

# Sports Medicine

UPDATE

JANUARY/FEBRUARY 2010



**STOP Sports Injuries  
Launches Web Site**

**Update on  
Annual Meeting  
in Providence**

## **APPLICATIONS OF PLATELET-RICH PLASMA**



AOSSM

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## JANUARY/FEBRUARY 2010



## 2 Team Physician's Corner

Basic Science and Clinical Applications  
of Platelet-Rich Plasma

### 1 President's Message

### 7 AOSSM Launches STOP Sports Injuries Web Site

### 8 Research News

### 10 Society News

### 12 Annual Meeting in Providence

### 14 Coding Corner

### 15 Membership News

### 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 Web site at [www.sportsmed.org](http://www.sportsmed.org).

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**IN SPORTS MEDICINE UPDATE WE OFTEN FOCUS** on notable Society activities to keep you apprised of what is happening in our organization. This month, I'd like to profile the activities of the AOSSM Medical Publishing Group, to emphasize not only its impressive accomplishments but also to highlight the benefits it is providing to the AOSSM membership, to the broader orthopaedic surgeon community, and to the entire sports medicine profession.

2009 was a watershed year for AOSSM's publishing activities. Last year we successfully launched *Sports Health: A Multidisciplinary Approach* under the editorial leadership of Ed Wojtys, MD, editor-in-chief, and his associate editors, George Davies, DPT, ATC, Riann Palmieri-Smith, PhD, ATC, and Matthew Gammons, MD. The editorial team published six quality issues and has already developed a significant following with a circulation to more than 25,000 individuals. We expect the journal to be indexed early this year and that it will continue to provide an academic and clinical forum for the sports medicine community.

Concurrently, the *American Journal of Sports Medicine (AJSM)* — the cornerstone of our publishing activities — continued to excel under the leadership of Bruce Reider, MD, *AJSM*'s editor-in-chief. In 2009, *AJSM* published more than 2,650 pages of the highest quality content in the field. The Impact Factor for the Journal — scientific citations — remains among the highest for both orthopaedic surgery journals and sports sciences publications. Achieving this status in one category would be impressive, but achieving it in both is exceptional.

Bruce and the Medical Publishing Group continue to find ways to make this quality publication even more beneficial to its readers. Last year, *AJSM* published a supplemental 13th issue on articular cartilage repair in collaboration with the International Cartilage Repair Society. We owe a special thanks to Allen Anderson, MD, and Margaret Smith, MD, who served as guest editors for this issue. Beginning in 2010, *AJSM* will also be providing CME credits through each issue, making a quality publication even more valuable.

The AOSSM Medical Publishing Group is not just enhancing the value of these publications, but it is also working to make the quality content available to the far reaches of the sports medicine world. Each month, *AJSM* online is visited more than 400,000

times for searches and article downloads. The Medical Publishing Group leadership has established agreements so that *AJSM* will soon be distributed to the membership of the Brazilian Sports Medicine Society and the Japanese Orthopaedic Society for Sports Medicine. Similar arrangements are under negotiations with other national orthopaedic organizations, as well.

Our publishing success reflects many of the same variables that contribute to our success as a profession. Exacting standards were established by our editors, beginning with Jack Hughston, MD, advanced by Bob Leach, MD, and now continued by Bruce Reider, MD. It also reflects vision, as demonstrated by T. David Sisk, MD, the first chair of the AOSSM Medical Publishing Board who launched *Sports Health*. That vision is now carried forth by current chair, Doug Brown, MD. It reflects the tireless work of reviewers who provide their expertise and time to provide true peer review of their colleagues' work. But most importantly, it reflects the ongoing contributions of researchers and authors who entrust their life's work to *AJSM* and *Sports Health* to publishing and sharing with their colleagues worldwide.

Our success as a profession is predicated on the individual contributions of the leading educators, researchers, and clinicians in orthopaedic sports medicine. As AOSSM president, I realize that our success as a publisher and as a Society is determined by our collective efforts to collate and disseminate the intellectual insights that allow us to better serve patients and athletes. In this respect, AOSSM owes its Medical Publishing Group a special thanks for its contributions to our Society and to our profession. These journals truly are the shining stars of our Society.

JAMES R. ANDREWS, MD



## BASIC SCIENCE AND CLINICAL APPLICATIONS OF PLATELET-RICH PLASMA

**GRANT L. JONES, MD**  
The Ohio State University

Platelet-rich plasma (PRP) is defined as a sample of blood that has a platelet concentration above baseline levels. Platelet-rich plasma, with a platelet concentration of at least 1,000,000 platelets/microL in 5 ml of plasma has been shown to enhance healing of musculoskeletal tissue due to its 3- to 5-fold increase in growth factor concentration.<sup>1,2</sup>

*Continued on page 3*

Platelet-rich plasma has been used in the fields of maxillofacial and general surgery as well as orthopaedic surgery to aid in hemostasis, wound healing, bone healing, and tendon healing. The use of PRP in sports medicine has been recently popularized by its use in a Pittsburgh Steelers' football player prior to the 2009 Super Bowl to expedite the healing of acute medial collateral ligament (MCL) injury. This article reviews the basic science and clinical applications of PRP.

### Preparation

Platelet-rich plasma is made from anti-coagulated blood. Citrate is first added to whole blood to inhibit the clotting cascade. The blood then undergoes two centrifugation steps:

- Separation of the red and white blood cells from the plasma and platelets
- Further concentration of the platelets



Vial of blood after the first centrifugation process. The "buffy coat" contains the platelet-rich plasma.

