Inaugural AOAO Annual Meeting in Massachusetts a Resounding Success
I feel a sense of privilege, awe, and honor to serve as your president for the upcoming year.

This is a unique era for our profession. On a functional level, this is the first annual meeting of the AOAO without our non-orthopedic D.O. brethren, which was a gathering that was collectively referred to as the Annual Clinical Assembly of Osteopathic Specialists. This is a very positive development. The academy now has nearly 1,200 active members with 412 residents and linked interns in training.

Imagine that—the number of residents in training right now represents almost 35 percent of our entire total membership. With those numbers, as well as inroads to excellent subspecialty training and association with other world-acknowledged experts in their fields, we are more than ready to be recognized as a standalone, first-class professional association. In addition, we have been assured of the participation of many orthopedic vendors as a result of an all-orthopedic meeting format.

On a political and most obvious level, health care reform has taken center stage in Washington, D.C. We recently received the Senate version of the health care reform bill, which calls for expanding insurance to 29 million uninsured people. It would expand Medicaid, limit out-of-pocket costs, prohibit insurers from denying coverage because of preexisting conditions, and require almost everyone to buy a policy by year 2013. Very few of us would disagree with these general concepts. As usual, the devil is in the details. Because these are unusual times, unique alliances have formed.

Your academy, through direct involvement, has been a participant in an historic and unprecedented alliance of all the surgical specialties in America. Our voice supporting access to high-quality and available specialty care has and will continue to be heard.

I believe that the current Sustainable Growth Rate formula is inadequate and should be eliminated. A new payment formula should reflect the reality of our times. Physician reimbursement has decreased 28 percent in the past six to eight years. Reimbursement for a total knee and hip replacement has decreased 44 percent. During this same timeframe, employer-sponsored health insurance premiums have increased 119 percent. Politically driven physician income redistribution should not be on the backs of America’s orthopedic surgeons.

Further, the PQRI or Physician Quality Reporting Initiative is not working and therefore needs to be drastically reworked. The program needs to provide physicians with access to their data in a timely manner, and it must have a reasonable appeals process.

Performance measurement should be non-punitive and transparent, and the system itself must provide data to providers on how they compare with their peers.

In addition, the surgical community remains opposed to taking Medicare payment policy decisions out of Congress and replacing the transparency of congressional hearings and debates with a minimally open process overseen by unelected officials with little accountability for the health care decisions they make—except for reducing costs.

These as well as other issues have and will continue to be addressed by the AOAO through its participation and alliance with all the surgical specialties in the country.

On a lighter note, I am proud to be an osteopathic orthopedic surgeon. I come from a practice that has emphasized not only excellence in the practice of orthopedic surgery and a commitment to educating future generations, but also to service. Ed Loniewski served as your 35th president and Bob Mandell as the 50th. To my osteopathic orthopedic family, I say thank you.

When I became a full partner in my group, I think the only people who actually knew and understood that were my wife and parents. My parents gave me a card with a handwritten message from each of them. My father’s was perhaps the most profound message I have known. He said, “For all your accomplishments, the thing I am most proud of is that you are a decent human being.”

As I stated, my message is simple, but, I hope just as profound as my dad’s. It is “DON’T LOSE YOUR SOUL.” Synonyms for the word soul include the following: conscience, courage, essence, heart, nobility, spirit, principle, and reason.

I venture to say all of us can hearken back to the days when we were contemplating what we wanted to do with our lives. How blessed we are in our particular profession to be able to help people in such a basic and fundamental way—alleviating pain and improving daily function. In the course of a normal workday, few people are given food or other presents or even a simple, but heartfelt, “Thank you for everything you’ve done.” We are the lucky ones.

Let us remember what brought us to this great profession to begin with. I tell my residents that one of the big secrets to longevity in practice is to find at least one thing to enjoy and share with at least one patient everyday in practice.

We don’t know where politics will take us, but I pray we all know why we are here.

DON’T LOSE YOUR SOUL!
Debra K. Spatz, D.O., FAOAO, who served as the American Osteopathic Academy of Orthopedics’ first—and still only—female president in 2006-07, doesn’t think of herself as a trailblazer. However, the accomplishments she has accrued throughout her career irrefutably prove she is indeed a pioneer in many respects.

20 Inaugural AOAO Annual Meeting a Resounding Success
* Bob Green, D.O., Memorial Award
* Knotty Cane Award
* Appreciative Award
* Scientific Paper Award Recipients
* Scientific Poster Award Recipients
* New AOAO Fellows
* Photo Gallery

28 AOAO 2009-10 Committees

32 CASE REPORT: Progressive Slip of the Capital Femoral Epiphysis Despite Adequate In-Situ Fixation
by Jeffrey R. Gleimer, D.O., and Carl Mogil, D.O.

40 Calendar of Events
I’m proud to report that our first standalone annual meeting, which was held October 8-11 in Boston, Massachusetts, was an unqualified success. Attendance was strong with about 600 registrants, and the feedback I’ve received has been very positive regarding the lectures, format, and location. The AOABOS certifying exam went extremely well, and the AOAO Board of Directors had a very frank discussion with American Osteopathic Association representatives Dr. Karen Nichols, Dr. Larry Wickless, and John Crosby, J.D., about some of the academy’s concerns.

In addition, we had 20 poster presentations, which were more than we’ve had in years past. Because the AOAO is always looking to improve its operating procedures whenever possible, the Scientific Exhibits Committee is going to be analyzing the process of how posters are submitted and the way we judge and review them. In the future, the academy may switch to some sort of an electronic submission process in terms of judging. The posters will still be displayed at the AOAO Annual Meeting each year, but the judging aspect may be altered to an online format so those involved will have the ability to review the poster submissions at their leisure.

The official unveiling of the AOAO history book, entitled History of the AOAO and its Contributions to the Osteopathic Profession, was met with great excitement. We presented copies to the AOA representatives in attendance, and they all seemed quite pleased as they glanced through the publication. For your information, all AOAO members will be receiving a copy of the history book via mail within the coming months. For those of you who would like to view the publication immediately, it currently is accessible on the AOAO website. I would, of course, be remiss if I didn’t take the time to acknowledge the dedicated team of Dr. John Drabing, Dr. David Smith, Scott Colton, and Marie Morris. These four individuals worked tirelessly to research, write, edit, and design the book. It truly is something to be proud of—and a true labor of love that is dedicated to the memory of Dr. Morton Morris.

As the academy presses forward, one of the things my office will be working hard to address is the issue of funding for osteopathic orthopedic education. We’ve already begun the process of talking with industry leaders and trying to obtain our fair share of industry support for osteopathic orthopedic education, which involves attending numerous meetings and participating in frequent conference calls. I am also staying abreast of the current health care reform discussions taking place in Washington, D.C., and working with all the M.D. and D.O. surgical specialties to make sure the surgical profession is being heard and represented.

As many of you already know, the AOAO has switched the meeting and planning components of the academy over to the Ruggles Service Corporation, which has a wealth of experience working with the osteopathic profession and the orthopedic profession. Currently, the Ruggles Service Corporation manages the American College of Osteopathic Pediatricians, the Virginia Orthopedic Society, and the Clinical Orthopaedic Society. I’ve been very impressed with the company’s expertise, which was in evidence during our recent annual meeting.

