding opportunities. The program will also include didactic sessions on grant elements, a mock study section, and networking opportunities, and is open to junior faculty, post-doctoral researchers, clinical fellows, and residents with a commitment to pursuing an academic research career.

The workshop will be May 17–18, 2012, in Long Beach, California, plus participant-mentor follow-up meetings at the January 28, 2013, ORS Annual Meeting in San Antonio, Texas. Space is limited. The application deadline is March 15, 2012.

For more information and a downloadable application, please visit [www.ors.org/orsorefaaos-research-funding-workshop/](http://www.ors.org/orsorefaaos-research-funding-workshop/).



## AAOS Needs Your Patient Stories

AOSSM is working with AAOS on its new public awareness campaign called “A Nation in Motion: One Patient at a Time.” This campaign will tell the stories of patients across the country whose lives have been saved or restored by orthopaedic care. As part of our participation, we are helping to recruit specifically sports related stories.

As you know, the strongest ambassadors for the message are patients, whose lives are forever changed by orthopaedic care. With this in mind, AAOS is asking that you identify patients who are willing to share their stories of restored independence, productivity, and improved quality of life.



### Here's how you can help:

- Choose patients whose stories embody “A Nation in Motion: One Patient at a Time.”
- Talk to them—or ask someone in your office to do so—and invite your patients to submit their stories at [www.anationinmotion.org](http://www.anationinmotion.org), or alternatively, ask them for permission to use their story. Then you or someone on your staff can then submit the stories on their behalf.
- AAOS needs the stories by Friday, March 23, 2012.

If you have questions, please contact Sandra R. Gordon, 847/384-4030 or [gordon@aaos.org](mailto:gordon@aaos.org).

### Are You Attending the 2012 Olympics in London? Let Us Know!

To answer media questions we might receive, AOSSM is preparing a database of members who will be attending the 2012 Summer Olympics in London. If you are interested in being an AOSSM media contact, please send an email to Lisa Weisenberger at [lisa@aossm.org](mailto:lisa@aossm.org).



### New Self Assessment 2012 Just Released



The newest version of AOSSM's Self Assessment product is now available. It includes 125 new questions, provides Maintenance of Certification credit, and is online only. To order, visit the [www.sportsmed.org/selfassessment](http://www.sportsmed.org/selfassessment). If you have additional questions, contact Susan Brown Zahn at [susan@aossm.org](mailto:susan@aossm.org).

**Have You Become an AOSSM Fan Yet?**



AOSSM, *AJSM*, and *Sports Health* are all on Facebook and Twitter. Learn about the latest news and articles from *AJSM* and *Sports Health*. Stay up to date on Society happenings and deadlines at AOSSM. Join the conversation and become a Fan or follower:

**Twitter**

Twitter.com/AOSSM\_SportsMed  
 Twitter.com/Sports\_Health  
 Twitter.com/SportsSafety

**Facebook**

www.facebook.com/AOSSM  
 www.facebook.com/American-Journal-of-Sports-Medicine  
 www.facebook.com/SportsHealthJournal  
 www.facebook.com/STOPSportsInjuries

**Names in the News**



Congratulations to past AOSSM President, Freddie Fu, MD, who will receive the Dapper

Dan Sports Leadership award from the *Pittsburgh Gazette* for his outstanding work in the Pittsburgh community.

**AOSSM's 2012 Specialty Day Wrap-Up**

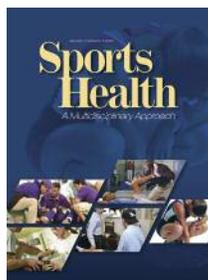
More than 1,200 individuals attended AOSSM's 2012 Specialty Day program. Our joint session with the Pediatric Orthopaedic Society of North America (POSNA) was also well attended. Other highlights included Jesse DeLee, MD, presenting the Kennedy Lecture.



AOSSM President Peter Indelicato, MD introduces Dr. Jesse DeLee as the Kennedy Lecturer during Specialty Day 2012.

All attendees of the AOSSM 2012 Specialty Day, including the AOSSM/POSNA Joint Session, should have received an email from AOSSM detailing their CME credits. If you did not receive the email or need additional information or assistance, contact Pat Kovach at [pat@aossm.org](mailto:pat@aossm.org).

**Looking to Get Spring Started Off Right? Give Your Athletic Trainer the Gift of *Sports Health***



Are you looking for a unique bonus for your athletic trainer? Give them a year's subscription to *Sports Health!* This award-winning journal, sponsored by AOSSM, NATA, SPTS, and AMSSM allows your staff to stay up to date on the latest research in sports medicine from a multitude of angles.