This second centrifugation produces the PRP which then needs to be clotted to allow for platelet activation and the release of the growth factors. Two main activation techniques exist:

- The use of bovine thrombin to activate the clotting mechanism after the second centrifugation
- The use of CaCl<sub>2</sub> during the second centrifugation step to initiate the formation of autogenous thrombin from prothrombin in the plasma.

The first technique results in the release of 70 percent of the pre-synthesized growth factors within 10 minutes and 95 percent within one hour.<sup>1</sup> The

platelets then continue to synthesize and secrete additional factors for the remainder of their lifespan (8–12 days). The second mechanism results in the formation of a dense fibrous matrix during the second centrifugation phase which entraps the intact platelets. This, in turn, results in the production of only a small amount of thrombin and, thus, slows platelet activation so that the platelets release growth factors slowly over a seven day period.<sup>3</sup>

### Platelet Biology

Platelets are cytoplasmic fragments of megakaryocytes and have no nuclei. They do contain organelles and granules, including the important alpha-granules. Alpha-granules contain more than 30 growth factors fundamental to hemostasis and tissue healing. Important growth factors in the alpha-granules include platelet-derived growth factor (PDGF), transforming growth factor-beta (TGF-beta), vascular endothelial growth factor (VEGF), epidermal growth factor (EGF), and insulin-like growth factor 1 (IGF-1).<sup>4</sup> PDGF stimulates cell replication, angiogenesis, and fibroblasts. VEGF promotes angiogenesis and neovascularization. TGF-beta regulates fibroblasts and collagen production. IGF-1 stimulates myoblasts and fibroblasts and mediates skeletal muscle repair and growth. EGF stimulates mesenchymal and epithelial cells and potentiates other growth factors. All of these activities contribute to the repair of tendon, skeletal muscle, and bone.

### Laboratory Studies

Several cell culture studies have demonstrated the enhancement properties of PRP and its constituents. De Mos et al<sup>5</sup> and Anitua et al<sup>6</sup> noted a dose-related increase in the number of tenocytes and increase in collagen production in child and young adult human tenocytes cultured with PRP. Similarly, Klein et al<sup>7</sup> found increased collagen production by rabbit foot tenocytes grown with TGF-beta, a key component of PRP. Also, Barry et al<sup>8</sup> have

shown that mesenchymal cells cultured with TGF-beta produced significantly more proteoglycans and type II collagen which are key components of articular cartilage repair. Finally, Fukumoto et al<sup>9</sup> demonstrated that IGF-I has a synergistic effect with TGF-beta promoting mesenchymal stem cell chondrogenesis.

There have also been several *in vivo* animal studies demonstrating the potential benefits of PRP and its components on soft tissue healing. Aspenberg and Virchenko<sup>10</sup> found that a platelet concentrate injected into the hematoma six hours after the creation of an Achilles tendon defect in a rat resulted in increased tendon callus strength and stiffness compared to controls. Kajikawa et al<sup>11</sup> showed that the injection of PRP into rat patellar tendons resulted in increased levels of types I and III collagen and macrophages, which is indicative of tendon repair and remodeling. In a porcine model, Murray et al<sup>12</sup> demonstrated that transected ACLs treated with a collagen-PRP hydrogel at the transaction site healed with higher load at yield, maximum load, and linear stiffness at four weeks compared to controls after suture repair of the ligaments. In a goat model, Spindler et al<sup>13</sup> found that application of a collagen-platelet aggregate around a patellar tendon autograft reconstruction resulted in improvements in knee laxity compared to grafts treated in a collagen scaffold alone. Finally, in a canine model, Yasuda et al<sup>14</sup> showed that beagles undergoing ACL reconstruction with autogenous patellar tendon grafts treated with a fibrin sealant containing TGF-B and epidermal growth factor (EGF) had less anterior-posterior knee translation, greater graft cross-sectional area, and greater graft stiffness and load at failure than those beagles whose grafts were not treated or those just treated with fibrin without the growth factors.

### Clinical Studies

There have been several clinical reports on the use of PRP to treat chronic tendinopathy disorders, plantar fasciitis,

*Continued on page 4*

acute ligamentous injuries, and acute muscle injuries, and the use of PRP to enhance ACL reconstruction and acute tendon repair. Unfortunately, many of these studies are case series with small sample sizes and lack of control groups.

#### **Chronic Tendinopathy Disorders**

Two studies have evaluated the use of autologous blood products to treat refractory lateral epicondylitis or "tennis elbow."<sup>15,16</sup> Edwards and Calandruccio<sup>15</sup> locally injected whole blood that was not centrifuged in 28 patients who failed more traditional treatments for lateral epicondylitis. They reported a 79 percent success rate, but this was a Level IV study with no control group. Mishra and Pavelko<sup>16</sup> treated 15 patients with PRP injections and five patients with placebo injections (Marcaine with epinephrine) and prospectively evaluated them. Patients treated with PRP reported 60 percent improvement at eight weeks, 81 percent improvement at six months, and 93 percent at final follow-up. Three of the five patients in the control group dropped out of the study and/or sought treatment outside of the study. So, the authors were just able to evaluate the PRP treatment group. Though prospective in nature with a control group, there were significant design flaws in that the sample size was small and the attrition rate was nearly 60 percent in the control group.



Injection of PRP into the common wrist extensor origin on the lateral epicondyle for refractory lateral epicondylitis.