Because the Ruggles Corporation will only be handling tasks related to event planning, retention of current members, and the dissemination of some continuing medical education information, the AOAO executive office, which is located on the Nova Southeastern University campus in Fort Lauderdale, Florida, will continue to serve as our operational hub for the foreseeable future. The executive office will continue to handle all matters related to residents, the AOA, the AOAO committees and board of directors, and the recruitment of new members.

I’m really pleased with the way Marie Morris, Glenda Sainsbury, and Jenice Grunfelder are working together as a strong and cohesive team, so I don’t think it would make much sense to move the executive office when things are running so smoothly. As a result, I’m going to continue working from my Oklahoma office while staying in touch with the executive office on a daily basis and traveling to Florida when necessary.

January 1, 2010, will mark my one-year anniversary serving as the academy’s full-time executive director, and I’m happy to see we’re moving forward in such a positive manner. The two educational meetings we held in 2009 were excellent and received high praise from our members. Attendance has remained at a high level, which is significant when you consider the current state of the U.S. economy, while the hiring of the Ruggles Service Corporation has already provided us with enhanced professional management in regard to the negotiation of hotel rates and amenities.

Perhaps the most satisfying trend I’ve witnessed over the past year has been the continued interest in our educational programs from both the attendance and participation aspect. The membership is willing to assist the academy by serving as speakers, volunteering on committees, and doing whatever is necessary to make the AOAO thrive. Our members see the AOAO as something they can be proud of—and something they are willing to participate in on a range of levels through their dues and loyal support.

I’m truly excited about the interest being showcased by our members to move the academy forward.
Thomas W. Akre, D.O., of Indiana was elected president of the Indiana Osteopathic Association during its annual meeting held on May 1. Dr. Akre is certified by the American Osteopathic Board of Orthopedic Surgeons and practices orthopedic surgery at the Institute for Orthopedic and Nerve Surgery in Mishawaka, Indiana.

Boyd W. Bowden II, D.O., FAOAO, of Ohio, who served as AOAO president in 1990-91 and is a three-time recipient of the AOAO Appreciative Award, received the 2009 Distinguished Service Award at the Ohio Osteopathic Association’s (OOA) 111th Ohio Osteopathic Convention held in June in Sandusky.

George M. Cole, D.O., of Texas was elected president of the Texas Osteopathic Medical Association (TOMA) for 2009-10 and was formally installed during the Joint Annual Convention of TOMA and the Texas Society of the American College of Osteopathic Family Physicians, held June 10-14 at the Sheraton Arlington Hotel in Arlington, Texas. Dr. Cole practices orthopedic surgery at the Dallas Wellness Center and is a Diplomat of the National Board of Examiners for Osteopathic Physicians and Surgeons.

Jack L. Davis, D.O., of Nevada was installed as the 106th president of the Nevada State Medical Association (NSMA) at its annual meeting held last May in Phoenix, Arizona. Dr. Davis’ appointment as president of the NSMA, which was established 1875, is especially noteworthy because he is the first D.O. to be elected president of the association.


Olivia E. Morris, D.O., of Arizona was nominated by her peers to become chief of surgery at Payson Regional Medical Center, which is a position she accepted. She also had the privilege of being accepted by the United States Olympic Committee to become a volunteer Olympic team physician. In this capacity, she spent two weeks at the U.S. Olympic Training Center in Colorado Springs, Colorado, from May 25 to June 9. “This was such a great and honorable sports medicine experience to care for elite athletes at this level,” Dr. Morris said. “It was a great learning experience, and I hope to progress to the Olympic Games in a few years.”

Eponymous Elucidation

Ewing’s Sarcoma
A primary tumor in the bone

James Ewing, M.D.

At age 14, James Ewing, M.D., born in 1866, was confined to bed for two years with osteomyelitis of the femur, and it could be supposed that this confinement stimulated his interest in the field of pathology. He graduated from Amherst College in 1888 and received an M.A. degree in 1891. From there, he went to the College of Physicians and Surgeons in New York, receiving his M.D. degree in 1891. He worked in several hospitals and spent much time in the hospital laboratories.

In 1899, he was appointed professor of clinical pathology at Cornell University, becoming the first person to occupy that position, which he held for a remarkable 33 years. While there, he did considerable research in cancer, and in 1906, he and his colleagues published a significant finding on lymphosarcoma in dogs.

In 1919, he cofounded the American Society for the Control of Cancer—now known as the American Cancer Society. As president of the medical board of the General Memorial Hospital for the Treatment of Cancer and Allied Diseases and as the first director of research of Memorial Hospital, Dr. Ewing spearheaded the creation of a primary cancer center that is currently called the Sloan-Kettering Cancer Center in New York.

On a personal basis, he became reclusive and eccentric after the early death of his wife and second child and later suffered the agonizing effects of trigeminal neuralgia.

Dr. Ewing’s works included several monographs and his landmark texts Clinical Pathology of the Blood and Neoplastic Diseases. In the latter, he recorded a number of significant findings in the morphology of tumors and distinguished the form of malignant osteoma now called Ewing’s Sarcoma. He was one of the first to recognize the potential of radiation therapy and played a strong role in the development of surgical oncology. His peers referred to him as “The Chief” and “Mr. Cancer.”

He founded a number of cancer and cancer-related societies, and when he died of bladder cancer in 1943, more than 1,000 people attended his funeral.
One of the missions of the American Osteopathic Academy of Orthopedics is to promote new and better ways to help patients heal and make surgery more effective. One other—and often overlooked—need is to make our lives easier as surgeons. It is often a challenge to deal with patients’ anxiety before, during, and after surgery. Very often, managing pain and stress in the postoperative period can be a challenge to a busy surgeon. I have found a very effective and easy-to-use tool to help address these needs.

Medical self-hypnosis, in its finest form, is a result of a set of beliefs; the belief of the healer in his/her ability to impart healing, but equally as important, the ability of the healer to share and imprint that belief on the patient’s subconscious mind.

I discovered this many years ago when I realized that although I am not the most skilled and talented surgeon in the world, my patients did far better than many of my colleagues’ patients. I came to understand that it was not always the scalpel that healed, but rather my patients’ belief in me. I soon enough realized that with the addition of self-hypnosis, my patients healed more quickly, more comfortably, and with less demand on my staff and me, with improved surgical and life results. This is even more impressive with pain syndromes such as RSD, where hypnosis can calm down the sympathetic system and yield healing and pain relief.

I see our mission as surgeons as performing the indicated procedures but also to help patients heal optimally in any way that makes this easier and more predictable. Self-hypnosis combined with excellence in surgical judgment allows greater success rates, greater patient satisfaction, less need for postoperative pain medication, and improved long-term results, especially in treating patients with higher anxiety levels or pain syndromes. Simply listening to a preoperative tape and preparing patients for surgery yields a much happier life for both patient and surgeon. I am happy to share thoughts and information on our techniques with any surgeon interested in this fascinating, timesaving, and effective technique.

(The opinions expressed in this article are not necessarily those of the AOAO and its board of directors or the editorial team of The Orthopod.)
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AOA Specialty Colleges and Certifying Boards Meet To Discuss Essential Issues

On July 16, during the American Osteopathic Association (AOA) Annual Business Meeting in Chicago, Illinois, Laurence H. Belkoff, D.O., FACOS, who serves as president of the American College of Osteopathic Surgeons, moderated a meeting featuring the leaders of the osteopathic specialty colleges and the AOA certifying boards. The following leaders and staff were encouraged to participate:

- Specialty college president/president elect/executive director
- Certifying board chair, chair elect, and executive director
- AOA Bureau of Osteopathic Specialists chair and staff
- AOA Council on CME chair and staff
- Other interested AOA leaders and staff

The purpose of the meeting, which was attended by AOA Executive Director Dr. Lee Vander Lugt and Richard Howard, D.O, chairman of the American Osteopathic Board of Orthopedic Surgeons, was to discuss the implementation of Osteopathic Continuous Certification (OCC) and the relationships between the certifying boards, specialty colleges, and the AOA. In prior discussions with leaders of specialty colleges and certifying boards, there was a concern about the resources necessary to implement OCC and questions about the role of the specialty colleges and the AOA in the process.