Just log in at [www.sportsmed.org/shj](http://www.sportsmed.org/shj) and complete the transaction. For questions or more information, contact Kristi Overgaard at [Kristi@aossm.org](mailto:Kristi@aossm.org)



**Get Your Patients Educated and In Motion**

*In Motion* is available to be personalized with your practice name and logo. For just \$300, you will receive four personalized issues (Spring, Summer, Fall, Winter) and high and low resolution PDFs to send to patient's inboxes, post on your website, or print and place in your waiting room. For information, contact Lisa Weisenberger, Director of Communications at [lisa@aossm.org](mailto:lisa@aossm.org).

**Got News We Could Use? *Sports Medicine Update* Wants to Hear from You!**

Have you received a prestigious award recently? A new academic appointment? Been named a team physician? AOSSM wants to hear from you! *Sports Medicine Update* welcomes all members' news items. Send information to Lisa Weisenberger, AOSSM Director of Communications, at [lisa@aossm.org](mailto:lisa@aossm.org), fax to 847/292-4905, or contact the Society office at 847/292-4900. High resolution (300 dpi) photos are always welcomed.





## Orthopaedic Issues Front and Center in Congress

By Jamie Gregorian, AAOS Senior Manager, Specialty Society Affairs and Research Advocacy

As Congress prepared to enter a week-long recess and the Centers for Medicare and Medicaid Services worked to address doctors' concerns about its processes, reimbursements were front and center in Washington during the month of February.

### Delay in ICD-10 Implementation

Speaking to attendees at the American Medical Association Advocacy Conference on February 14, acting CMS Administrator, Marilyn Tavenner, indicated that her agency will grant more time to implement the ICD-10 system. In comments to reporters after her address, Ms. Tavenner said that CMS will "re-examine the timeframe" through its rulemaking process, and that details would emerge in the coming days.

"There's concern that folks cannot get their work done around meaningful use, their work around ICD-10 implementation and be ready for exchanges," Ms. Tavenner said. "So we're trying to listen to that and be responsive."

### "Doc Fix" Through 2012

On February 17, hours before recessing for President's Day, Congress passed a legislative

package that includes a 10-month "doc fix," freezing Medicare reimbursement rates through the end of 2012. The vote in the House was 293-132. On party lines, 91 Republicans and 41 Democrats opposed the package. The Senate quickly cleared the bill on an 60-36 vote less than an hour after the House voted. In the House, 30 Republicans and five Democrats, as well as independent Sen. Bernie Sanders of Vermont, voted no. The legislation now goes to President Obama, who has promised to sign the bill "right away." As of February 21, the bill had yet to reach his desk, but all indications are that this will become law soon.

### IPAB Repeal

On February 16, Sen. John Cornyn (R-TX) managed to initiate the Rule XIV process for S. 2118, the "Health Care Bureaucrats Elimination Act," that would eliminate the Independent Payment Advisory Board (IPAB). Before now, Senate leadership has blocked any effort to reintroduce the legislation, but Senate Rule XIV allows for members to bypass the committee process (where legislation is most often killed when

the majority deems fit) and place a bill directly on the Senate's calendar. Prospects for success are not bright, but AAOS continues to lobby heavily for IPAB repeal.

### MDUFA Update

Rep. Joe Barton (R-TX), the number two Republican on the House Energy and Commerce Committee had harsh words for the FDA at a February 15 hearing on the proposed user fee acts. "Don't ask this member to rubber-stamp a doubling of the user fee when we have the program performance, or lack thereof, at this FDA," said Mr. Barton. Further, in his written statement, Mr. Barton went on to say that "unless we make significant reforms to the Food and Drug Administration and its review process, I believe we should end all user fees."

Mr. Barton was reacting to an agreement in principle reached by the medical device industry and the FDA earlier this month for industry to pay \$595 million in user fees over five years. This is more than double the \$287 million in fees authorized previously.



*In the second of a series of articles on this year's Annual Meeting, we provide a focused look at what to expect from the outstanding educational activities provided. Social activities will be highlighted in our next installment.*

## Education at the 2012 Annual Meeting Will Hit a Grand Slam

This year's AOSSM Annual Meeting takes on the exciting seaside city of Baltimore with its world renowned aquarium, historic baseball field, and epic crab cakes. Baltimore has a multitude of activities for the whole family along with some unique AOSSM educational offerings.