PRP has also been used to treat chronic patellar tendinopathy or "jumper's knee." Kon et al<sup>17</sup> completed a pilot study on the use of a series of three PRP injections to treat 20 consecutive patients with patellar

tendinopathy of greater than three months duration. The authors reported a statistically significant improvement in all evaluation scores after six months with an overall 80 percent satisfaction rate. The authors noted that those patients who were compliant with a specific post-injection physical therapy protocol had significantly better results. As with the above study, although prospective in nature with adequate follow-up, this study is limited in the fact that there was no control group.

#### **Plantar Fasciitis**

Under ultrasound guidance, Garrett and Erredge<sup>18</sup> injected the medial plantar fascia of nine patients with chronic, refractory plantar fasciitis confirmed by ultrasound. Six of the nine patients achieved complete resolution of their symptoms at two months. After two months, the failure group was offered a second PRP injection, and one of the three failure group patients eventually had complete resolution of symptoms after the second injection. Overall, at one year 77.9 percent of the patients achieved complete resolution of their symptoms. Like the previous studies, this investigation was limited by its small sample size and lack of a control group.

#### **Acute Ligamentous Injury**

The interest in the use of PRP to treat acute ligamentous injury has increased after reports in the lay press of a Pittsburgh Steelers football player receiving PRP to expedite the healing of a MCL injury before the 2009 Super Bowl. However, there are no scientific reports on its effectiveness other than one review article which discussed unpublished data on the use of PRP to treat acute Grade II medial collateral ligament tears in professional soccer players.<sup>3</sup> Two authors of this article (BRM and MBG) compared the players who were treated with a single PRP injection with those who were treated with the standard treatment, including rest and rehabilitation.<sup>3</sup> The injections were given within 72 hours of the MCL injury. This study showed that the return-to-play time was shortened by 27 percent compared

to the control group. Limitations of this investigation, though, were a small sample size (n=22) and its retrospective design.

#### **Acute Muscle Injury**

PRP has been suggested as a treatment for acute muscle injury as one in vitro study showed that growth factors may influence muscle regeneration after injury.<sup>19</sup> One unpublished case series of 14 professional athletes presented at the 2005 International Society of Arthroscopy, Knee Surgery, and Orthopaedic Sports Medicine meeting in Florida is the only known clinical study that has evaluated the use of PRP in acute muscle injury.<sup>3</sup> All of the injuries in this investigation occurred from direct mechanical trauma, and PRP was injected directly into the tear under ultrasonic guidance after aspiration of the hematoma. A 50 percent reduction in return-to-play time was reported. However, this was a retrospective study, and there was no control group as the return-to-play time in the treated athletes was compared to previously published return-to-play times.

#### **Acute Achilles Tendon Repair**

Sanchez et al<sup>20</sup> investigated the use of PRP to enhance the healing of surgically repaired Achilles tendon ruptures. Six patients who were treated with PRP intra-operatively were compared to six control patients treated with standard repair without PRP. Both groups underwent identical post-operative rehabilitation courses. Functional outcomes studied included time to reach full range-of-motion, time to gentle running, and time to resume training activities. An ultrasound examination to determine the cross-sectional area of the repaired tendon was performed in all patients at 30 to 50 months post-surgery. The authors reported that all three functional outcomes were reached significantly faster in the PRP group. Also, the cross-sectional area of the healed tendon was smaller in the PRP group, perhaps indicating greater remodeling in this group. This study was prospective and had a control group, but was limited by its small sample size.

*Continued on page 5*

## Rotator Cuff Repair

Randelli et al<sup>21</sup> evaluated 14 patients who had arthroscopic rotator cuff repairs performed that were augmented with the intra-operative application of autologous PRP in combination with an autologous thrombin component after repair. Follow-up was at six, 12, and 24 months post-operation. The authors reported that visual analog scores (VAS), UCLA scores, and Constant scores all significantly improved at each time interval compared to pre-surgery scores and that there were no adverse events. However, there was no control group and no radiographic or ultrasonic follow-up to assess for tendon healing.

## ACL Reconstruction

Two clinical studies have examined the effect of PRP on the incorporation of grafts in ACL reconstruction.<sup>22,23</sup> Orrego et al<sup>22</sup> divided 108 ACL reconstruction patients into four groups:

- Reconstruction with hamstrings autograft (control group)
- Reconstruction with hamstrings autograft with PRP application
- Reconstruction with hamstrings autograft with bone plug
- Reconstruction with hamstrings autograft with bone plug and PRP application.

Clinical outcomes included Lysholm and International Knee Documentation Committee scores. MRI scans at three and six months post-operation were used to look for the following:

- Graft signal intensity (high/low)
- Osteoligamentous interface (halo around graft)
- Tunnel widening (>2 mm).

The authors found less tunnel widening in the bone plug group alone versus the other groups at six months. In terms of graft signal intensity, there was no difference in the groups at three months, but at six months the PRP hamstring group had more grafts with lower signal, indicating more mature grafts. In terms of graft interface, there was no statistical difference between the groups. Similarly, there was no



difference in clinical outcomes. Therefore, except for potentially improved graft maturation at six months post-operation, there were no significant benefits with the use of PRP.

Silva et al<sup>23</sup> also studied the effects of PRP on ACL reconstruction with hamstrings autograft. Patients were randomized to one of the following four groups:

- Control
- PRP in the femoral tunnel
- PRP in the femoral tunnel with an intra-articular injection of PRP at 2 and 4 weeks post-surgery
- PRP in the femoral tunnel activated by thrombin.