For example, a role of the specialty colleges could be to provide specialty-specific continuing medical education (CME) required by the certifying board for OCC. A role of the AOA could be to provide more robust databases for the certifying boards for online testing, patient registries, and other related topics.

On March 10, 2009, Ronald Ayres, D.O., chair of the AOA Bureau of Osteopathic Specialists (BOS), sent a memorandum to the specialty colleges and certifying boards notifying them that the certifying boards were to submit their plans for OCC to the bureau’s Standards Review Committee for review and approval by April 2010. Prior to this deadline, the certifying boards were to discuss their plan for OCC with their specialty college “to work out any difficulties.”

At the meeting, Dr. Ayres discussed the OCC components, which are listed below:

- **Component I** – Unrestricted Licensure
- **Component II** – Lifelong Learning/Continuing Medical Education
- **Component III** – Practice Performance Assessment (CAP or similar process for clinical assessment)
Component IV – Cognitive Assessment (requires a secured proctored exam)

Component V – Continuous AOA Membership Requirement

Dr. Ayres said the AOA will send a survey to the specialty colleges and certifying boards to identify OCC issues and concerns that need to be addressed by the AOA, specialty colleges, and certifying boards.

On December 29, 2008, John Becher, Jr., D.O., chair of the AOA Department of Educational Affairs, sent a letter to AOA-accredited CME providers regarding the development of criteria for CME programs to meet the requirements of certifying boards for the 50 hours of specialty credit. The criteria were to be developed and reviewed at the April 2009 BOS meeting and, if acceptable, sent to the AOA Board of Trustees for consideration of approval in July 2009.

At the meeting, Michael J. Feinstein, D.O., AOA Council on CME chair, reported on the actions taken by the AOA Board of Trustees earlier in the day in regard to the criteria for CME programs to meet the requirements of certifying boards for the 50 hours of required specialty credit. The board adopted an amended resolution that reads as follows:

“Resolved, that credit for specialty CME provided by CME providers other than the relevant specialty affiliate may only be awarded by the specialty board with jurisdiction; and be it further

Resolved, that physicians may petition the specialty certifying board’s CME advisory subcommittee on a case-by-case basis for exceptions to this policy; and be it further

Resolved, that each certifying board be required to establish a CME advisory subcommittee. It is the responsibility of each subcommittee to monitor the compliance of CME programs with the criteria, which are determined by the subcommittee.”

The next presentation was by Kevin B. Weiss, M.D., the president and CEO of the American Board of Medical Specialties, on “Measuring Physician Performance: National Trends in Physician Accountability.” Dr. Weiss talked about two models for assessing physician performance and improving patient care and then summarized the current national efforts to assess the performance of physicians.

These efforts to provide for accountability of physicians were in three areas. The first was professional accountability by licensing boards, specialty boards, and societies by means of license renewal, board certification renewal, accreditation programs, and patient registry programs. The second was purchaser accountability by hospitals, purchasers, health plans, and government through such means as annual contracting, credentialing, and physician profiling. The third was consumer accountability through public reporting by means of various independent activities.

Dr. Weiss then discussed the efforts to align the quality efforts and what may be the major trends in physician performance measurement and accountability in the next 5 to 10 years, including possible maintenance of state license, maintenance of certification and OCC and private and public sector performance measuring, and value-based purchasing with public availability of data on physician accountability.

Next, a breakout session was held so each specialty college and corresponding certifying board could meet to discuss how OCC could be implemented for each specialty. Every specialty then provided its breakout session reports and recommendations.

It is anticipated that there will be another meeting of the osteopathic specialty colleges and the AOA certifying boards following compilation of a survey designed to identify OCC issues that the AOA plans to send to both the certifying boards and the specialty colleges, possibly in conjunction with the next AOA Board of Trustees meeting on February 5-7, 2010, in Chicago or an AOA cluster meeting in January.
AOAO New Members Honor Roll

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Kelly S. Egbert, PA-C  
Thomas B. Janas, PA-C  
Michele M. Smith, FNP-C  
Michael D. Thompson, PA-C

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Designed by Raymond Chung, MD
Prong lengths of 25mm and 30mm available with either sharp or blunt tips.

PRODUCT NO’S:

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<th>Sharp Tips</th>
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<td>5065 Blade Depth: 25mm Overall Length: 4.5”</td>
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<td>5067 Blade Depth: 30mm Overall Length: 4.5”</td>
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Lachiewicz-Hoover Patella Retractor
Designed by Paul Lachiewicz, MD
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Most Americans would prefer health care for the poor, the chronically ill, and for those who lose coverage because of a job change or loss. Money for the uninsured health care insurance can come from one of three sources:

- increased taxes
- redistribution of benefits from one group to another
- decreased health care costs

The government plan is to increase taxes for the rich and redistribute $400 to 500 billion from Medicare over the next 10 years. The reduction of funds for Medicare would decrease health care benefits for seniors significantly, causing rationing. If increased taxation of the middle class and redistribution of senior benefits are unacceptable, is there any possibility of reducing future health care costs?

Unfortunately, these costs have been increasing on an annual basis. At the present rate of increase, health care costs will equal 18 percent of our gross domestic product by the year 2020. Hospital utilization restriction was initiated over 30 years ago, and shorter hospital stays and expanded outpatient surgery resulted in savings without adversely affecting quality. However, there have been no significant innovative cost-cutting strategies in recent years—possibly, because the present health care system costs cannot be reduced.

In our present health care system, the majority of U.S. physicians practice solo or in small groups, while community hospitals provide most of the hospital care. Most health care insurance is purchased by employers, and the majority of health care payments are from insurance companies based on “fee for service.” It is a system that has been in existence for generations and is the only health care system familiar to most Americans.
There are at least four corporations that provide health care services by hiring physicians, nurses, and skilled technicians to work together to provide complete care to a target clientele. The four companies are listed on the stock exchanges (AMEX, NYSE, and NASDAQ). 

*Pediatix* (PDX) hires 1,100 neonatologists and 450 advanced nurse practitioners. The *Hospitalist* (IPCM) supplies physician care to patients at over 300 hospitals. The *Emergency Medical Service* (EMS) provides ER staffing to 3,100 facilities in 35 states. *Continucare* (CNU) has primary care doctors supplying health care to communities in Florida.

Each of these companies earns profits for its shareholders by practicing quality medical service in the competitive market. Computerization is common to all four companies, while electronic medical records, the Internet, and other computer applications have allowed medical personnel expanded communication capabilities. Prior to the information technology age, communications were limited to paper transfers. History tells us the railroads were responsible for the Industrial Revolution in the 19th century. Small individual businesses in multiple small towns across the nation merged to form corporations with economies of scale. Can information technology transform our health care system in a similar manner?

Two non-Wall Street companies employing large groups of health care providers are the *Mayo Clinic* and *Kaiser Permanente*. Kaiser is a vertical integrated company supplying complete medical service to a large community in California, while the Mayo Clinic is recognized for expertise in specialty care at multiple areas throughout the United States.