On Thursday, July 12, the meeting starts in full swing with an incredible line-up of research and poster presentations. Program Chair, Darren L. Johnson, MD, and his committee have selected a wide range of papers focused on the team physician and the many issues surrounding treatment and prevention strategies, including such hot topics as return-to-play, biceps anchor repair, ankle sprains, meniscal injuries, and adolescent hip concerns.

Also, taking place this year on Thursday afternoon is the Knee Live Surgical Demonstration Workshop.

Join us to view your most frequently requested procedures with world class surgeons sharing their pearls in real time. Procedures will include:

- Open Patella: Medial Patellofemoral Repair/Reconstruction
- Tibial Tuberosity Osteotomy: Anteromedialization (AMZ) and Lateral Retinaculum
- ACL Reconstruction: Single and Double Bundle
- PCL Reconstruction: Transtibial and Inlay
- Medial Side Repair/Reconstruction
- Lateral-Sided PLC Reconstruction

Another new component to this year's meeting is the industry-sponsored symposiums taking place on Friday afternoon. Attendees will be able to choose from 10 different options and get a unique, first-hand opportunity to learn from expert faculty on the latest products and services.

*Continued on page 15*





In addition to all of this, 27 instructional courses have been developed by Instructional Course Chair, Charles Bush-Joseph, MD. A new exciting course this year is “Social Media 101: Why You Should Join the Conversation and How to Get Started,” co-sponsored by the AOSSM Public Relations and Technology Committees. Attendees to this course will learn how social media such as Twitter and Facebook can improve your practice and patient interactions. Other new courses include, MRI-Arthroscopy Correlation, Case-Based: Game Day Decisions and Lacrosse Sports Medicine. Each instructional course has limited availability so be sure to register early to get into your desired courses.

One of the highlights of the meeting is always the Presidential Guest Speaker, who this year will be well-known ESPN college football commentator, Lee Corso. He will discuss the highs and lows of his career and give attendees some

comical insights into the world of broadcasting.

An exciting Saturday afternoon activity is the Young Sports Medicine Specialists’ Workshop which offers practical and pragmatic examples of how to succeed in sports medicine and set up your practice. Listen and interact with some of the top sports medicine faculty. The informal small groups give everyone an opportunity to benefit from shared universal experiences and proven solutions.

Also on Saturday is the research workshop on the maturing athlete. Join faculty as they discuss diverse elements of treating and researching the aging athlete population.

These are just a few of the exhilarating educational opportunities that await you in Baltimore. Come join us for all the fun, fellowship, and learning.

2012 Annual Meeting Preliminary Programs will be arriving in your inbox and mailbox in mid-March, so be on the lookout and register early.

## Annual Meeting Housing Filling Up

Attendee lodging for the 2012 AOSSM Annual Meeting is now available. Hotels include:

- **Hilton Baltimore (\$239)**
- **Hyatt Regency on the Inner Harbor (\$232)**



The Hilton and Hyatt are attached via walkway to the Baltimore Convention Center and the Marriott is 1.5 blocks from the Center. Details and locations of the hotels can be viewed at [www.sportsmed.org/AnnualMeeting2012](http://www.sportsmed.org/AnnualMeeting2012). Exhibits, Scientific Sessions and Instructional Courses will be held at the Baltimore Convention Center.

Book your housing at [www.sportsmed.org/AnnualMeeting2012](http://www.sportsmed.org/AnnualMeeting2012) or by calling 800/282-6632 or 410/837-4636 and identify yourself as AOSSM Annual Meeting attendee. Rates are guaranteed until June 12, 2012, subject to availability.



## New Members Join Traveling Fellowship Family



William Grana, MD



Geoffrey Baer, MD



Brett Owens, MD



Robert Brophy, MD

This year the AOSSM traveling fellows will be visiting Europe. The tour will be between AOSSM and ESSKA. Godfather for this tour will be former AOSSM President, William Grana, MD. Dr. Grana’s companions will be Geoffrey Baer, MD, University of Wisconsin-Madison; Robert Brophy, MD, Washington University in St. Louis; and Brett Owens, MD, Keller Army Hospital, West Point, New York.

The tour will be April 9 through May 5 during which time the fellows will be hosted by many former traveling fellows and make stops in Spain, Netherlands, Luxembourg, Germany, France, and Italy. Their final stop will be at the ESSKA Congress in Geneva, Switzerland.

The AOSSM, Traveling Fellowship Committee and all past participants of the Traveling Fellowship Program thank DJO Global for their continued generous support.