At three months post-surgery, MRI scans were used to compare the osteoligamentous zone (halo) with the signal of other structures of the knee, (including patellar tendon, skeletal muscle, joint fluid, and synovial membrane). The authors found no statistically significant difference in graft signal intensity between the groups at three months, and they noted that there were no grafts with grade 0 signal (normal

patellar tendon, indicating highest graft maturation). Therefore, at three months post-operation, there did not appear to be any benefit with the use of PRP.

## Use of PRP in Athletes

Even if PRP is proven to be effective in treating the above injuries, the next big question is whether its use will be allowed in amateur and professional athletes under the rules of antidoping agencies since PRP contains growth factors (such as IGF-1 and mechano growth factor,) which are prohibited by these agencies. In September 2009, the World Anti-Doping Agency met to discuss the use of PRP and determined that PRP will be prohibited when given via the intramuscular route, and that its use via other routes (i.e., local injections at the site of injury) will require a declaration of use that is in compliance with the International Standard for Therapeutic Use Exemptions (TUEs).<sup>3</sup> Similarly, the U.S. Anti-doping Agency issued an “athlete’s advisory” in April 2009 that a PRP injection is equivalent to an injection of growth

*Continued on page 6*

factors and that an athlete needs a TUE if a medical professional determines that a PRP injection is medically necessary.<sup>3</sup> These governing bodies, however, do not have any jurisdiction over U.S. professional athletes; and, thus far, PRP is not specifically addressed in the list of banned substances for the various professional leagues.<sup>3</sup> So far, in the current literature, there is no evidence that there is any systemic or performance-enhancing effect to PRP. But, the ethics of its use needs to be more clearly defined in the future.

## Conclusions

Overall, based on in vitro and in vivo animal studies, PRP shows promise in treating chronic tendinopathy, acute ligament, and acute muscle disorders and enhancing the healing of surgical repairs and reconstructions. Also, there is some clinical evidence to suggest that its use may be of benefit when treating the above disorders. However, a majority of these clinical studies are case series with small sample sizes and no control groups. More Level I randomized, controlled clinical

studies are needed with sufficient sample sizes to more clearly determine the effectiveness of PRP. Presently, the author of this article is involved in a multi-center double-blinded, randomized, controlled study on the use of PRP for the treatment of patients with chronic lateral epicondylitis who have failed traditional treatment measures. We are still enrolling patients to obtain a statistically adequate sample size, but hopefully our study will help answer some of these questions once we obtain our complete cohort of patients.

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## AOSSM Launches STOP Sports Injuries Web Site

AOSSM and our partners are finalizing the development of the materials for the STOP Sports Injuries campaign with the new Web site to be launched at [www.STOPSportsInjuries.org](http://www.STOPSportsInjuries.org) in late January. The Web site is the central portal for all of the campaign's information, including:

- Sport specific tip sheets on injury prevention and treatment
- Educational toolkits that help parents, coaches, athletes, and healthcare providers talk about overuse and trauma injuries, including how to recognize when too much play is too much
- Answers to common sports injury questions
- A community PowerPoint presentation

- Media information
- Steering Committee and Council of Champion bios
- Podcasts and videos
- Social media interaction

All of the information will be free and easily downloadable. In late February, members will receive samples of the printed versions of the materials and additional information on becoming involved with local activities during Youth Sports Safety Week in April.

Our current accomplishments and future directions are due to our members' continued and active support. Please visit [www.sportsmed.org/stop](http://www.sportsmed.org/stop) to make a donation to our ongoing effort to reduce overuse and trauma injuries in young athletes.





## NOCSAE Grants Available

The National Operating Committee on Standards for Athletic Equipment (NOCSAE) has a grant funding program available to researchers interested in sports injury research. Since the grant program's inception in 1994, NOCSAE has awarded more than \$2 million towards research. Grant funding is usually for two years with approximately \$100,000 awarded each year. Additional information can be found on the NOCSAE Web site at [www.NOCSAE.org](http://www.NOCSAE.org). The next date for pre-proposals is May 1, 2010. For more information researchers can contact: Fred Mueller, Director of NOCSAE Research, CB 8700, Fetzer Gymnasium, Chapel Hill, NC 27599-8700, [mueller@email.unc.edu](mailto:mueller@email.unc.edu), 919/962-5171.



## AOSSM Members Needed for Young Pitchers Studies

AOSSM is launching two research projects this year that focus on elbow and shoulder problems in young pitchers (9–18 years old). The first is a survey-based study that assesses the extent to which young pitchers engage in types and levels of throwing that may put them at risk for overuse injuries. The second project will target pitchers who seek treatment from an orthopaedic surgeon and explore the relationships among pitching variables, elbow and shoulder overuse injuries, and structural changes to the elbow and shoulder.

AOSSM members who have ties with youth leagues or teams in their communities and those who treat 20 or more young pitchers each year are needed to help conduct these studies. If you are interested in participating or would like additional information, please e-mail AOSSM Director of Research, Bart Mann at [bart@aossm.org](mailto:bart@aossm.org).



## **Submissions Needed for Young Clinical Investigators Initiative Grant Mentoring Program**

The United States Bone and Joint Decade (USBJD) and Bone and Joint Decade Canada has developed a grant mentoring program to provide early-career clinical investigators an opportunity to work with experienced researchers to assist them in securing funding and other survival skills required for pursuing an academic career.