Initially, the idea of changing our health care system from mostly solo and small groups practitioners to health care companies large enough to provide complete care to millions may seem insurmountable. But the process may have already started. The companies named above could be considered “green spouts.” Transformation of the health care system to large companies will have to be done incrementally over time, and a broker buying health care from a company for individuals, groups, or communities will be necessary. The broker would bundle groups that need minimal care, moderate care, and those with chronic disease to buy health care service from companies with medical care providers. The new system would have to provide quality care with an ability to decrease costs that our present system cannot. The companies managing health care providers have an advantage to reduce costs that have not occurred with our present system. A dozen cost-saving measures not included in Obamacare are as follows:

- Eliminate insurance bureaucracy.
- Create clinical protocols using science-based evidence.
- Empower patients to be cost-conscious consumers. (There are various methods that could be effective. For example, Intel employees have health savings accounts.)
- Promote “bundling” of services and have one reduced cost for a series of services rather than multiple charges from multiple providers. (An elective surgery, for example, could include initial exam, x-rays, lab work, specialist consultation, MRI, surgeon’s fee, and rehabilitation therapy.)
- Large companies would have “buying power” to influence drugs companies and medical equipment suppliers to discount costs, encourage research and development, and cause elimination of expensive marketing such as TV advertising.
- Tort reform must be included in any sincere attempt of U.S. health care reform. Victims of malpractice should receive fair compensation.
- Companies would be free from previous state legislation benefitting special interest groups. Mandates requiring non-essential paramedical therapies would not apply.
- Clinical protocols would allow decreased inventories of medical products, implants, and devices. Effective inventory control would be a benefit and a saving.
- Eliminate “fee-for-service” payment to providers. Without financial motivation, would there be fewer surgeries, less implants inserted, and less chemotherapy/radiation treatments recommended?
- Phase out conflict of interest, such as physicians referring patients to facilities they own.
- Companies would hire an effective mix of physicians, nurses, and trained assistants that provides value-added services for patients.
- Companies would compete to make medical services convenient for patients. A mother should not have to miss a half day of work to have her child vaccinated.

After competing health care service companies change the system and secure quality care with cost savings, attention to rescuing Medicare from its course toward bankruptcy would be in order.

(The opinions expressed in this article are not necessarily those of the AOAO and its board of directors or the editorial team of *The Orthopod*. )
Debra K. Spatz, D.O., FAOAO, who served as the American Osteopathic Academy of Orthopedics’ first—and still only—female president in 2006-07, doesn’t think of herself as a trailblazer. However, the accomplishments she has accrued throughout her career irrefutably prove she is indeed a pioneer in many respects.

As a child growing up in Pottstown, Pennsylvania, Dr. Spatz was part of a generation of women that still played a secondary role to men in the workforce, especially in the medical profession. Popular early 1960’s TV programs such as *The Donna Reed Show*, *Father Knows Best*, and *Leave it to Beaver* all showcased happy stay-at-home moms who contentedly raised their children, did all the domestic chores, and had dinner on the table for dad and the kids at an appointed time each evening. Such was the case for Dr. Spatz, whose mom stayed at home and took care of her and her two older brothers and younger sister while her dad went off to his job as a factory worker at the local Firestone Tire and Rubber Company plant every morning.

Because she was raised in the pre-feminist culture that would emerge in the early 1970s, Dr. Spatz certainly didn’t harbor any illusions of becoming a physician, much less a groundbreaking osteopathic orthopedic surgeon who would become the first female resident to be accepted into the orthopedic surgery residency program at Osteopathic Medical Center of Philadelphia in 1988. “My mom was a stay-at-home mom, even though she always wanted to be a nurse or a teacher,” said Dr. Spatz, who owns an orthopedic surgery practice called Rozran & Spatz Orthopedics in Prince Frederick, Maryland. “But she grew up during the depression and could never go to school, so she stayed home and raised her kids.”

Like many women of her time, Dr. Spatz was essentially rudderless when it came to making a decision regarding what career path she might pursue down the road. “When I was a...
At West Chester, Dr. Spatz was told that osteopathic medicine was the way to go because she wasn’t coming from a traditional background and that PCOM was much more accepting of people who did not have a standard premed degree.

**The Road to Osteopathic Orthopedics**

After being accepted to PCOM, Dr. Spatz quickly adapted to the rigors that come with being a medical student. “I loved it,” she admitted. “I liked learning and studying and truly enjoyed learning about all the subspecialties during my clinical rotations. I also liked the fact that about 25 percent of my class was female, which I didn’t expect.”

However, when it came time to do her general surgery rotation, an interesting incident occurred that would have a profound impact on her professional destiny. “When I was in my third year at PCOM, I was supposed to do a general surgery rotation in New Jersey, but about two weeks before the rotation was supposed to start, I got a call saying the doctor couldn’t take me and that I needed to find someplace else to go,” Dr. Spatz recalled. “I called my PCOM advisor, who basically said, ‘Go and find any high-quality surgery rotation you can.’”

In one of those weird twists of fate that can only be described as providence, Dr. Spatz immediately recalled her encounter with a local orthopedist named Elliott Menkowitz, M.D., who had taken care of her following a sports-related accident she suffered in the summer of 1980. “I was in a sporting accident where I had a fairly significant knee injury the summer before I started medical school,” she said. “I suffered a laceration of my quad tendon, so I was taken to the emergency room and was stitched up by the local orthopedist in town. He fixed my knee and sent me on my way to medical school.”

That’s where the story should have ended. But when Dr. Spatz needed to conjure up a last-minute general surgery rotation site to attend, she immediately thought of Dr. Menkowitz, who was more than willing to assist his former patient. “I called Dr. Menkowitz and explained who I was because I didn’t know if he would remember me from two years ago, but he remembered me quite well and said he would love to help me. So I showed up at his doorstep, ready to learn,” she explained. “This was in the days before the glut of malpractice suits and before there were so many stringent guidelines in regard to letting students do procedures.

“Dr. Menkowitz welcomed me with open arms, and I fell in love with orthopedics,” she added. “He let me put on casts and give...”
Injections, and I would go to the OR with him. I had so much fun learning from him that on Saturdays, when he would have office hours in the mornings and I didn’t have obligations for another rotation, I would work with him for the rest of my junior and senior years. By the time I graduated from medical school, I had a ton of hands-on experience in orthopedics from working with him."

Interestingly, although Dr. Menkowitz served as a beloved mentor to Dr. Spatz, he actually tried to discourage her from going into orthopedics. “He softly discouraged me,” she stated. “He said, ‘It’s not for women. It’s hard on your family. Go into internal medicine and rehabilitation, radiology, or some other specialty where you’re not on call all night.’ But I told him I loved it and wanted to pursue it, which is a decision he totally supported.”

After graduating from PCOM in 1984, Dr. Spatz completed a general rotating internship at Suburban General Hospital at Norristown, Pennsylvania, followed by a three-year stint acting as senior assistant surgeon at Sullivan County Medical Center in rural Pennsylvania to do her U.S. Public Health Service payback. “Three years of my medical school education were paid for by the U.S. Public Health Service, which meant I had to spend three years working at a rural site in the Appalachian Mountains,” she explained. “It was a freestanding ER clinic run by PCOM that served as one of the rural clinical rotation sites for PCOM students.”