## Upcoming Meetings and Courses

For more information and to register, visit [www.sportsmed.org/meetings](http://www.sportsmed.org/meetings).



### **2012 Annual Meeting**

July 12–15, 2012  
Baltimore, Maryland  
Registration available mid-March.

### **AOSSM/AAOS Review Course for Subspecialty Certification in Orthopaedic Sports Medicine**

Chicago, Illinois  
August 10–12, 2012  
Registration Now Open

### **Keep Your Edge: Hockey Sports Medicine in 2012**

Toronto, Canada  
August 24–26, 2012  
Registration Now Open



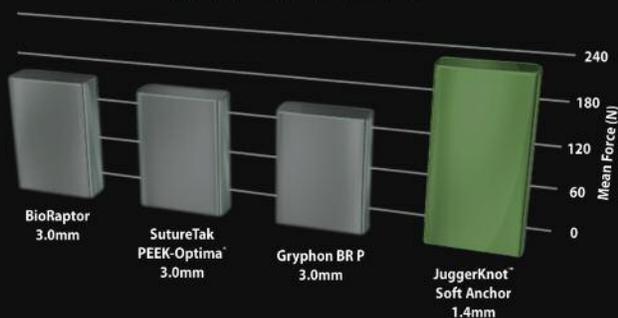
# It's small. It's strong.<sup>1,2</sup> And it's all suture.

Size is **not** indicative of strength! Ants can carry more than 50 times their body weight. The 1.4mm JuggerKnot™ Soft Anchor has been shown to be stronger than comparable 3mm anchors.<sup>1,2</sup> The JuggerKnot™ Soft Anchor represents the next generation of suture anchor technology. This 1.4mm anchor is completely suture-based and the first of its kind.

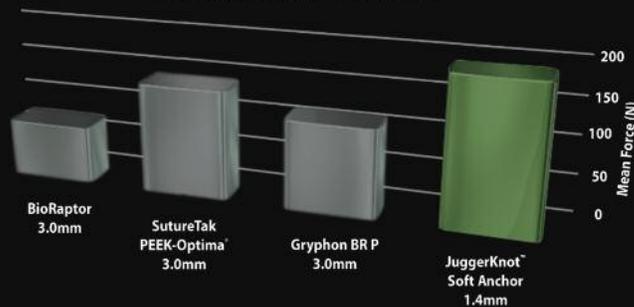


**JuggerKnot™**  
SOFT ANCHOR

Cortical Loads to Failure<sup>1,2</sup>



Cancellous Loads to Failure<sup>1,2</sup>



Biologics • Bracing • Microfixation • Orthopedics • Osteobiologics • Spine • **Sports Medicine** • Trauma • 3i

1. Barber FA, Herber MA, Beavis RC, and Oro FB; "Suture Anchor Materials, Eyelets, and Designs: Update: 2008." Arthroscopy Vol. 24, No. 8 pp 859-867, 2008

2. Barber FA, Herbert MA, Hapa O, Rapley JH, Barber CA, Bynum JA, Hrnack SA; "Suture Anchor Update 2010." Arthroscopy 2010; In Press.

For indications, risks and warnings, visit:

**biometsportsmedicine.com • 800.348.9500 x 1501**

All trademarks herein are the property of Biomet, Inc. or its subsidiaries unless otherwise indicated. SutureTak™ is a trademark of Arthrex, Inc. BioRaptor™ is a trademark of Smith & Nephew. Gryphon™ is a trademark of DePuy.

**BIOMET®**  
SPORTS MEDICINE  
One Surgeon. One Patient.™





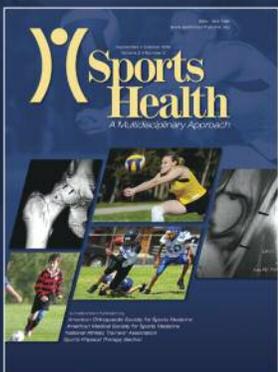
## Sports Medicine Update

AOSSM  
6300 North River Road  
Suite 500  
Rosemont, IL 60018



# Exclusive AOSSM Member Gift Subscription for ATs

**\$45**  
for 1 year/  
6 issues



AOSSM members can now purchase *Sports Health: A Multidisciplinary Approach* gift subscriptions for athletic trainers they work with. The number of subscriptions you may sponsor is unlimited. All you need to do is go to

[www.sportsmed.org/shj](http://www.sportsmed.org/shj)

and complete the subscription form providing the recipient's mailing information.

**30% off the list price**



AOSSM thanks Biomet for their generous support of *Sports Medicine Update*.