This grant mentoring program is open to promising junior faculty, senior fellows, or post-doctoral researchers nominated by their department or division chairs. It is also open to senior fellows or residents who are doing research and have a faculty appointment in place or confirmed. Basic and clinical investigators, without or with training awards (including K Awards) are invited to apply. Investigators selected to take part in the program attend two workshops 12 months apart, and work with faculty between workshops to develop their grant applications. The next workshop is scheduled to take place April 16–18, 2010, in Rosemont, Illinois (Chicago area). The unique aspect of this program is the opportunity for attendees to maintain a relationship with a mentor until their application is funded. To apply for this workshop the applicants must provide the following documentation.

1. Letter of nomination from division or department chair
2. Letter of support from institutional research mentor
3. One or two page document with program title, specific aims, and outline of a proposed grant application from the participant, making sure to note applicant's name
4. Curriculum vitae of the applicant to include complete contact details and discipline specialization
5. The application is due by January 15, 2010
6. The application should be addressed to Young Investigators Initiative and e-mailed to [usbjd@usbjd.org](mailto:usbjd@usbjd.org)

For more detailed instructions, please refer to the attached "Requirements for the Application Process."

## **Career Development Award Supplement Applications Being Accepted**

AOSSM offers a \$50,000 per year supplement grant to sports medicine orthopaedic surgeons who receive a Career Development Award (K Award) from NIH. The purpose of this award is to facilitate the research careers of orthopaedic surgeons who have completed training in sports medicine and have accepted a faculty position at an academic institution.

The AOSSM supplement is intended to encourage more sports medicine orthopaedic surgeons to apply for K Awards by providing an offset to the loss of clinical revenue due to dedicated research time. Those interested in learning more about the NIH K Awards can visit <http://grants.nih.gov/training/kawardhp.htm>.

The supplement is open to individuals regardless of time since training. Applicants must first obtain an NIH Career Development Award and have an active award to be eligible. To apply for the supplement, please send a copy of your letter of award from NIH along with your NIH Biosketch and the Career Development Plan from your NIH application to Bart Mann at [bart@aossm.org](mailto bart@aossm.org). Deadline for submission is July 1.



## SOCIETY NEWS



### **2009 Athletic Health Handbook Updates Available**

The 2009 Team Physician Corner articles from *SMU* are now available for download and easy insertion into your *Athletic Health Handbook*. Log in to your My AOSSM page at [www.sportsmed.org](http://www.sportsmed.org) and click on the resources tab to download. If you haven't ordered your copy of the *Athletic Health Handbook* we still have copies available to members for just \$10. Order this valuable resource today!



### **Start the Year Off on the Right Foot – Send *In Motion* Directly to Your Patients**

AOSSM now offers members the ability to add their practice name and logo to the electronic version of *In Motion* for just \$300 for all four issues, which includes the high-resolution and low-resolution PDFs to print the newsletter yourself, e-mail to patients or put up on your Web site. Personalizing *In Motion* gives your patients the resources for beginning the new year on a positive note at a low price. Get this exciting newsletter into your patients' hands today by e-mailing Lisa Weisenberger at [lisa@aossm.org](mailto:lisa@aossm.org).

## **Deadline for Subspecialty Certificate Approaching Fast**



The deadline for submission of your application, case list, required documents, and the associated fees for the subspecialty certificate in orthopaedic sports medicine is March 15, 2010. Please note, beginning in 2012 the education and training requirements for subspecialty certification will include all applicants having to complete one year of education in an accredited ACGME sports medicine fellowship program or Canadian equivalent to sit for the examination. For more information on requirements and the application process please visit the American Board of Orthopaedic Surgery's Web site at [www.abos.org](http://www.abos.org) and click the Diplomates tab.

### **Need Help Preparing for Subspecialty Exam?**

AOSSM's self-assessment and board review tool can help! It tests knowledge in seven critical areas of sports medicine, helps identify strengths and weaknesses with clinical and practice management issues, and reviews diagnostic, surgical and other therapeutic measures and techniques used in sports medicine. You can also earn a maximum of 12 *AMA PRA Category 1 Credits™* by taking the self-assessment.

For more information and to order your copy visit [www.sportsmed.org](http://www.sportsmed.org).

### **Journal-based CME for *AJSM* Coming Soon**

Starting in mid-January, *AJSM* readers will be able to earn journal-based CMEs. Each month there will be a Current Concepts article eligible for 1 *AMA PRA Category 1 Credit™* once the appropriate pre- and post-tests have been administered. All *AJSM* subscribers will receive two complimentary journal-based CME opportunities. Thereafter, the cost will be \$15 per *AMA PRA Category 1 Credit™*. For more information visit [www.ajsm.org](http://www.ajsm.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.

## Find the Best Sports Medicine Resources in One Spot at AOSSM's Online Library

AOSSM's Online Library is a free, unique, Web-based search engine that allows members to customize and save searches on relevant orthopaedic sports medicine terms. The tool is integrated into [www.sportsmed.org](http://www.sportsmed.org) and allows members to view AOSSM publications online, including articles from the *American Journal of Sports Medicine*, *Sports Health: A Multidisciplinary Approach*, *Sports Medicine Update*, meeting abstracts and past captured meetings and images from the *American Journal of Sports Medicine*. Visit [www.sportsmedlibrary.org](http://www.sportsmedlibrary.org) for your next research project, lecture, presentation, or even if you just want to keep up-to-date on the latest happenings in orthopaedic sports medicine!



**Ten Years  
Ten AM Programs  
Ten Program Chairs  
Ten-acity  
ONE JAN!**

### Thanks Jan!

After 10 years as AOSSM's Director of Education, Jan Selan is stepping down and moving on to some new adventures. We would like to thank Jan for her outstanding work on ten Annual Meetings and countless other educational activities for our members.