With her commitment to the U.S. Public Health Service complete, Dr. Spatz went on to do her orthopedic surgery residency training at the Osteopathic Medical Center of Philadelphia, followed by a one-year fellowship in pediatric orthopedics at A.I. duPont Institute in Wilmington, Delaware, which she completed in 1993.

By this time, Dr. Spatz had married her college sweetheart, George Tkaczuk, who she met while attending West Chester State University, and was a mother to son Joshua, who is now 23. “My husband grew up on a large farm in Chester County, Pennsylvania, so he never wanted to settle in a big city environment,” she explained. “As a result, one of the things we looked for when it was time for me to go into my own practice was to relocate to a rural area that was close enough to a big city to go to a sporting event or museum but far enough away that you could still have a nice big yard and ride your bike through the neighborhood.”

After interviewing with an orthopedic surgeon who owned his own practice in Prince Frederick, Maryland, Dr. Spatz and her family relocated to Prince Frederick County, allowing her to become part of the renamed—and successful—Rozran & Spatz Orthopedics. “Prince Frederick is a beautiful peninsula county that’s surrounded on three sides by water, so we enjoy our downtime by relaxing and taking our boat out,” said Dr. Spatz, who also has a 15-year-old son named Jason.

An Affinity for the AOAO Develops

In terms of her involvement with the AOAO, which initiated in the late 1980s when she began attending various educational meetings, Dr. Spatz never intended to become a key player in the organization—much less become its president in 2006-07. “When I was doing my pediatric orthopedic fellowship, I was asked to help do a lecture at one of the AOAO meetings, so that kind of got me involved in the teaching aspect of the academy,” said Dr. Spatz, who served as president of the Southern Maryland Orthopedic Society in 1995. “I never thought I would eventually become AOAO president because I had no desire to do that at the time.”

Thanks to some persuasive prodding by John J. McPhilemy, D.O., FAOAO, who served as AOAO president in 1998-99, Dr. Spatz agreed to assume a leadership role in the organization, including serving as president of the Pediatric Section in 1996-97 and president of the Female Orthopedic Committee in 1997-98. “Dr. McPhilemy was the one who convinced me that serving in a leadership position would be a good thing,” she admitted. “It’s very hard to get people who honestly want to take time out of their schedules to serve in a leadership capacity because you have to attend more meetings, participate in conference calls, and take on additional work. As we all know, there are many people in the world who don’t have the giving-back attitude.”

Although she is the only woman to serve as the organization’s president, Dr. Spatz doesn’t consider it to be that significant of a milestone. “To me, being the first woman to serve as AOAO president wasn’t that big of a deal because it wasn’t something I did by myself,” she explained. “I had really strong support from Morty and Marie Morris, who helped make the organization what it is today. Without them, I couldn’t have done what I did as president because they knew the ins and outs of the organization completely. In all honesty, Mort and Marie were the nuts and bolts of the organization when I was president, not me.”

As she looks toward the future, Dr. Spatz hopes to “pay it forward” and serve as a mentor to future generations of female orthopaedic surgeons. “I met a girl the other weekend who didn’t know I was an orthopedic surgeon,” she stated. “I was participating in a triathlon, as was she, and when it was over we started talking. She told me she was in medical school, so I said, ‘Oh, what do you want to do?’ And she said, ‘Well, I really want to do orthopedics, but everybody keeps telling me that because I’m a woman I should go into family practice instead because I’ll have more opportunities.’ I responded by saying, ‘Well, I’m an orthopedic surgeon, and I’m doing just fine.’

“I gave her my email address, told her to contact me, and urged her not to be discouraged from pursuing her goals,” she added. “Young women who are interested in pursuing a career in orthopedics need encouragement from somebody who’s already gone through it who can say, ‘Yes, you can have a flourishing career, successfully raise kids, and stay married.’ If it weren’t for the men who were put in my path to say, ‘Don’t just stop at nursing school, go on,’ and Dr. Menkowitz, who took me under his wing and showed me the world of orthopedics, I would probably be a family practitioner or a pediatrician today. I was placed on that particular path for a reason.”
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As the saying goes, “You can’t stand in the way of progress.” This explains why the American Osteopathic Academy of Orthopedics launched a new chapter in its history by coordinating the inaugural AOAO Annual Meeting, which was held October 8-11, 2009, at the Westin Copley Place in Boston, Massachusetts. This truly was a momentous occasion since it marked the first time in the AOAO’s history that it met as a standalone organization and did not join forces with the Annual Clinical Assembly of Osteopathic Specialists.

Boston is a city steeped in American history and great restaurants, and since the meeting was held in early October, many members were able to visit the surrounding areas to view the beautiful autumn landscape. The members attending the meeting were able to note that the academy continues to grow, which was evidenced by the over 600 participants. In addition to featuring enhanced attendance, the AOAO inducted the largest class of fellows ever—21. Once again, the number of scientific posters presented exceeded previous years. In other news of note, the Membership Committee approved 62 active and military members, 130 candidate resident members, and 5 allied health members. These members were inducted into the AOAO at the annual banquet, where nine current members were elevated to life-member status.
**Bob Green, D.O., Memorial Award**
The Bob Green, D.O., Memorial Award is presented annually to the person achieving the highest combined score in the written and oral certification examinations for the prior year.

**Recipient:**
Joseph M. Lowry, D.O.

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**Scientific Paper Award Recipients**

**First Place (tie)**
Dana R. Desser, D.O.
Memorial Hospital
York, Pennsylvania

**Title:**
“Metal-on-Metal Total Hip Resurfacing Arthroplasty: A Treatment Option for the Patient 60 Years of Age and Older”

**First Place (tie)**
Christopher A. Walter, D.O.
Grandview Medical Center
Dayton, Ohio

**Title:**
“Early Functional Outcomes in a Matched Set of UKA and TKA Patients”

**Third Place**
Terrance L. Foust, D.O.
Pinnacle Health System
Harrisburg, Pennsylvania

**Title:**
“Increasing Visualization and Ease of Decompression During Anterior Cervical Spine Surgery by Varying Angle and Laterality of Approach”

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**Knotty Cane Award**
Since 1955, the Knotty Cane Award has been presented annually to the individual who the AOAO president felt helped him/her the most during his/her administration.

**Recipient:** Paul Suhey, D.O., FAOAO
**Presenter:** Dean Nachtigall, D.O., FAOAO

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**Appreciative Award**
Presented each year by the president of the AOAO to an individual who has made an outstanding contribution in the field of orthopedics.

**Recipient:** John Sefter, D.O., FAOAO
**Presenter:** Dean Nachtigall, D.O., FAOAO

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**SAVE THE DATE!**
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50th Annual Postgraduate Seminar
Coronado Springs Resort
Walt Disney World - Orlando, Florida

The 2010 Postgraduate Seminar will consist of concurrent sessions, which include three general sessions and a highly specialized session for each of our subsections. Don’t miss out! Registration material is pending.
AOAO members are granted the title of Fellow of the American Osteopathic Academy of Orthopedics for outstanding contribution to the healing arts, to the practice of orthopedic surgery research, or for other meritorious services reflecting credit upon the organization and the osteopathic profession at large.

Keith D. Bortnem, D.O., of Great Falls, Montana. Dr. Bortnem graduated with a B.S. degree in 1982 from Montana State University, where he was a member of the Phi Kappa Phi Honor Society. He earned his D.O. degree from the College of Osteopathic Medicine of the Pacific in 1987, completed his internship training at Grandview Hospital in 1988, and graduated from the orthopedic surgery residency program at Botsford Hospital in 1992. Dr. Bortnem, who is board certified in orthopedic surgery by the AOBOS, currently serves as a team physician for several local high schools and has worked as a clinical examiner for the AOBOS.