The American Orthopaedic Society for Sports Medicine

*James R. Andrews, Jr., MD*  
James R. Andrews MD

*Robert Stanton*  
Robert A. Stanton MD

*Peter J. Buckley, Jr., MD*  
Peter A. Buckley, MD

*J. A. Dunnigan*  
J. A. Dunnigan MD, PhD

*Robert C. Omer*  
Robert A. Omer MD

*Maurice S. Roche*  
Maurice S. Roche MD

*Allen H. Anderson, MD*

*William N. Levine, MD*

*Donald R. Buch, Jr., MD*

*Frederick J. Fins, MD*

*Patricia A. Kremchuk, MD*

*Frank S. Reider, MD*

*Barry F. Boden, M.D.*  
Barry F. Boden MD

*Michael G. Ciccotti, MD*

*Scott E. Miller, MD*

*John M. Amendola, MD*

*David L. Almekinders, MD*

*Mark E. Atwater, MD*  
Mark E. Atwater MD

*James F. Buckley, MD*

*Bruce J. Cole, MD*

*Christopher D. Dumanian, MD*

*Neil D. Attwells, MD*

*Ivonne Boehringer,  
Caroline Peltzke*

# AOSSM 2010 ANNUAL MEETING



## WaterFire Sparks One of a Kind Entertainment at AOSSM 2010 Annual Meeting

For the first time ever, AOSSM will be visiting the city of Providence for its Annual Meeting, July 15–18, 2010. This exciting east coast city combines the accessibility and friendliness of a small town with the culture and sophistication of a big city. With a thriving arts community, vibrant and diverse neighborhoods, and a renowned restaurant scene, Providence is the perfect place to visit with your family and friends and most importantly learn the latest in sports medicine. The city packs the best of New England into one convenient and colorful package.

In the first of a series of articles on this year's Annual Meeting, we provide a preview of what to expect from one of the most exciting social activities AOSSM has ever undertaken – WaterFire. More information on the educational offerings and additional social activities will be provided in the next several issues of *SMU*.

*Continued on page 13*



"When I learned that AOSSM could sponsor WaterFire during our Annual Meeting, I jumped at the chance. It is an amazing spectacle to see and something AOSSM members and their families will not soon forget,"

—James R. Andrews, MD

**One of the most thrilling parts** of any AOSSM meeting is the Saturday night family event, which this year will include the awe-inspiring and one-of-a-kind event, WaterFire.

### What is WaterFire?

WaterFire is the award-winning sculpture by Barnaby Evans installed on the three rivers of downtown Providence. It has been praised by Rhode Island residents and international visitors alike as a powerful work of art and a moving symbol of Providence's renaissance. WaterFire's one hundred sparkling bonfires, the fragrant scent of aromatic wood smoke, the flickering firelight on the arched bridges, the silhouettes of the fire tenders passing by the flames, the torch-lit vessels traveling down the river, and the enchanting music from around the world engage all the senses and emotions of those who witness it. WaterFire has captured the imagination of more than ten million visitors, bringing life to downtown, and revitalizing Rhode Island's capital city.

"When I learned that AOSSM could sponsor WaterFire during our Annual Meeting, I jumped at the chance. It is an amazing spectacle to see and something AOSSM members and their families will not soon forget," says AOSSM President, James R. Andrews, MD.

### How did WaterFire get started?

Barnaby Evans created First Fire in 1994 as a commission to celebrate the tenth anniversary of First Night Providence. In June 1996, Evans created Second Fire for the International

Sculpture Conference where it became the gathering place for thousands of participants from all over the world. Ardent art supporters convinced Evans to create an on-going fire installation and started a grass-roots effort to establish WaterFire as a non-profit arts organization.

In 1997, WaterFire Providence expanded to 42 braziers, and attracted an estimated attendance of 350,000 people during thirteen lightings. In response to growing attendance, WaterFire expanded in size to 81 braziers in 1998; and 97 braziers in 1999. The 1999 season culminated with 100 bonfires in a special WaterFire lighting for the December 31 millennium celebrations. With WaterFire's 2000 season more than thirty sponsors helped host 25 lightings during a season that ran from March to October. WaterFire celebrated its 200th lighting in August, 2006.

### What else will be taking place during WaterFire?

In addition to the WaterFire activities, AOSSM will have a tent with food and additional activities for the whole family. For more information on WaterFire or the city of Providence and its surrounding activities visit [www.goprovidence.com](http://www.goprovidence.com).

Come join us for all the sparks and excitement in Providence, July 15–18.



### REGISTRATION

Register now for your Providence housing at [www.sportsmed.org](http://www.sportsmed.org). Deadline for securing rooms is June 14, 2010, based on availability. The following hotels will be part of the AOSSM room block: Hilton Providence, Westin Providence, Courtyard by Marriott and Providence Biltmore. Online meeting registration will be available in mid-March.

## New Healthcare Reform May Have Benefits for Orthopaedic Surgeons

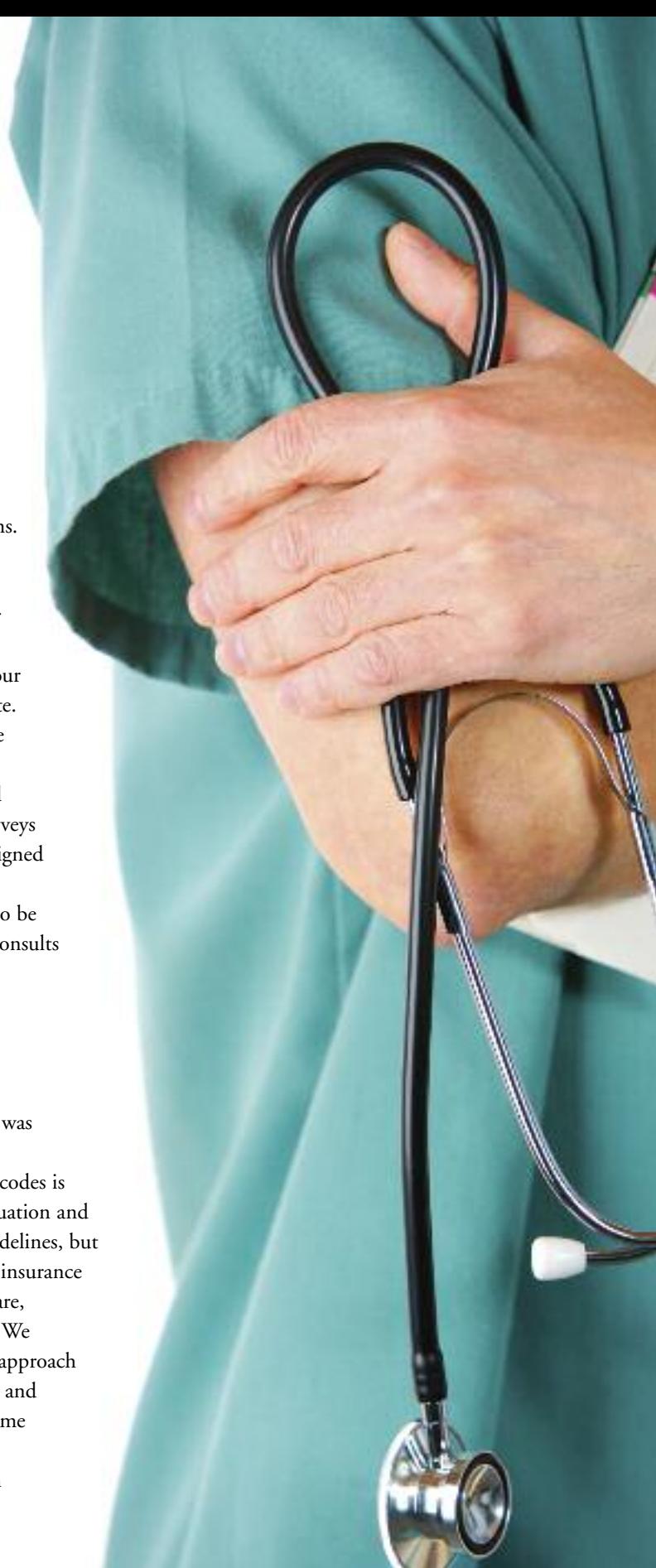
By William Beach, MD, Chair, AOSSM Health Policy and Ethics Committee

The AAOS has strongly and boldly opposed the Senate healthcare legislation based on failures to solve the physician reimbursement and the flawed Sustainable Growth Rate (SGR). However, there are some significant changes for 2010 which benefit orthopaedic surgeons.

- Drugs have been removed from the 2010 SGR calculation which "could" improve physician reimbursement.
- Physician practice expenses have been updated and the Center for Medicare and Medicaid Services (CMS) will increase the practice expense portion of our reimbursement one percent for the next four years. Approximately \$14 million has been set aside for this update. Not all physicians are slated for increases and thus physicians have appealed and stalled plan implementation.
- The new hip codes have been submitted to the American Medical Association for CPT code creation. Once that occurs then the surveys will be commissioned and Relative Value Units (RVU) will be assigned by the Relative Value Update Committee (RUC).
- Consultation codes have been eliminated which initially appears to be detrimental but its impact will be determined by the number of consults you see. Increases for Medicare reimbursement:
  - a. Office visits (99201-99215) will increase six percent.
  - b. Inpatient visits (99221-99223) will increase two percent.
  - c. Ten and 90 day global codes will increase 0.3 percent.
  - d. Impact: \$36 million increase for global codes.

The bottom line is if your ratio of "regular patient visits" to consults was 6:1 or greater you will see a positive impact.

The private payer approach to CMS's abolishment of the consult codes is still unclear. We may have a situation in which we have to code Evaluation and Management (E&M) visits based not only on the 1995 or 1997 Guidelines, but also on the insurer's preference. Situations such as Medicare primary insurance and secondary private insurance could make E&M coding a nightmare, especially as the Recovery Audit Contractors (RACs) are established. We await carrier specific guidelines/recommendations. Clearly the safest approach will be to follow CMS, discontinue consultation codes, list only new and established patient codes for E&M visits and most importantly, become familiar or more familiar with E&M correct coding. Remember, the expectation is that we all are expert coders and penalties are based on what "you should know" not what "you know."



## Volunteer for an AOSSM Committee

EVERY YEAR, AOSSM accepts new volunteers to serve on its standing committees. Those who join committees not only heighten their experience as an AOSSM member, but form ties of fellowship with their colleagues that can last throughout their career. Although requirements and duties vary by committee, volunteers must be able to attend regular committee meetings, which are typically scheduled in conjunction with Specialty Day each spring and the AOSSM Annual Meeting each summer. With the range of Society programs and corresponding committees, there is an opportunity for you!