Edward G. Browning, D.O., of Kirksville, Missouri. Dr. Browning, who is board certified in orthopedic surgery by the AOBOS, graduated from Oklahoma University with a B.S. degree in zoology in 1967. After earning his D.O. degree from the Kirksville College of Osteopathic Medicine in 1974, he did his internship training at Grandview Hospital in 1988, and graduated from the orthopedic surgery residency program at Botsford Hospital in 1992. Dr. Browning, who is board certified in orthopedic surgery by the AOBOS, currently serves as a team physician for several local high schools and has worked as a clinical examiner for the AOBOS.
George L. DeLoach, D.O., FAOAO, of Livingston, Texas. Dr. DeLoach, who is board certified in orthopedic surgery by the AOLOS, graduated from Texas A&m University with a B.S. degree in zoology in 1982. He then attended the University of North Texas/Texas College of Osteopathic Medicine, earning his D.O. degree in 1990. After completing his internship training at Oakland General Hospital in 1991 and his orthopedic surgery residency at St. John’s Oakland General Hospital in 1995, he went on to serve as medical director of Memorial Medical Center and team physician for Livingston High School. Dr. DeLoach also has served as an oral and clinical examiner for the AOLOS.

Donald D. Diverio, Jr., D.O., FAOAO, of Lancaster, Pennsylvania. Dr. Diverio graduated from the College of The Holy Cross with a B.A. in psychology in 1983 and went on to earn his D.O. degree from the University of New England College of Osteopathic Medicine in 1989. He completed his internship training at Community General Osteopathic Hospital in 1990, his orthopedic surgery residency training at Community General Osteopathic Hospital in 1994, and his pediatric fellowship at Johns Hopkins Hospital in 1995. Dr. Diverio, who is board certified in orthopedic surgery by the AOLOS, served as president of the AOAO Pediatric Section and is a team physician at Lebanon High School.

Eric J. Freeh, D.O., FAOAO, of Alamogordo, New Mexico. Dr. Freeh, who earned his undergraduate degree from Oklahoma City University in 1974, graduated from Oklahoma College of Osteopathic Medicine in 1978 and completed his internship training at Hillcrest Osteopathic Hospital and his orthopedic surgery residency at Botsford General Hospital in 1983. He currently serves as a clinical associate professor at the College of Osteopathic Medicine of the Pacific and as a team physician for the Phoenix Suns, Arizona Sandsharks, Arizona Rattlers, Washington High School, and Glendale Community College. Dr. Freeh, who is board certified in orthopedic surgery by the AOLOS, also has served as an oral and clinical examiner for the organization.

Riccardo Giovannone, D.O., FAOAO, of Tecumseh, Michigan. Dr. Giovannone, who is board certified in orthopedic surgery by the AOLOS, graduated from Wayne State University with his B.S. in biology before completing his osteopathic education at Michigan State University College of Osteopathic Medicine in 1993. After doing his internship training at Botsford General Hospital and his orthopedic surgery residency, also at Botsford General Hospital, he embarked on his professional career. This includes working as an assistant clinical professor at Michigan State University, serving as medical director at ProMedica Health Systems, and working as a team physician at Sienna Heights University and Tecumseh High School.

Louis S. Habryl, D.O., FAOAO, of Gaylord, Michigan. Dr. Habryl, who has served as a clinical examiner for the AOLOS and is board certified in orthopedic surgery, earned his undergraduate degree from the University of Illinois in 1972 and then graduated from Chicago College of Osteopathic Medicine in 1978. After completing his internship at Chicago College of Osteopathic Medicine in 1979 and his orthopedic surgery residency, also at Chicago College of Osteopathic Medicine, in 1983, he served as assistant professor at Midwestern University and chief of staff at Midwestern University, Otsego Memorial Hospital.

Anthony Infante, D.O., FAOAO, of Sun City Center, Florida. Dr. Infante, who is board certified in orthopedic surgery by the AOLOS, graduated from Swarthmore College with a B.A. in biology in 1987 before earning his D.O. degree from the University of Medicine and Dentistry of New Jersey-School of Osteopathic Medicine in 1993. He completed his internship training at Grandview Hospital before graduating from the orthopedic surgery residency at Grandview. Since doing a fellowship in musculoskeletal trauma in 1999, he has served as program chairman of the trauma section annual spring and fall meetings and worked as an associate trainer at Garden City Hospital, Grandview Hospital, and St. Anthony Hospital.

James R. Ingram, D.O., FAOAO, of Odessa, Texas. Dr. Ingram, who is board certified in orthopedic surgery, graduated from the University of Texas with his B.S. degree in biology before earning his D.O. degree from Chicago College of Osteopathic Medicine in 1989. After completing his internship at Tulsa Regional Medical Center and his orthopedic surgery residency at St. James Hospital and Health Center Olympia Fields in 1994, he has served as program director and associate trainer at St. James Hospital. Dr. Ingram is a member of the AOAO Evaluating Committee, serves as an AOAO residency program inspector, and a clinical and oral examiner for the AOLOS.
Jonathan R. Javors, D.O., FAOAO, of Dyer, Indiana. Dr. Javors graduated cum laude from Illinois Benedictine College, earning his B.S. degree in 1975. After earning his D.O. degree from the Chicago College of Osteopathic Medicine in 1980, he completed his internship training at Chicago Osteopathic Hospital in 1981 and his orthopedic surgery residency training at Doctors Hospital in 1985. In addition to being a recipient of the Indiana Interscholastic Athletic Administrators Association Distinguished Service Award, this board-certified physician has served as an oral examiner for the AOBOS.

Michael Jurenovich, D.O., FAOAO, of Greenville, Pennsylvania. Dr. Jurenovich, who is board certified in orthopedic surgery, graduated from Penn State University with a B.S. in biology in 1977 and then earned his D.O. degree from the University of Osteopathic Medicine and Health Sciences in 1983. Following completion of his internship at Doctors Hospital in 1984 and his orthopedic surgery residency at Warren General Hospital in 1989, Dr. Jurenovich became program director at St. Joseph Health Center, worked as a team physician at Warren Reserve High School, and served as an impairment rating examiner for Pennsylvania workers’ compensation.

Jack E. Kazanjian, D.O., FAOAO, of Havertown, Pennsylvania. Dr. Kazanjian, who is board certified in orthopedic surgery, graduated from Bucknell University with a B.A. in biology 1993 and went on to earn his D.O. degree from the Philadelphia College of Osteopathic Medicine in 1998. Dr. Kazanjian, who has served as a clinical examiner for the AOBOS, completed his internship training in 1999 at the Philadelphia College of Osteopathic Medicine followed by his orthopedic surgery residency training at the same institution in 2003. After doing a fellowship in sports medicine and adult reconstruction at The Hughston Clinic in 2004, he began serving as a clinical assistant professor at the Philadelphia College of Osteopathic Medicine.

James E. Laughlin, D.O., FAOAO, of Grand Prairie, Texas. Dr. Laughlin, who has served as a clinical examiner for the AOBOS, earned his undergraduate degree from Kansas State University in 1961 and then received his D.O. degree from the Kansas City College of Osteopathic Medicine in 1965. He then did his internship training at College Hospital followed by his orthopedic surgery residency training at Garden City and College Hospital, which he completed in 1970. In 2008, Dr. Laughlin, who is board certified in orthopedic surgery, graduated cum laude from the Perkins School of Theology, where he earned an M.A. degree in theological studies. He has served as program director at Northeast Community Hospital and was awarded the honorary lifetime title of Fellow by the American College of Osteopathic Surgeons in 1979.