If you are interested in serving on an AOSSM committee, simply look through the available vacancies online and fill out the Volunteer Form from the November/December issue of *SMU* and fax it back to the Society office by February 1, 2010 (fax number 847/292-4905), or complete the form posted on the AOSSM Web site at [www.sportsmed.org](http://www.sportsmed.org) and e-mail it to [camille@aossm.org](mailto:camille@aossm.org). Volunteers will be notified if they have been selected by May 2010.

### Don't Forget to Meet Your Attendance Requirements!

Just a reminder, that Active and Candidate members must attend one meeting every four years in order to fulfill AOSSM's membership requirements. Meetings that count include: Annual Meeting, Surgical Skills and Board Review. Can't remember the last meeting you attended? This information is just a click away by logging onto the Society's Web site at [www.sportsmed.org](http://www.sportsmed.org) and visiting the My AOSSM page. You can also call the Society office at 847/292-4900 to check on your past meeting attendance.



### FELLOWSHIP NEWS

#### Fellowship Match Program Applicants Continues to Grow

The second year of the AANA/AOSSM Orthopaedic Sports Medicine Fellowship Match is off to another strong start. As of the December 1, 2009 application deadline, 206 completed applications were distributed to 94 programs. There are 220 positions in the match this year. Fellowship interviews begin January 1 and Match Day is Tuesday, April 13, 2010.

AOSSM is pleased with the smooth process and high percentage of participation from programs again this year.

#### Hall of Fame Inductee Applications Now Being Accepted

The 2010 Hall of Fame Nomination Form was mailed to all members at the end of December. Applications are also available online at the Society's Web site at [www.sportsmed.org](http://www.sportsmed.org). We encourage your nominations!

#### OMeGA Accepting Fellowship Grant Applications

The OMeGA Medical Grants Association is awarding fellowship grants (up to \$75,000) based on objective criteria, including educational program merits, accreditation, faculty to fellow ratio, and resulting publications, presentations, and research. Residency grants (up to \$5,000) are also available with applications with a broader benefit to the program given special consideration. Visit [www.omegamedicalgrants.org](http://www.omegamedicalgrants.org) for more information.

#### Fellows Exam Registration Now Open

The 2010 fellows exam registration is now open. Fellows are given the opportunity to take the test each Spring and last year more than 90 percent of fellows completed the exam.

The cost of the exam is \$145 per fellow. **Registration deadline is March 1, 2010.** The exam will take place March 17–May 5, 2010. For more information, contact Laura Bell at [laura@aossm.org](mailto:laura@aossm.org).

## Upcoming Meetings and Courses

### AOSSM 2010 Specialty Day

March 13, 2010

New Orleans, Louisiana

### Surgical Skills: Navigating the Athlete's Knee

April 17, 2010

Las Vegas, Nevada

### AOSSM 2010 Annual Meeting

July 15–18, 2010

Providence, Rhode Island



For more information on upcoming meetings and courses, or to view preliminary programs, visit [www.sportsmed.org](http://www.sportsmed.org), click on the education tab or call 847/292-4900 or 877/321-3500 (toll free).

## SURGICAL SKILLS COURSE: Navigating the Athlete's Knee

AOSSM's Surgical Skills course: Navigating the Athlete's Knee will be held on Saturday, April 17, 2010, in Las Vegas, Nevada.

Keeping with the new surgical skills course design, AOSSM will again utilize self-study DVD didactics and a one-day lab course which will exclusively feature hands-on surgery. Course registrants are sent course DVDs that thoroughly outline the indications, objectives, research, options and techniques for each procedure. The one-day course design allows registrants to easily schedule their CME without disrupting their schedules.

"We're excited to work on the knee course and again have an impressive group of faculty featured on the DVDs," said course co-chair, Joel L. Boyd, MD. "We've packed

seven procedures into the lab course. It's a busy day but it's a great use of time and registrants will really be able to focus on the techniques after viewing the DVDs," said Boyd.

The DVD faculty were filmed throughout the past year demonstrating surgical procedures, patient exams and didactic material.

"We're fortunate to have such an impressive faculty featured in the DVDs," said Jon Sekiya, MD, course co-chair. "We've worked hard to create balanced, thorough, and comprehensive DVDs." He continued, "Our commitment to put together a program that will give learners a thorough understanding of the procedures before entering the lab will be beneficial."

The following procedures are included on the DVDs:

Bill Clancy, MD—Anatomic ACL reconstruction

Freddie Fu, MD—ACL double bundle

#### Articular Cartilage

I. Richard Steadman, MD—Microfracture  
Anthony Mincioli, MD—Osteochondral Autograft Transplantation

Brian J. Cole, MD, MBA—Osteochondral Allograft Transplantation  
Scott D. Gillogly, MD—Autologous Chondrocyte Implantation

Jack Farr, MD—Medial Patellofemoral Ligament Reconstruction

**Come join us in Las Vegas on April 17, 2010. Visit [www.sportsmed.org](http://www.sportsmed.org) and click on the "Meetings" tab for more details.**



THE FUSION® LATERAL OA BRACE

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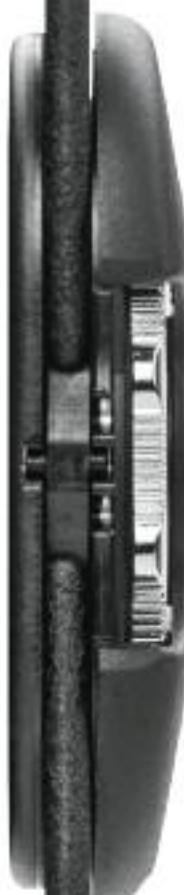
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