John J. Lipon, D.O., FAOAO, of Bellevue, Washington. Dr. Lipon, who is board certified in orthopedic surgery, graduated from Wayne State University with a B.S. degree in 1966 before earning his D.O. designation from the Chicago College of Osteopathic Medicine in 1971. Dr. Lipon, who has served as both a clinical and oral examiner for the AOBOS, did his internship at the Chicago College of Osteopathic Medicine and graduated from the orthopedic surgery residency program at Martin Place Hospitals in 1979. He currently serves as a preceptor for medical students at several osteopathic medical schools and is a certified independent medical examiner by the American Board of Independent Examiners.

M. Christopher MacLaren, D.O., FAOAO, of Odessa, Florida. Dr. MacLaren, who is board certified in orthopedic surgery by the AOBOS, graduated cum laude from The Ohio State University with a B.S. degree in 1990. After earning his D.O. degree from Ohio University College of Osteopathic Medicine in 1994, Dr. MacLaren did his internship training at Ohio Health Doctors Hospital and his orthopedic surgery residency training at the Oklahoma State University Medical Center After completing a fellowship in sports medicine/arthroscopy, he went on to serve as president of the AOAO Sports Medicine Section. Dr. MacLaren, who has served as an oral and clinical examiner for the AOBOS, is a recipient of the U.S. Army Meritorious Service Medal Award.

Michael F. Mitrick, D.O., FAOAO, of York, Pennsylvania. Dr. Mitrick, who is board certified in orthopedic surgery by the AOBOS, earned his B.S. degree from the University of Illinois in 1971 before graduating from the Chicago College of Osteopathic Medicine in 1975. After completing his internship at Oklahoma Osteopathic Hospital in 1976 and his orthopedic surgery residency at the Kansas City College of Osteopathic Medicine in 1980, Dr. Mitrick went on to do a hand surgery fellowship at the University of Missouri in 1981. He currently serves as program director at Memorial Hospital and team physician at York High School.
John A. Sauchak, D.O., FAOAO, of Okemos, Michigan. Dr. Sauchak, who is board certified in orthopedic surgery, graduated from Michigan State University with a B.S. in physiology in 1984 and an M.A. in exercise physiology in 1986. After earning his D.O. degree from Michigan State University College of Osteopathic Medicine in 1989, he did his internship at Botsford General Hospital and his orthopedic surgery residency at the same facility, which he completed in 1994. After finishing his sports medicine fellowship at Michigan State University College of Osteopathic Medicine in 1995, Dr. Sauchak went on to become a clinical assistant professor at Michigan State University and a clinical instructor at Ingham Regional Medical Center. He also serves on the Michigan State University Board of Directors and as team physician for the Okemos High School Spartan football team.

Paul D. Seltzer, D.O., FAOAO, of West Palm Beach, Florida. Dr. Seltzer, who is board certified in orthopedic surgery, earned his B.S. degree in biochemistry and physiology from Eastern Michigan University in 1976 before graduating from the Philadelphia College of Osteopathic Medicine in 1980. After completing his internship at Detroit Osteopathic Hospital and Bi-County Community Hospital in 1981 and his orthopedic surgery residency at Detroit Osteopathic Hospital and Bi-County Community Hospital in 1985, Dr. Seltzer went on to become president of the Florida Osteopathic Medical Association, an associate trainer at Columbia Hospital, and a clinical assistant professor at Nova Southeastern University College of Osteopathic Medicine.

Charles J. Taunt, Jr., D.O., FAOAO, of Lansing, Michigan. Dr. Taunt earned his B.A. in economics and pre-professional studies in 1995 from the University of Notre Dame before graduating from the University of Osteopathic Medicine and Health Sciences in 1999. His postgraduate education included doing an internship at St. John Oakland Hospital, an orthopedic surgery residency at St. John Oakland Hospital, and a fellowship in adult reconstructive surgery at the University of Chicago, which he completed in 2005. Dr. Taunt, who is board certified in orthopedic surgery by the AOBOS, served as program chairman of the Adult Reconstructive and Arthritis Surgery Section annual fall meeting in 2008 and as a resident member of the AOAO Board of Directors in 2003. He also serves as an associate trainer at Ingham Regional Medical Center and clinical assistant professor at Michigan State University.

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Introduction

Slipped capital femoral epiphysis (SCFE) is a potentially devastating malady affecting the pediatric population. This condition is defined as the displacement of the femoral head in relation to the femoral neck and shaft. This “slip” occurs at the level of the proximal femoral physis and is a condition that occurs in the skeletally immature. The pediatric population most commonly affected are those between the ages of 10 and 16 that are obese and peripubertal. In general, the development of a slipped capital femoral epiphysis is multifactorial. Increased shear forces across the proximal femoral physis as a result of varying anatomy, as well as underlying systemic disorders and endocrinopathies, play a large role in the development of a SCFE. Furthermore, more than a 40-fold difference in the incidence has been observed among Polynesian children and Indo-Mediterranean children, with the former having the highest rate of SCFEs.

The diagnosis is based on the history and physical examination as well as radiographic findings. These children typically present with a limp and pain in the hip, groin, thigh, or even the knee as referred pain along the obturator nerve. Their radiographs will show a difference in the amount of femoral epiphysis that is bisected by Klein’s line. Once diagnosed, the treatment is surgical fixation. There is some controversy regarding this, specifically with regard to the role of epiphyseal reduction and capsulotomy. Ultimately, the goal of surgery is to prevent slip progression while avoiding any complications. Despite surgery, slip progression after in-situ screw fixation is a potential complication secondary to continued growth at the physis, loss of fixation, or poor initial fixation. This has been reported to be in the range of 0-20 percent of cases fixed with a single screw but not in the case of two screws.

Case Report

On October 31, 2008, a 14-year-old African American male presented to the emergency department of a children’s hospital with the chief complaint of acute right hip pain and the inability to bear weight. Upon further questioning, the patient reported that he has had mild right hip pain since July 2008 and a slight limp as a result of the pain. The patient and his family were told by his pediatrician that he had a leg-length discrepancy, with his right leg being shorter than the left, and that was the cause of his limp. He noted on the day of presentation to the emergency department that he was running at school to first base and felt a pop in his right hip, experienced severe pain in his right groin and knee, and was unable to bear weight on his right lower extremity. He denied any numbness or tingling in his right lower extremity. He did not fall to the ground and did not injure any other part of his body other than his right lower extremity. He denied any pain in his left lower extremity or any history of pain in his left lower extremity, specifically in his hip and knee. He denied any back pain or fevers and denied any numbness, tingling, or weakness of his lower extremities. He also denied any traumatic history involving his lower extremities.

The patient denied any significant past medical or surgical history. He has no known drug allergies and does not take any prescription medications. His past family history is significant for his maternal aunt having hypothyroidism.

Upon orthopedic evaluation, the patient was noted to weigh 105.1 kg and was 159.2 cm tall with a body-mass index (BMI) of 41.4, classifying him as obese. He did have significant pain with any attempted passive range of motion of his right hip. He had no pain with passive or active motion of his left hip, but this motion did cause pain in his right hip. Clinically, he did have a
leg-length discrepancy with the right leg being shorter than the left. He was unable to weight bear on his right leg secondary to severe pain.

Laboratory studies performed included a thyroid panel, CBC, and a BMP that all showed values to be within normal limits. An AP pelvic radiograph (Figure 1) was taken initially in the emergency department and did show an inferior slip of the right capital femoral epiphysis. The patient was taken that evening for percutaneous screw fixation of his right hip, with two partially threaded 7.3 mm cannulated cancellous screws, and capsulotomy of the right hip (Figures 2 and 3).

Follow-up radiographs continued to show good overall alignment (Figure 4). He was maintained as non-weight-bearing status with crutches on his right lower extremity until January 4, 2009 (nine weeks and two days from surgery), at which point radiographic signs of healing (Figure 5) were seen by the treating attending orthopedic surgeon, and the patient was progressed to weight-bearing as tolerated on his right lower extremity. The patient continued to progress well, remained out of gym class and all other physical activities, and was without pain.

He presented on May 4, 2009 for a routine office follow-up and was still without pain or discomfort. His mother noted that he still had a slight limp but that he was unaware of it. Upon physical examination, he had 0 degrees of internal rotation of the right hip and 30 degrees of external rotation compared to 30 degrees and 60 degrees respectively with regard to the left hip. His hip abduction was 30 degrees on the right and 45 on the right. All range-of-motion testing was performed without causing any discomfort in either hip.

Follow-up radiographs of the right hip showed a significant interval change with screw breakage, slip progression, and possible screw penetration of the joint (Figures 6 and 7). At this point, he was instructed to resume a non-weight-bearing status with crutches on his right lower extremity, and a CT scan was ordered. The CT scan confirmed joint penetration by the screw
and showed evidence of mild avascular necrosis of the femoral head and lateral collapse as well (Figure 8).

The patient was subsequently admitted as an outpatient for removal of deep implants and revision fixation of his progressive SCFE on May 19, 2009. The penetrating screw was completely removed, but the broken screw was unable to be completely removed. Two new 7.3mm cannulated cancellous screws were placed without complication. The patient was again instructed to maintain a non-weight-bearing status on his right lower extremity with crutches. At his two-month revision surgery follow-up, he was without pain and his radiographs remained unchanged (Figure 9).

**Discussion**

Slip progression following in-situ screw fixation with two screws is a rare and unexpected complication following surgical fixation of a SCFE.

The typical slipped capital femoral epiphysis is described as being in a posterior-inferior location relative the femoral neck. Technically, the epiphysis does not “slip” as it is stabilized by the acetabulum, but the femoral neck and shaft actually migrate anteriorly and externally rotate relative the femoral epiphysis. In extremes, the femoral neck and shaft can actually migrate proximally as well. The etiology, as stated earlier, is indeed multifactorial and not entirely understood. Ultimately, the proximal femoral physis fails to resist the load crossing it because it is abnormally weak, or the load across it is abnormally high.5

Endocrinopathies and systemic disorders such as renal osteodystrophy that result in secondary endocrinopathies have been associated with increased risk of developing a SCFE. Testosterone weakens the physis while estrogen strengthens it through their effect on physeal width and the known inverse relationship between width and strength.6,7,8 Overall, a SCFE is six times more common in children with endocrinopathies than those without.9,10 The most common endocrine disorders associated with development of a SCFE are hypothyroidism, panhypopituitarism, growth hormone (GH) abnormalities, and hypogonadism.9,22 Parathyroid hormone-related problems also increase the risk of developing a SCFE.1 Despite the known relationship between endocrinopathies and SCFE, it is not currently recommended to order routine screening for endocrine disease in patients with a SCFE. The overall rate of endocrinopathy in children with a SCFE is relatively low.23 However, if the patient demonstrates
clinical evidence of an endocrine abnormality such as short stature (below the 10th percentile for height), then screening is warranted.16

When discussing treatment, one must first distinguish between acute and chronic SCFEs. Acute is most commonly defined as a sudden onset of severe hip pain of less than three week’s duration.1,24 It is generally recommended that acute SCFEs be managed in a more-urgent fashion, less than 48 hours from onset of pain, than chronic SCFEs. However, no definitive advantage or time frame has been well established.25-29

The most devastating complication of treatment is a resulting avascular necrosis (AVN) of the femoral head or chondrolysis. Apart from the injury itself, many authors have tried to determine what exactly places the patient at the highest risk for developing AVN. Multiple authors have reported that the degree of slip reduction does not appear to correlate with the risk of AVN.30-37 However, the correlation between the degree of reduction and the risk of AVN has been established.38

Preoperative bone scans have been utilized to help predict the risk of developing AVN. Technetium bone scans show a positive correlation between preoperative ischemia and subsequent AVN development following surgical treatment at 12 months postoperatively. The positive predictive value was 83.3 percent, and the negative predictive value was 100 percent.40 When AVN develops, it is typically seen in the first postoperative year.32

The generally accepted treatment for a SCFE is in-situ surgical fixation with pins or screws. The fixation choice of “true pins” (i.e., Steinmann pins) was thought to preserve the physis and allow for continued growth in younger patients. They unfortunately do not provide as stable fixation as screws and may lead to more frequent progression of the slip.41 The biomechanical properties of various fixation techniques have been studied. Bovine animal studies have shown two screws or two pins to be more rigid than one.42,43 However, the authors of the two bovine studies felt the mechanical advantage of two-screw constructs was insufficient to justify the increased risk of pin penetration.42,44

Similar studies have not been performed in humans and, as such, the applicability of these results is limited. Slip progression following in-situ fixation of a SCFE is relatively uncommon and is attributed to loss of screw fixation or poor screw placement. Physeal closure typically occurs 6 to 12 months following surgery and is the established end point for slip progression risk.45-50 Progression is more likely with pin fixation than screw fixation but overall has been reported to occur in 0-20 percent of cases.41,51

Consideration can be given to the prophylactic pinning of the asymptomatic contralateral hip. Currently, this is only recommended in patients with underlying endocrine disorders as they have a 61-100 percent chance of developing a contralateral slip.9,22 The fact is that 20-25 percent of patients presenting with a SCFE will develop a contralateral slip during adolescence, with 5-10 percent of those being unstable.52-54
Ultimately, there is a one or two percent chance of developing an unstable slip in the contralateral hip during adolescence.1

Overall, all SCFEs should be fixated surgically in a timely manner with the hope of preventing debilitating osteoarthritis (OA) from developing in later life. The risk of AVN as a result of either the injury or the surgery should be minimized when possible. Injury studies have shown that urgent fixation within 24 hours has a lower rate of AVN.25-28 When surgery is performed, no forceful reduction should be made as this leads to higher rates of AVN, but incidental or gentle reductions may be reasonable as we know that improved slip angles will lead to less severe deformity and resultant osteoarthritis. Mild or moderate slips that are treated with in-situ screw fixation have shown, in some cases, no progression to OA before the age of 50. However, some degree of OA can be expected following a SCFE within 30-50 years postoperatively.

In summation, our patient presented with an acute and chronic slipped capital femoral epiphysis and was fixated with two cannulated screws within 24 hours of injury and maintained non-weight-bearing postoperatively for nine weeks. Despite the best possible treatment with the most rigid construct, early surgery, and appropriate postoperative course, his slip continued to progress. From the results of the current literature, one must conclude that there was loss of initial fixation as a result of continued physeal growth and possibly early osteonecrosis of the femoral epiphysis.

References


References (continued)


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